

UJU ELECTRONICS

Enable Genuine Connectivity For Challenging Applications

IT Connector

DISPLAY Connector

AUTOMOBILE Connector



INDEX

Board To Board Connector

#	PRODUCT	Pitch (mm)	PINS	Width (mm)	Height (mm)	Current	Page
1	BQ	0.30	60, 78	2.00	0.60	Signal 0.3A/Pin Power 5.0A/Pin	8 page
2	BR5	0.35	6, 10, 20	1.70	0.60	Signal 0.3A/Pin	14 page
3	BT	0.35	10	2.20	0.80	Signal 0.3A/Pin Power 5.0A/Pin	19 page
4	BJ	0.35	20, 40	2.20	0.80	Signal 0.3A/Pin Power 4.0A/Pin	24 page
5	BR1	0.35	34, 48, 60	2.40	0.80	Signal 0.3A/Pin	30 page
6	BR2	0.35	34	2.50	0.80	Signal 0.25A/Pin	35 page
7	THIN	0.35	40	1.80	0.90	Signal 0.3A/Pin	40 page
8	BM	0.35	54	2.20	0.80	Signal 0.3A/Pin Power 5.0A/Pin	45 page
9	BI	0.35	78	2.30	0.80	Signal 0.3A/Pin Power 3.0A/Pin	50 page
10	SW	0.40	10, 12, 16, 24, 30, 34	2.50	0.80	0.3A/Pin	54 page
11	PA	0.40	8	2.50	0.75	Signal 0.3A/Pin Power 3.0A/Pin	59 page
12	VB1	1.00	40	15.80	15.95	0.5A (Max. 1.5A)	65 page

SOCKET

#	ITEM	Concept	Length (mm)	Width (mm)	Height (mm)	Type	Page
1	S02	Nano SIM 2ea & micro SD	29.10	21.50	1.40	Tray	72 page
2	TS3	micro SIM	15.45	15.98	1.27	P/Push	77 page
3	SM	NANO SIM	13.65	13.25	1.23	P/Push	82 page
4	Micro SD 1.68	micro SD	13.85	15.95	1.68	P/Push	86 page
5	Micro SD 1.36	micro SD	13.85	15.95	1.36	P/Push	91 page
6	S05	3in2 Stack, SD&SIM	17.73	16.18	2.58	Tray	95 page
7	S06	3in2 Mold, SD&SIM	26.75	16.74	1.35	Tray	101 page
8	S07	3in2 Stack Mold	16.40	2.30	15.25	Tray	107 page
9	SQ	micro SD	7.00	11.10	1.70	P/Pull	112 page
10	UCS2	micro SIM & micro SD	14.10	18.27	2.28	P/Pull	116 page

INDEX

FPC/FFC Connectors

#	Product	Pitch (mm)	Width (mm)	Height (mm)	No. of Position	Page	Remark	
1	FJ	0.18	3.20	0.65	17	122 page		
2	NAMU	0.25	3.80	0.66	8, 12, 14, 35	128 page		
3	2580S	0.25	4.25	1.06	80	133 page		
4	KARA	0.30	3.45	0.95	21	138 page		
5	0.3 F/F Short	0.30	3.20	1.00	13, 25, 31, 39, 45, 61	143 page		
6	0.3 F/F Long	0.30	3.45	1.00	13, 31, 61	148 page		
7	0.3 B/F Series	0.30	4.93	0.90	31, 45	153 page		
8	FK	0.40	5.50	1.50	110	157 page		
9	0.4 B/F Series	0.40	3.00	0.90	9	161 page		
10	007A	0.50	5.30	1.50	7	166 page		
11	Narrow Type	0.50	5.00	2.10	30, 40, 60	171 page		
12	0.5 B/F Series	0.50	3.70	0.90	4, 6	175 page		
13	VENUS	0.50	3.75	3.85	41, 51	181 page		
14	User 30P	0.50	3.75	3.85	30	184 page		
15	FB	0.50	5.20	1.50	96	187 page		
16	EROS	0.50	8.40	2.20	51, 68, 80, 96	191 page		
17	HF	0.50	8.40	2.20	96	195 page		
18	LCD 0.5 Pitch 3.85H	0.50	3.75	3.85	41, 51	199 page		
19	Power up offset	1.00	4.90	2.25	30	203 page		
20	Power up on	1.00	4.90	2.25	30	206 page		
21	Power up Reverse	1.00	5.35	2.30	30	209 page		
22	FFC 1.0 Pitch 2.0H	PLUG	1.00	4.00	1.95	6	213 page	L E D P O W E R
23		HDR	1.00	9.30	2.00	6		
24	HOUSING	1.00	10.95	6.20	8			
25	LED FFC 1.0PTCH 8PIN 4.6H	DIP	1.00	10.27	4.60	8	217 page	
26		SMD	1.00	7.80	4.40	8		
27	HOUSING	1.00	10.95	6.20	14			
28	LED FFC 1.0PTCH 14PIN 4.6H	DIP	1.00	10.27	4.60	14	222 page	
29		SMD	1.00	7.80	4.40	14		
30	FFC 1.0 PITCH 8P NON-ZIF		1.00	3.45	5.50	8	225 page	
31	FFC 1.0 4p Angle		1.00	6.00	2.00	4	228 page	

Application on Smartphone

Products & Technologies | Connector Division

Nano SIM, Micro SD Socket

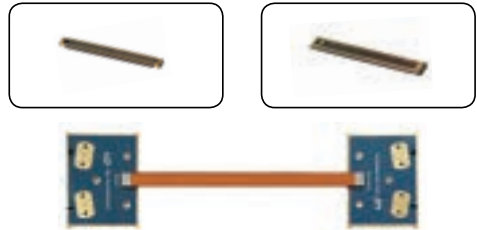
Width : 16.18 | Length : 17.73 | Height : 2.58

3 in 2 Stack, Tray Type



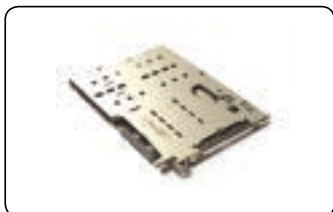
5G R.F Connector (mm Wave)

※ reference image included



Width : 21.50 | Length : 29.10 | Height : 1.40

3 in 3 Tray Type



Touch Force Sensor

Pitch : 0.175 | Width : 2.95 | Height : 0.65

Robust Shell Cover type

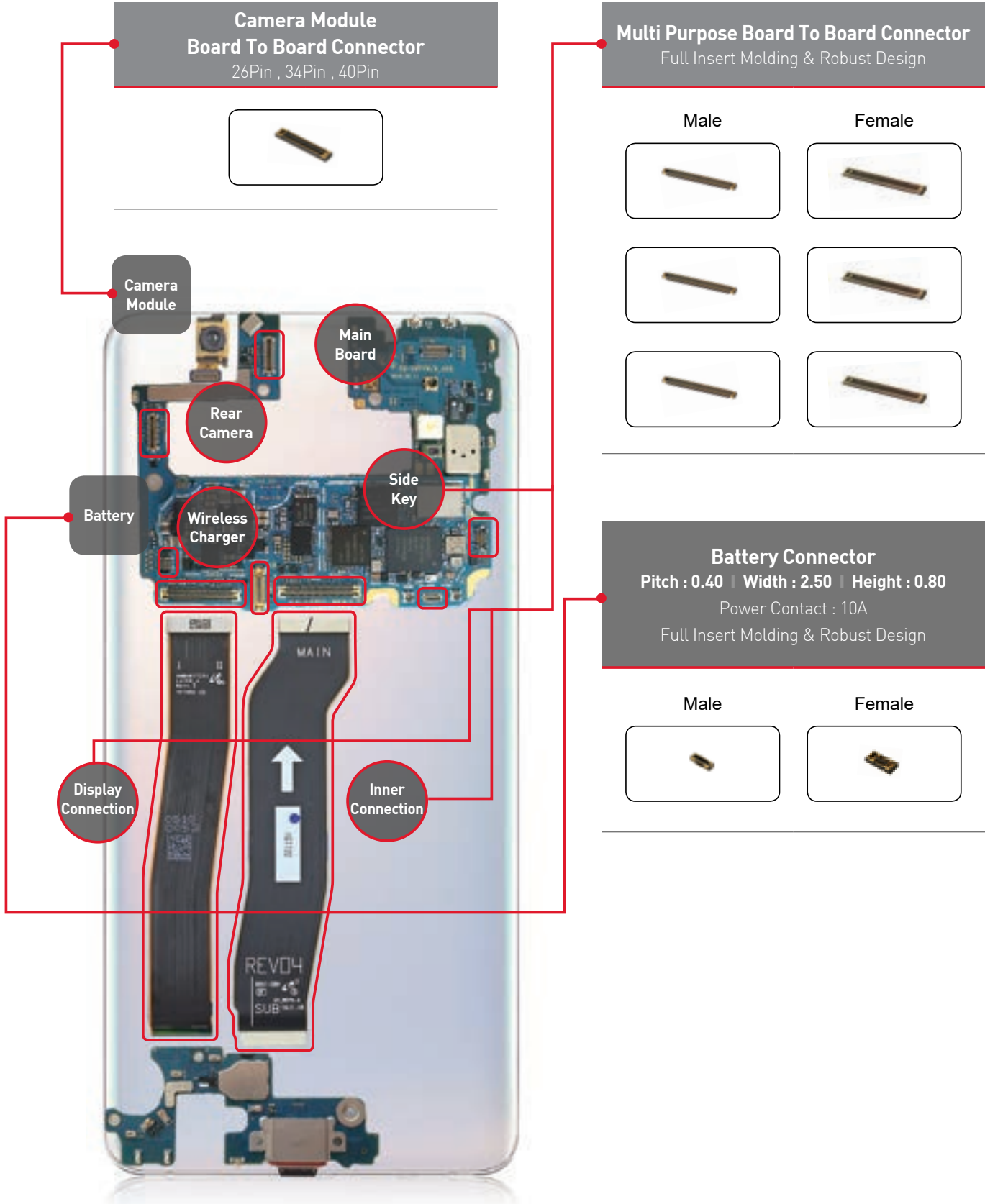
Signal : 15p , Power : 2p(1A)

Reinforcement : 2p



Application on Smartphone

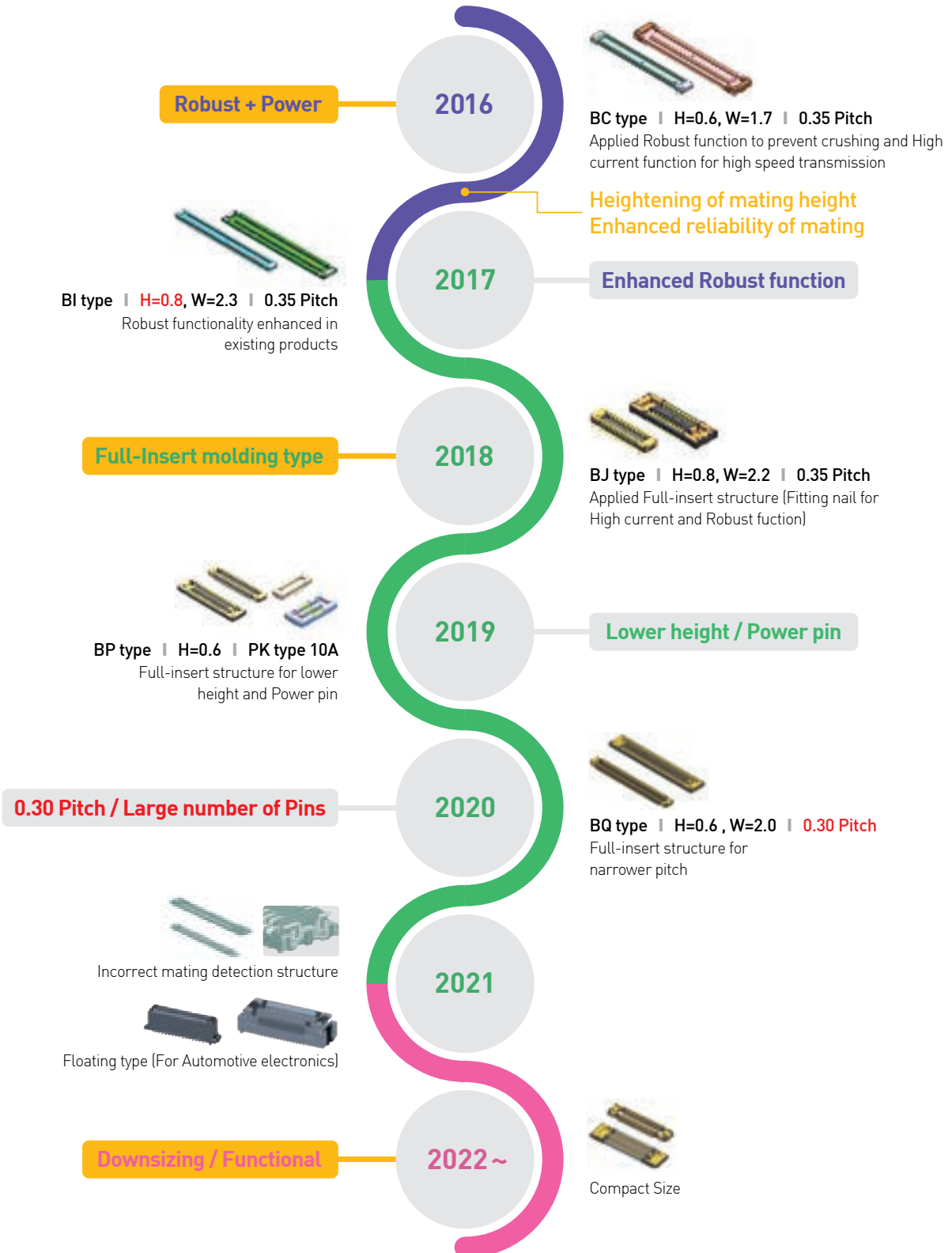
Products & Technologies | Connector Division



Board To Board Connector

Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

Road Map



Board To Board Connector

Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

Mating Size / Unit : (mm) / Please click images to see detail

Item	Pitch (mm)	PINS	Width (mm)	Height (mm)	Current	Remark	Page
 BQ	0.30	60, 78	2.00	0.60	Signal 0.3A/Pin Power 5.0A/Pin	Mobile devices, Tablet, etc	8 page
 BR5	0.35	6, 10, 20	1.70	0.60	Signal 0.3A/Pin	Mobile devices, Tablet, etc	14 page
 BT	0.35	10	2.20	0.80	Signal 0.3A/Pin Power 5.0A/Pin	Mobile devices, Tablet, etc	19 page
 BJ	0.35	20, 40	2.20	0.80	Signal 0.3A/Pin Power 4.0A/Pin	Mobile devices, Tablet, etc	24 page
 BR1	0.35	34, 48, 60	2.40	0.80	Signal 0.3A/Pin	Mobile devices, Tablet, etc	30 page
 BR2	0.35	34	2.50	0.80	Signal 0.25A/Pin	Mobile devices, Tablet, etc	35 page
 THIN	0.35	40	1.80	0.90	Signal 0.3A/Pin	Mobile devices, Tablet, etc	40 page
 BM	0.35	54	2.20	0.80	Signal 0.3A/Pin Power 5.0A/Pin	Mobile devices, Tablet, etc	45 page
 BI	0.35	78	2.30	0.80	Signal 0.3A/Pin Power 3.0A/Pin	Mobile devices, Tablet, etc	50 page
 SW	0.40	10, 12, 16, 24, 30, 34	2.50	0.80	0.3A/Pin	Mobile devices, Tablet, etc	54 page
 PA	0.40	8	2.50	0.75	Signal 0.3A/Pin Power 3.0A/Pin	For Battery	59 page

Product Number Structure

B F 030 - I 60 B - C 06 - C

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① **Product : Board To Board**

② **Part**

- F : Female(Receptacle)
- M : Male(Plug)

③ **Pitch**

- ex) 030 : 0.30mm
- 035 : 0.35mm

④ **Base Assembled**

- I : Insert Injection
- V : Manual Assembled

⑤ **Contact Pins**

- ex) 60 : 60pins
- 78 : 78pins

⑥ **Mounting Type**

- B : SMT
- D : SMD

⑦ **Housing Design**

- C : Robust
- N : Non

⑧ **Height**

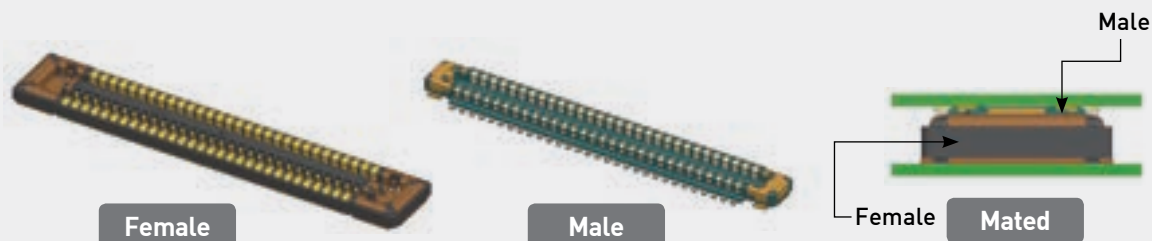
- ex) 06 : 0.6mm
- 08 : 0.8mm

⑨ **Version**

Board To Board Connector

BQ

Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices



- ▶ For contact stability, Double Contact and Bellows Type Contact Structure
- ▶ 0.3mm pitch, 0.6mm slim stacking design for saving space
- ▶ Functional Fitting Nail
 - 1) Robust type (Mold Prevention of damage)
 - 2) High Current
- ▶ Female, Male – Terminal / Fitting Nail Full-Insert Structure
 - 1) Prevention of Base damage and Reinforcement of strength
 - 2) Improving product quality reliability.

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
BF030-I60B-C06-C	0.30	60	2.00	0.60	11.90	Receptacle
BM030-I60B-C06-C	0.30	60	2.00	0.60	11.90	Plug
BF030-I78B-C06-C	0.30	78	2.00	0.60	14.60	Receptacle
BM030-I78B-C06-C	0.30	78	2.00	0.60	14.60	Plug

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
Signal 0.3A/Pin Power 5.0A/Pin	Signal 50mΩ [Max.] Power 30mΩ [Max.]	250V AC(RMS)	-35°C ~ 85°C

Board To Board Connector



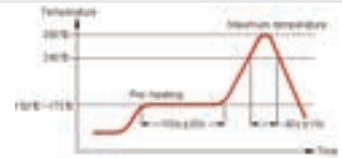
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

Product Specification

Ratings	Rated current	Signal : 0.3A/Pin Power : 5.0A/Pin	Operating temperature range	-35°C to +85°C	Storage temperature range	+15°C to +35 °C
	Rated voltage	30V AC(RMS)/DC	Operating humidity range	70%RH Max.2	Storage humidity range	65%RH Max. 2

- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	- Signal : 50mΩ [Max.] - Power : 30mΩ [Max.]	- Open circuit voltage: 20mV (AC) - Test current: 1mA.
2. Insulation resistance	50MΩ [Min.]	250V DC
3. Withstanding voltage	No flashover or dielectric breakdown	250V AC(RMS) for 1minute
4. Insertion force / Separation force	1) Insertion force : 5.0kgf [Max.] 2) Separation force : 0.012kgf/Pin [Min]	Insert and withdraw connectors at the speed rate of 25mm per minute.
5. Durability	1) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.]	When mated up to 30 cycles repeatedly by the rate of 10mm per minute
6. Vibration	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.]	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
7. Shock	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.]	- Acceleration : 50G (490m/s ²) - Duration : 11ms - Number of shocks : 3 times per each direction - Test current : 100mA
8. Humidity	1) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	No loose contacts no deformation.	Reflow condition. (Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Female Base	LCP	Black	UL94V-0
Female Terminal	Phosphor Bronze	Au, Ni plated	-
Female Fitting Nail	Copper Alloy	Au, Ni plated	-
Female Inner Nail	Copper Alloy	Ni plated	-
Male Base	LCP	Black	UL94V-0
Male Terminal	Phosphor Bronze	Au, Ni plated	-
Male Fitting Nail	Copper Alloy	Au, Ni plated	-

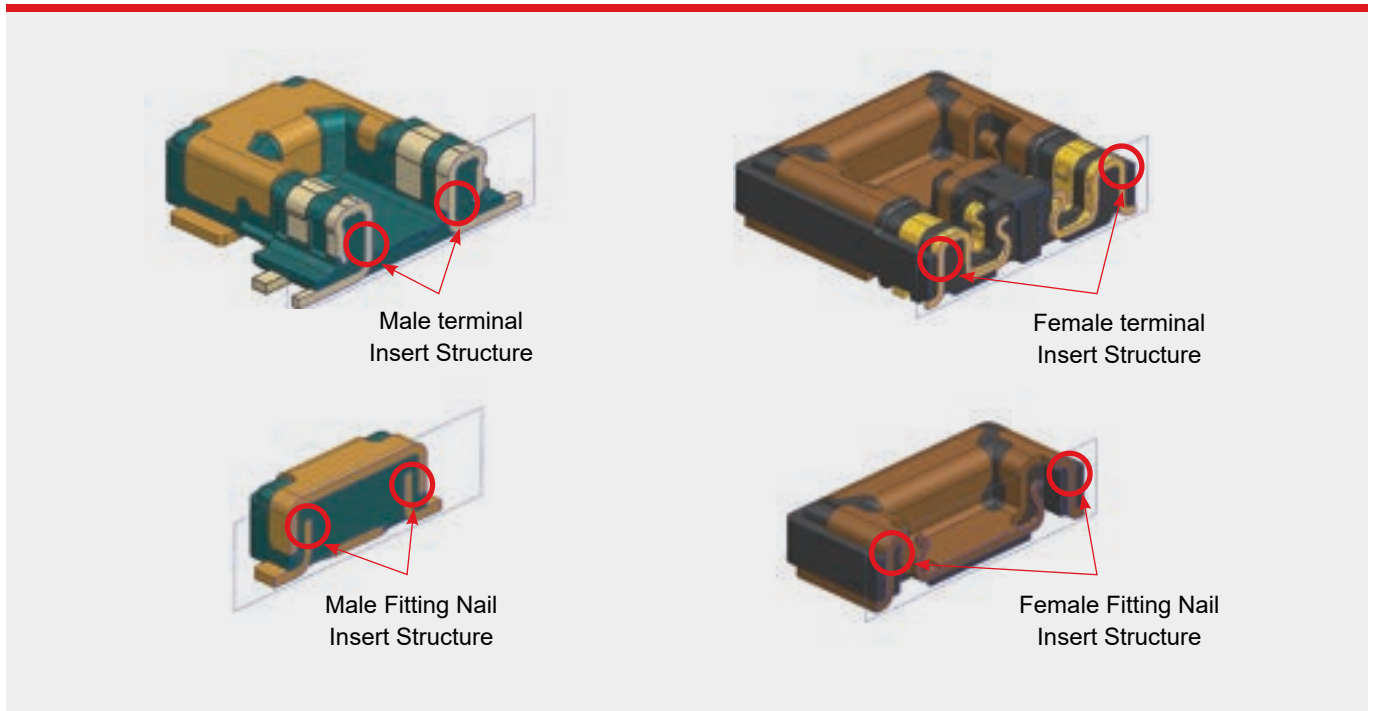
Board To Board Connector



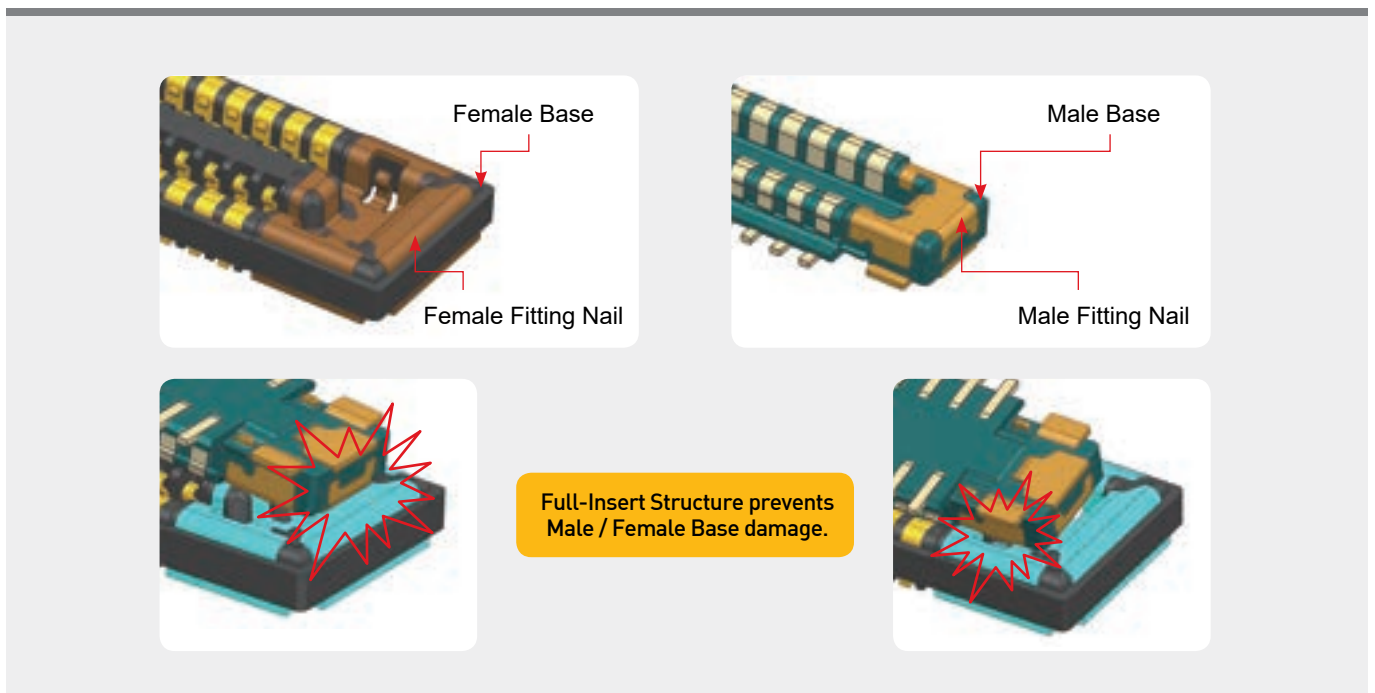
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

FEATURES AND ADVANTAGES

► Insert Structure for preventing Lead solder over rise



► Full-Insert Structure for prevention of Base damage

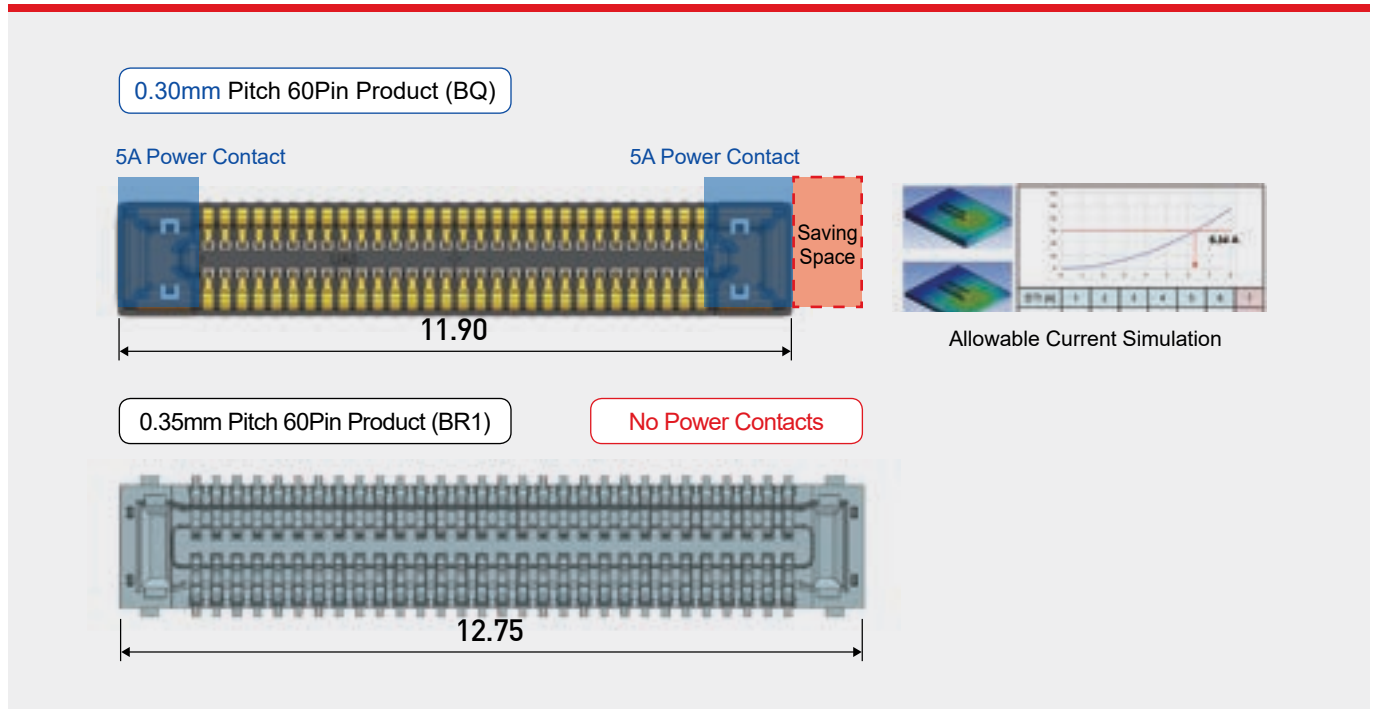


Board To Board Connector

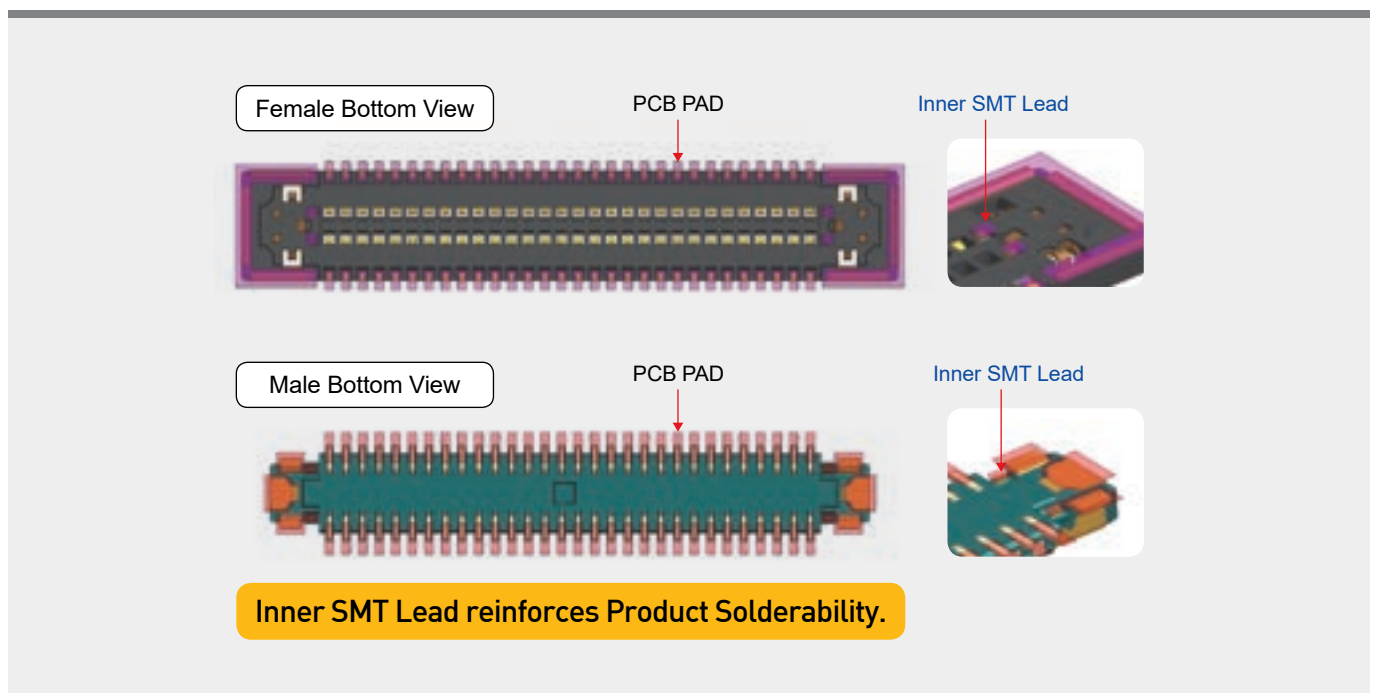
BQ

Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

- ▶ 0.3mm narrow pitch for saving space
- ▶ High current (5A) for Power Contact



- ▶ Inner SMT Lead for reinforced Solder Peeling Strength



Board To Board Connector



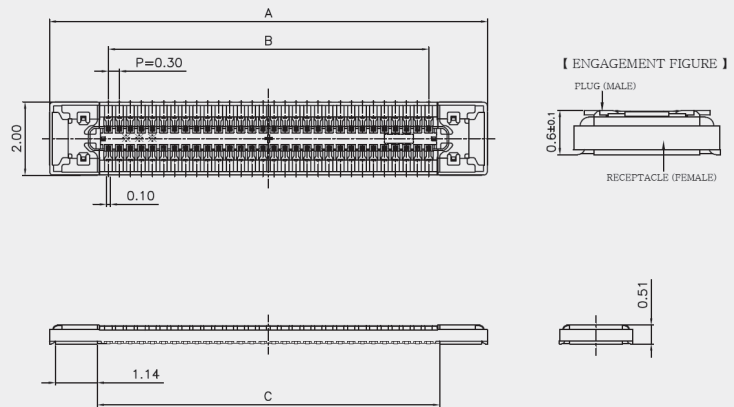
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : RECEPTACLE (FEMALE)

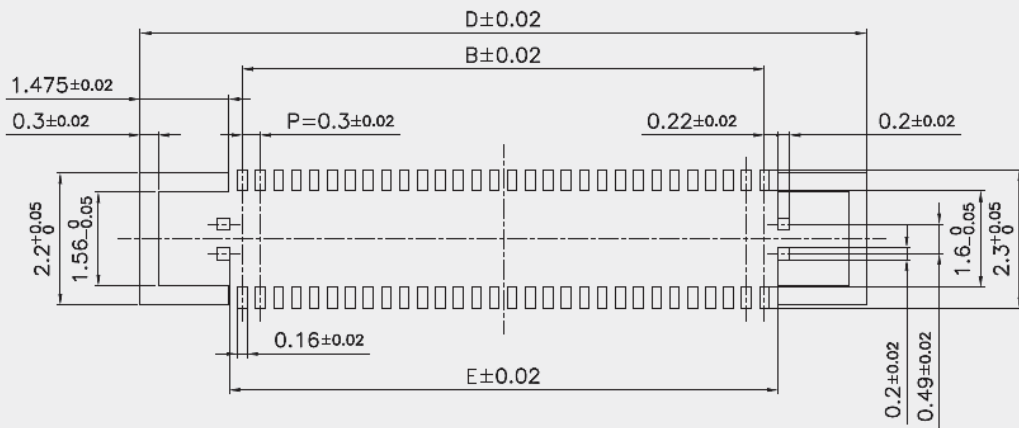
Product Drawing



Female (Receptacle)



Recommended PCB , Metal Mask Layout



RECOMMENDED PAD LAYOUT

(Metal Mask 개구부 Size 1:1 t0.08)

Mating Size / Unit : (mm)

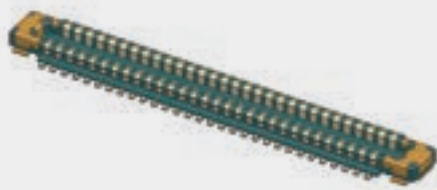
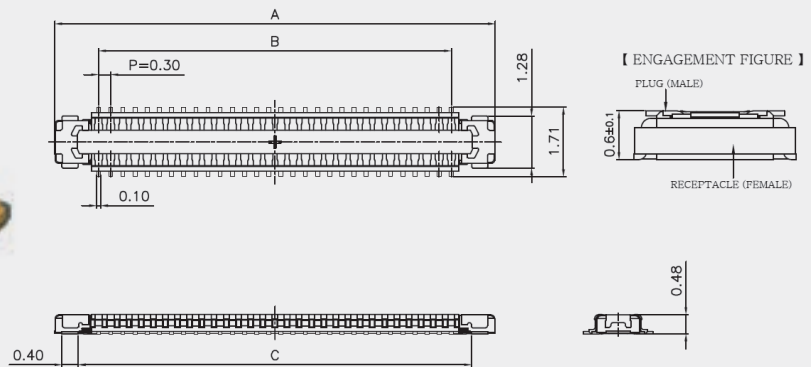
Product Code	No. of Contacts	BQ : Receptacle			PCB PAD	
		A	B	C	D	E
BF030-I60B-C06-C	60	11.90	8.70	9.30	12.10	9.14
BF030-I78B-C06-C	78	14.60	11.40	12.00	14.80	11.84

Board To Board Connector

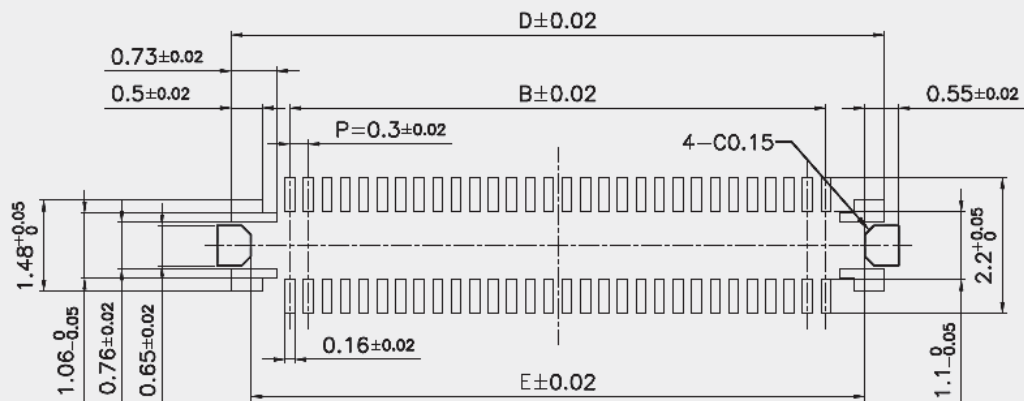
BQ
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : PLUG (MALE)

Product Drawing


Male (Plug)


Recommended PCB , Metal Mask Layout



RECOMMENDED PAD LAYOUT

(Metal Mask 개구부 Size 1:1 to 0.08)

Mating Size / Unit : (mm)

Product Code	No. of Contacts	BQ : Plug			PCB PAD	
		A	B	C	D	E
BM030-I60B-C06-C	60	10.86	8.70	9.70	10.60	9.96
BM030-I78B-C06-C	78	13.56	11.40	12.40	13.30	12.66

Board To Board Connector

BR5
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices


- ▶ For contact stability, Double Contact and Bellows Type Contact Structure.
- ▶ 0.35mm pitch, 0.6mm slim stacking design for saving space.
- ▶ Male Terminal / Female Fitting Nail Insert Structure.

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
BF035-I06B-C06-B	0.35	6	1.70	0.60	3.55	Receptacle
BM035-I06B-C06-B	0.35	6	1.70	0.60	3.55	Plug
BF035-I10B-C06-B	0.35	10	1.70	0.60	4.25	Receptacle
BM035-I10B-C06-B	0.35	10	1.70	0.60	4.25	Plug
BF035-I20B-C06-B	0.35	20	1.70	0.60	6.00	Receptacle
BM035-I20B-C06-B	0.35	20	1.70	0.60	6.00	Plug

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
0.3A	90mΩ [Max.]	150V AC(RMS)	-35°C ~ 85°C

Board To Board Connector

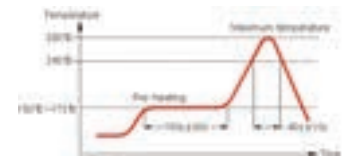
BR5
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

Product Specification

Ratings	Rated current	0.30A	Operating temperature range	-35°C to +85°C 1	Storage temperature range	+15°C to +35 °C
	Rated voltage	30V AC(RMS) / DC	Operating humidity range	70%RH Max.2	Storage humidity range	65%RH Max. 2

- 1) Including terminal temperature rise.
2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	90mΩ [Max.]	- Open circuit voltage: 20mV (AC) - Test current: 1mA.
2. Insulation resistance	50mΩ [Min.]	250V DC
3. Withstanding voltage	No flashover or dielectric breakdown	250V AC(RMS) for 1minute
4. Insertion force / Separation force	1) Insertion force : 5.0kgf [Max.] 2) Separation force : 0.012kgf/Pin [Min]	Insert and withdraw connectors at the speed rate of 25mm per minute.
5. Durability	1) Contact resistance : 90mΩ [Max.]	When mated up to 30 cycles repeatedly by the rate of 10mm per minute
6. Vibration	1) Contact resistance : 90mΩ [Max.]	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
7. Salt spray	1) Contact resistance : 90mΩ [Max.] 2) Insulation resistance : 25MΩ [Min.] 3) No flashover or dielectric breakdown	- Temperature : 35°C±2°C - Duration : 48hr - Salt-solution concentration : 5 ±1%
8. Humidity	1) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.] 2) Insulation resistance : 25MΩ [Min.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	No loose contacts no deformation.	Reflow condition. (Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Female Base	LCP	Black	UL94V-0
Female Terminal	Phosphor Bronze	Au, Ni plated	-
Female Fitting Nail	Phosphor Bronze	Au, Ni plated	-
Male Base	LCP	Black	UL94V-0
Male Terminal	Phosphor Bronze	Au, Ni plated	-
Male Fitting Nail	Phosphor Bronze	Au, Ni plated	-

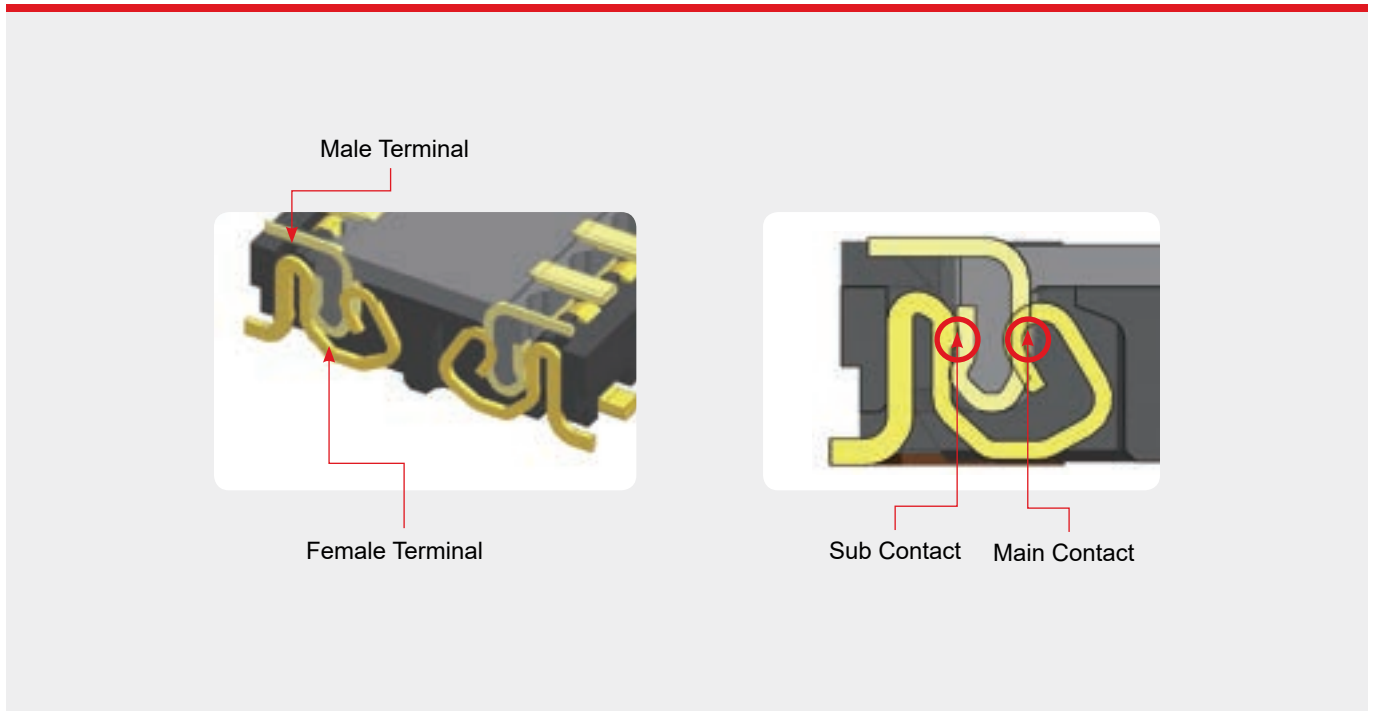
Board To Board Connector

BR5

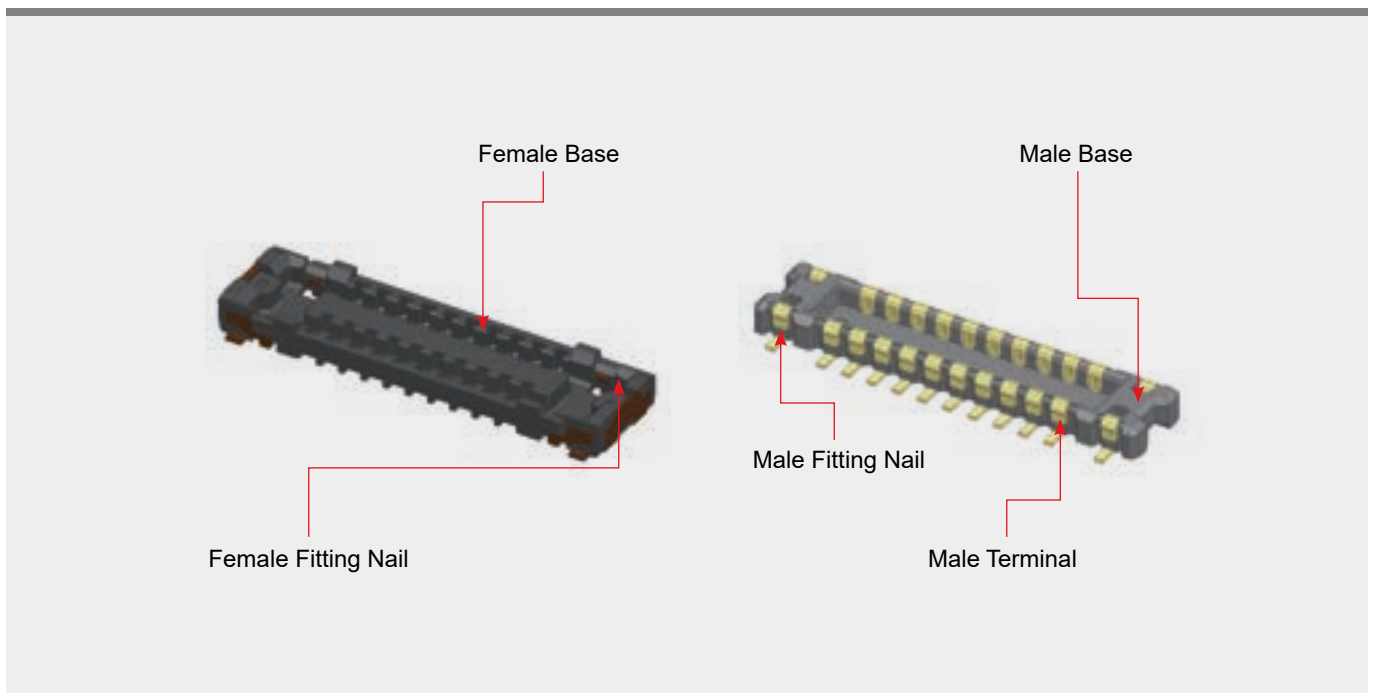
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

FEATURES AND ADVANTAGES

- ▶ Double Contact point for stable contact preservation



- ▶ Insert mold Structure



Board To Board Connector



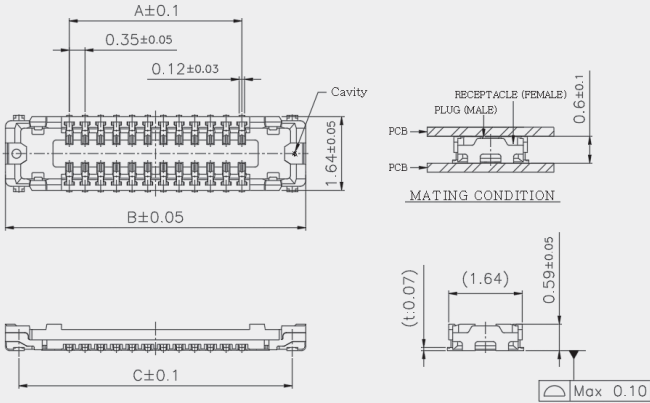
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : RECEPTACLE (FEMALE)

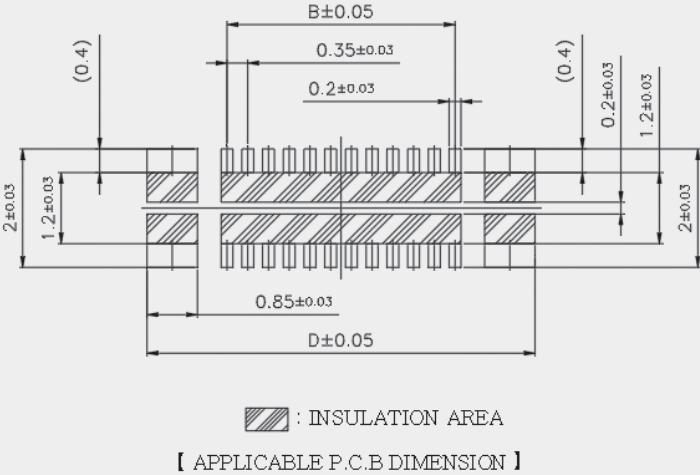
Product Drawing



Female (Receptacle)



Recommended PCB , Metal Mask Layout



Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
BF035-I06B-C06-B	6	0.70	3.55	2.95	3.40
BF035-I10B-C06-B	10	1.40	4.25	3.65	4.10
BF035-I20B-C06-B	20	3.15	6.00	5.40	5.85

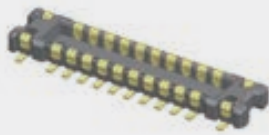
Board To Board Connector



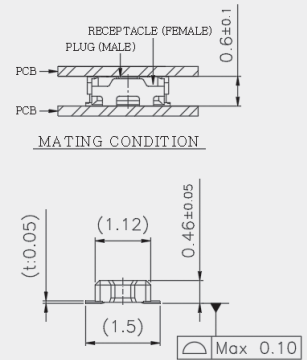
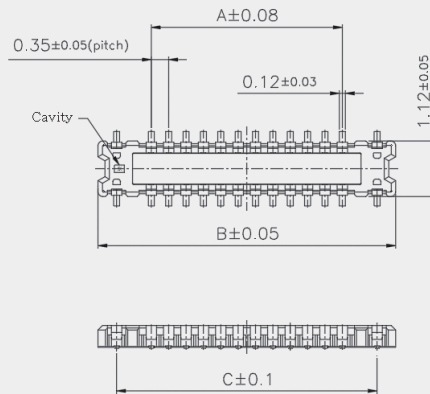
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : PLUG (MALE)

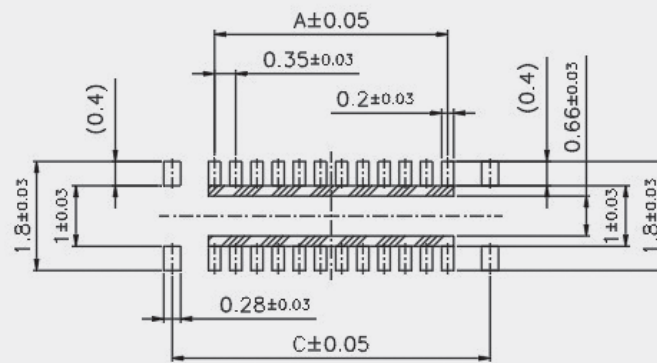
Product Drawing



Male (Plug)



Recommended PCB , Metal Mask Layout



▨ : INSULATION AREA

【 APPLICABLE P.C.B DIMENSION 】

Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C
BM035-I06B-C06-B	6	0.70	2.85	2.10
BM035-I10B-C06-B	10	1.40	3.55	2.80
BM035-I20B-C06-B	20	3.15	5.30	4.55

Board To Board Connector



Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices



- ▶ For contact stability, Double Contact and Bellows Type Contact Structure
- ▶ 0.35mm pitch, 0.8mm slim stacking design for saving space
- ▶ Functional Fitting Nail
 - 1) Robust type (Mold Prevention of damage)
 - 2) High Current
- ▶ Female , Male – Terminal / Fitting Nail Full-Insert Structure
 - 1) Prevention of Base damage and Reinforcement of strength
 - 2) Improving product quality reliability.

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
BF035-I10B-C08-H	10	0.35	2.20	0.80	4.85	Receptacle
BM035-I10B-C08-H	10	0.35	2.20	0.80	4.85	Plug

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
Signal 0.3A/Pin Power 5.0A/Pin	Signal 50mΩ [Max.] Power 10mΩ [Max.]	500V AC (RMS)	-35°C ~ 85°C

Board To Board Connector



Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

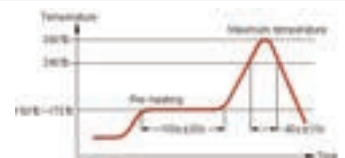
Product Specification

Ratings	Rated current	Signal : 0.3A/Pin Power : 5.0A/Pin	Operating temperature range	-35°C to +85°C 1	Storage temperature range	+15°C to +35 °C
	Rated voltage	30V AC(RMS) / DC	Operating humidity range	70%RH Max.2	Storage humidity range	65%RH Max. 2

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	- Signal : 50mΩ [Max.] - Power : 30mΩ [Max.]	- Open circuit voltage: 20mV (AC) - Test current: 1mA.
2. Insulation resistance	50MΩ [Min.]	500V DC
3. Withstanding voltage	No flashover or dielectric breakdown	500V AC(RMS) for 1minute
4. Insertion force / Separation force	1) Insertion force : 5.0kgf [Max.] 2) Separation force : 0.012kgf/Pin [Min]	Insert and withdraw connectors at the speed rate of 25mm per minute.
5. Durability	1) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.]	When mated up to 30 cycles repeatedly by the rate of 10mm per minute
6. Vibration	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.]	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
7. Shock	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.]	- Acceleration : 50G (490m/s ²) - Duration : 11ms - Number of shocks : 3 times per each direction - Test current : 100mA
8. Humidity	1) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.] 2) Insulation resistance : 25MΩ [Min.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	No loose contacts no deformation.	Reflow condition. (Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Female Base	LCP	Black	UL94V-0
Female Terminal	Phosphor Bronze	Au, Ni plated	-
Female Fitting Nail	Copper Alloy	Au, Ni plated	-
Male Base	LCP	Black	UL94V-0
Male Terminal	Phosphor Bronze	Au, Ni plated	-
Male Fitting Nail	Copper Alloy	Au, Ni plated	-

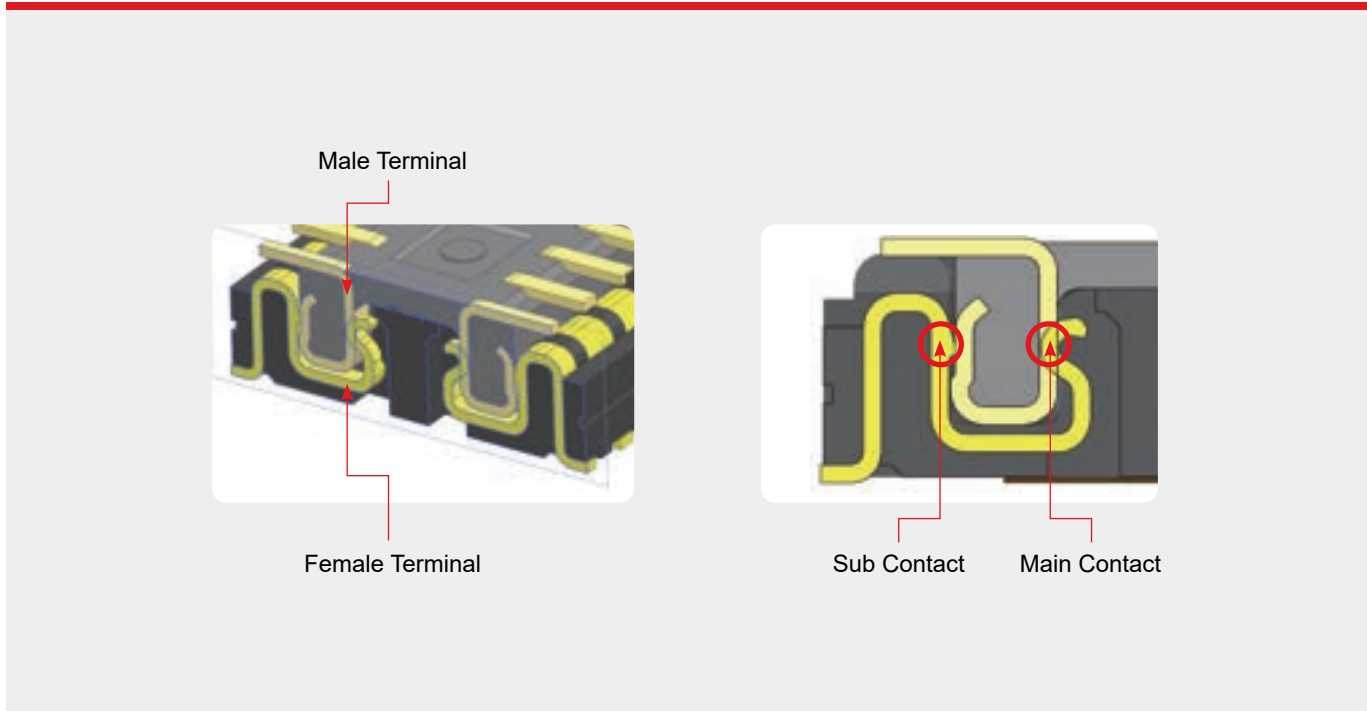
Board To Board Connector



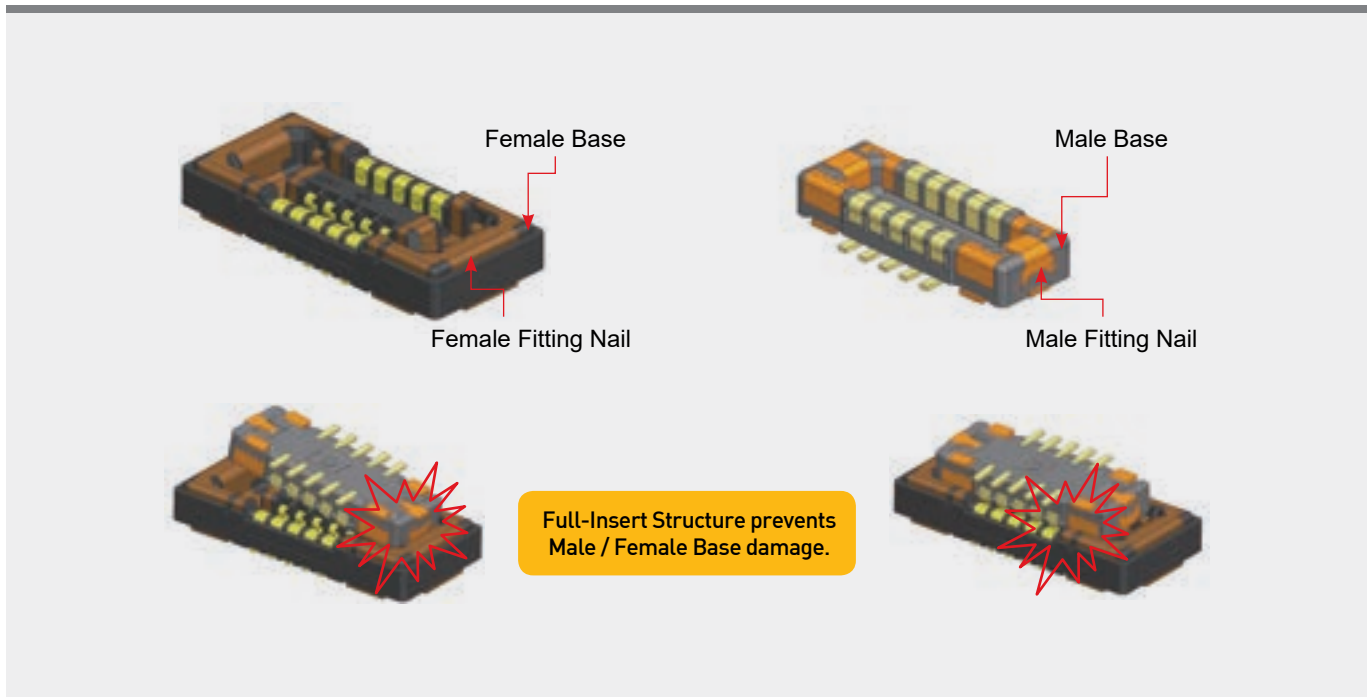
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

FEATURES AND ADVANTAGES

- ▶ Double Contact point for stable contact preservation



- ▶ Full-Insert Structure for prevention of Base damage



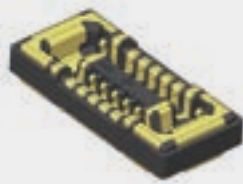
Board To Board Connector



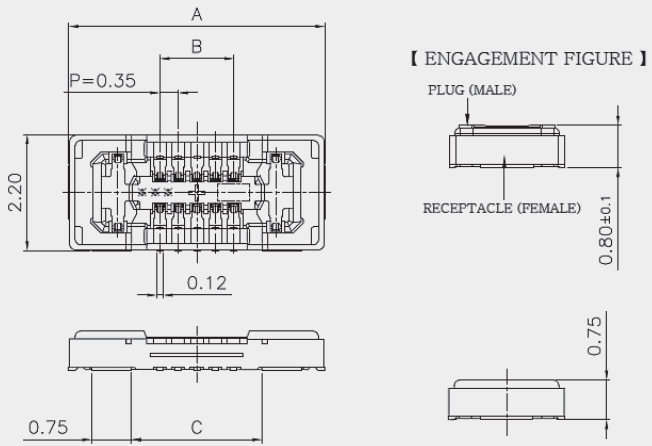
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : RECEPTACLE (FEMALE)

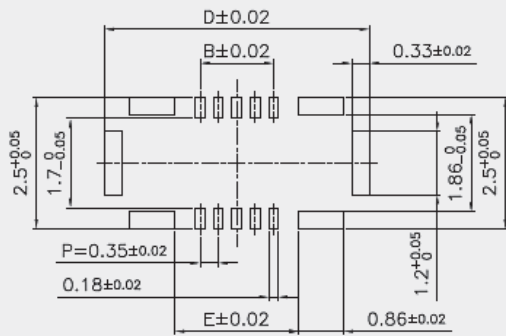
Product Drawing



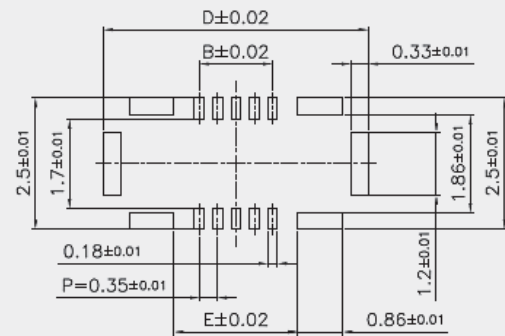
Female (Receptacle)



Recommended PCB , Metal Mask Layout



RECOMMENDED PAD LAYOUT



RECOMMENDED METAL MASK DIMENSION

(Metal Mask Thickness 80μm)

Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D	E
BF035-I10B-C08-H	10	4.85	1.40	2.47	5.05	2.36

Board To Board Connector



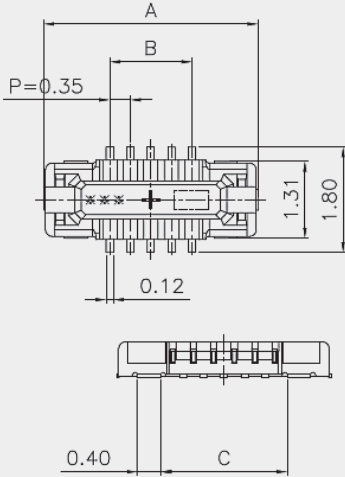
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : PLUG (MALE)

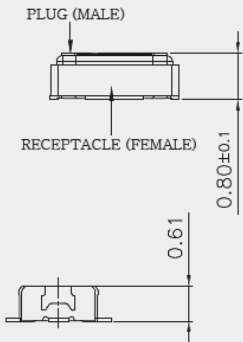
Product Drawing



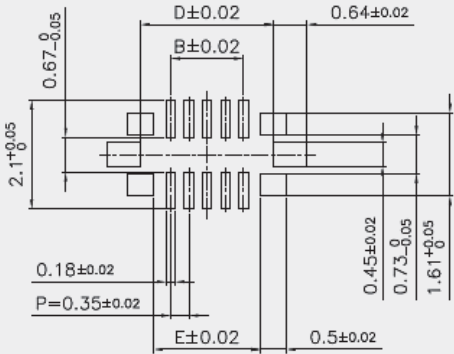
Male (Plug)



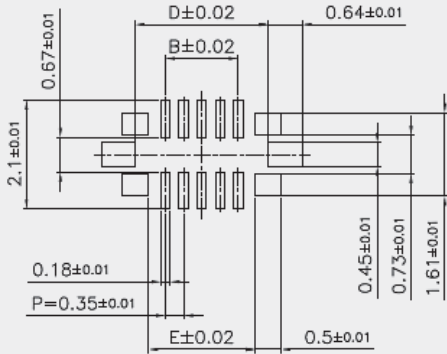
【 ENGAGEMENT FIGURE 】



Recommended PCB , Metal Mask Layout



RECOMMENDED PAD LAYOUT



RECOMMENDED METAL MASK DIMENSION

(Metal Mask Thickness 80µm)

Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D	E
BM035-I10B-C08-H	10	3.65	1.40	2.15	2.57	2.05

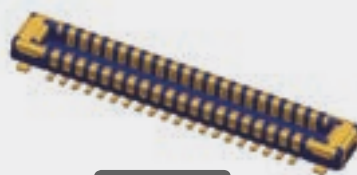
Board To Board Connector

BJ

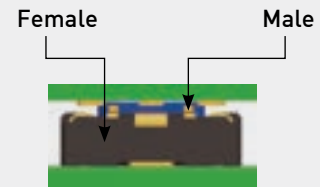
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices



Female



Male



Mated

- ▶ For contact stability, Double Contact and Bellows Type Contact Structure
- ▶ Functional Fitting Nail
 - 1) Robust type (Mold Prevention of damage)
 - 2) High Current
- ▶ FEMALE , MALE – Terminal / Fitting Nail Full-Insert Structure
 - 1) Mold Prevention of damage and Reinforcement of strength
 - 2) Improving product quality reliability.

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
BF035-I20B-C08-D	0.35	20	2.20	0.80	6.86	Receptacle
BM035-I20B-C08-D	0.35	20	2.20	0.80	6.86	Plug
BF035-I40B-C08-D	0.35	40	2.20	0.80	10.36	Receptacle
BM035-I40B-C08-D	0.35	40	2.20	0.80	10.36	Plug

Rated Current	Contact Resistance	Dielectric Strength	Temperature Range
Signal 0.3A/Pin Power 4.0A/Pin	Signal 50mΩ [Max.] Power 30mΩ [Max.]	AC 250V	-35°C ~ 85°C

Board To Board Connector



Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

Product Specification

Ratings	Rated current	Signal : 0.3A/Pin Power : 4.0A/Pin	Operating temperature range	-35°C to +85°C 1	Storage temperature range	-10°C to +60°C (Product only)
	Rated voltage	30V AC(RMS) / DC	Operating humidity range	85%RH Max.2	Storage humidity range	65%RH Max. 2

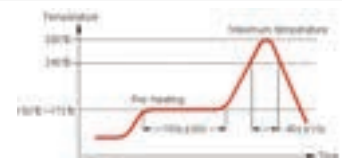
1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	- Signal : 50mΩ [Max.] - Power : 30mΩ [Max.]	- Open circuit voltage: 20mV (AC) - Test current: 1mA.
2. Insulation resistance	50MΩ [Min.]	250V DC
3. Withstanding voltage	No flashover or dielectric breakdown	250V AC(RMS) for 1minute
4. Insertion force / Separation force	1) Insertion force : 5.0kgf [Max.] 2) Separation force : 0.012kgf/Pin [Min]	Insert and withdraw connectors at the speed rate of 25mm per minute.
5. Durability	1) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.]	When mated up to 30 cycles repeatedly by the rate of 10mm per minute
6. Vibration	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.]	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
7. Shock	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.]	- Acceleration : 50G (490m/s ²) - Duration : 11ms - Number of shocks : 3 times per each direction - Test current : 100mA
8. Humidity	1) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.] 2) Insulation resistance : 25MΩ [Min.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr

9. Solder heat resistance No loose contacts no deformation.

Reflow condition.
(Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Female Base	LCP	Black	UL94V-0
Female Terminal	Phosphor Bronze	Au, Ni plated	-
Female Fitting Nail	Copper Alloy	Au, Ni plated	-
Male Base	LCP	Black	UL94V-0
Male Terminal	Phosphor Bronze	Au, Ni plated	-
Male Fitting Nail	Copper Alloy	Au, Ni plated	-

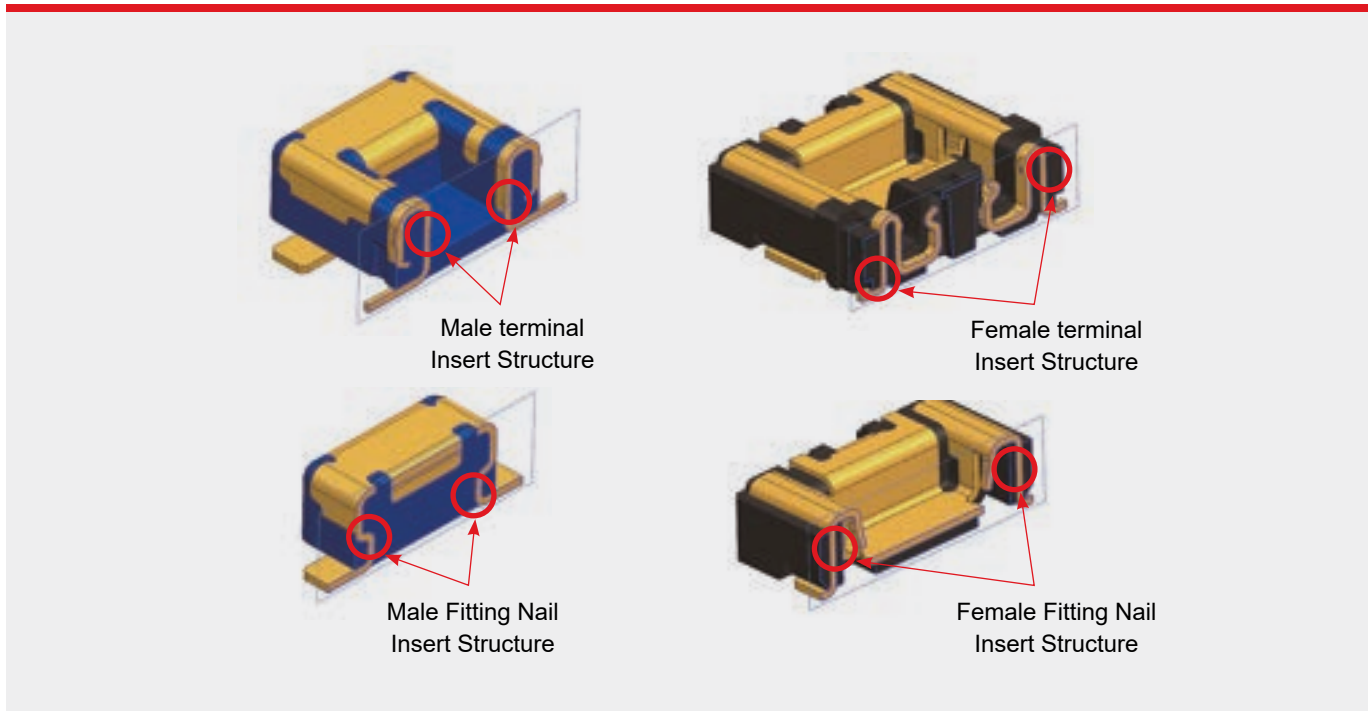
Board To Board Connector



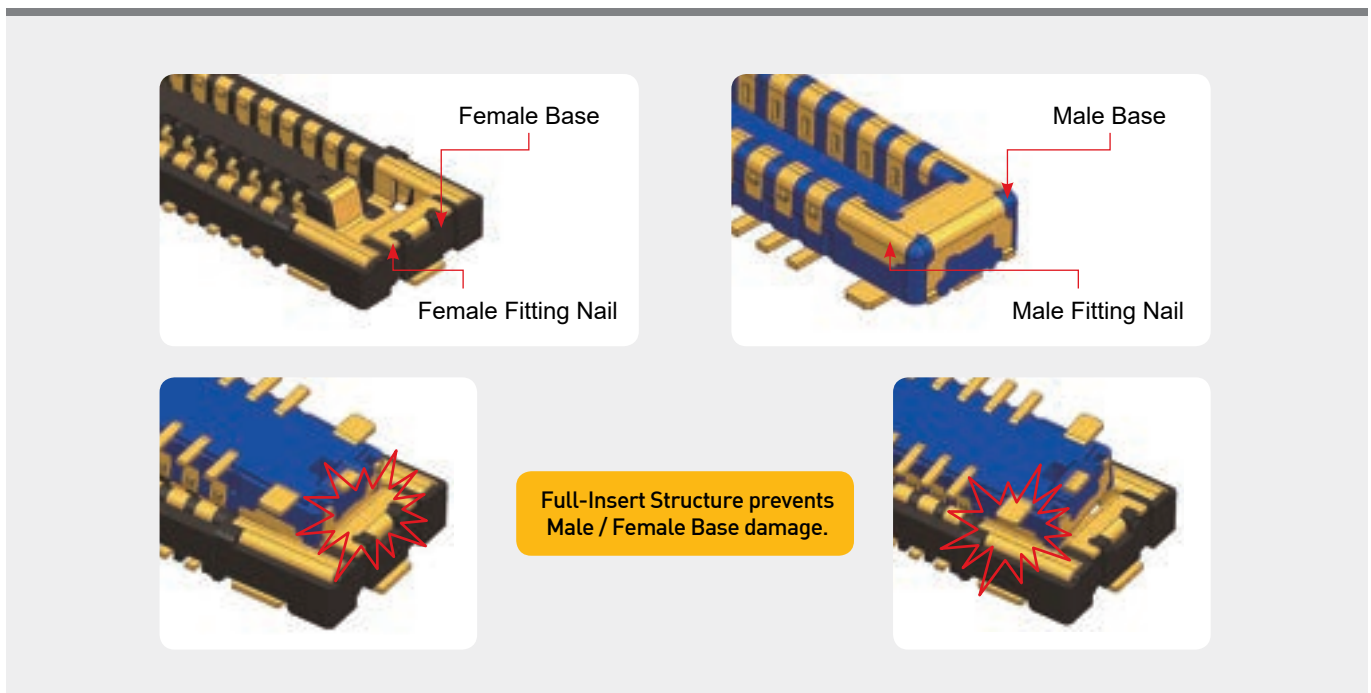
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

FEATURES AND ADVANTAGES

► Insert Structure for preventing Lead solder over rise



► Full-Insert Structure for prevention of Base damage

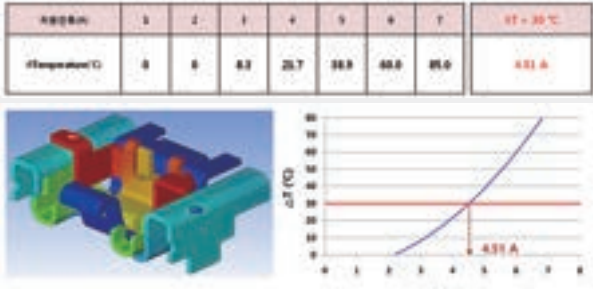


Board To Board Connector



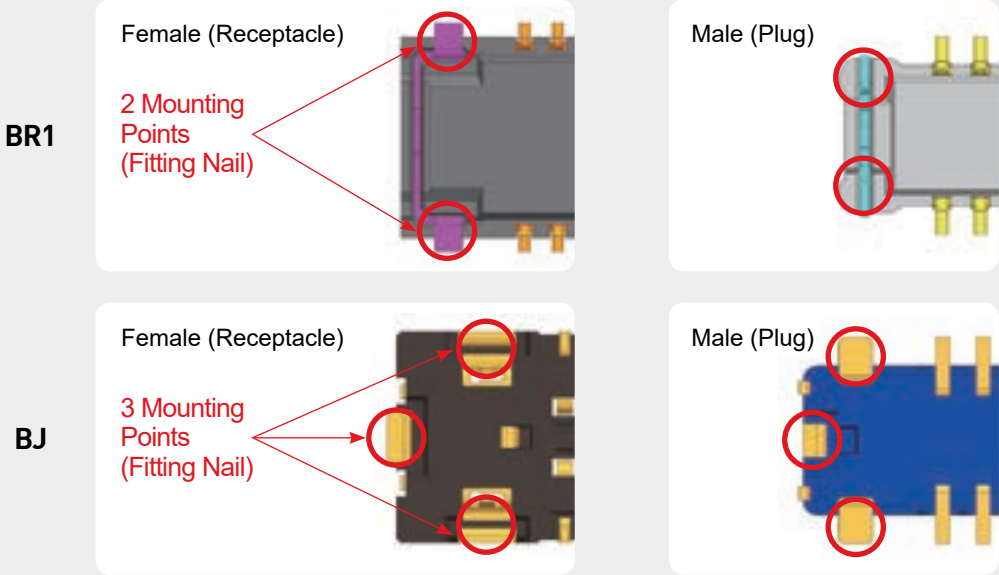
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

► High current(4A) for Power Contact



Allowable Current Simulation

► Three Fitting Nail Leads for reinforced Solder Peeling Strength



Board To Board Connector



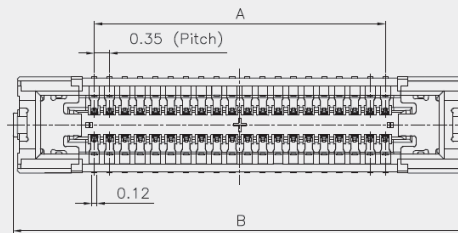
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : RECEPTACLE (FEMALE)

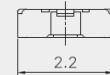
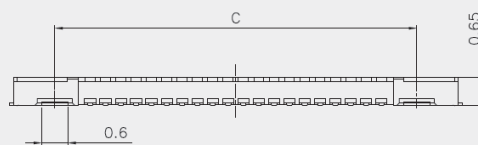
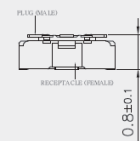
Product Drawing



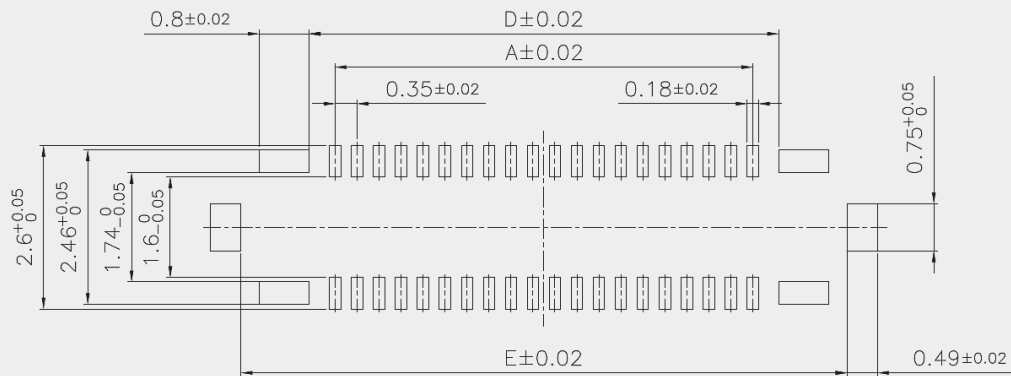
Female (Receptacle)



[ENGAGEMENT FIGURE]



Recommended PCB , Metal Mask Layout



【 RECOMMENDED PAD LAYOUT 】

Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D	E
BF035-I20B-C08-D	20	3.15	6.86	4.77	3.97	6.15
BF035-I40B-C08-D	40	6.65	10.36	8.27	7.47	9.65

Board To Board Connector



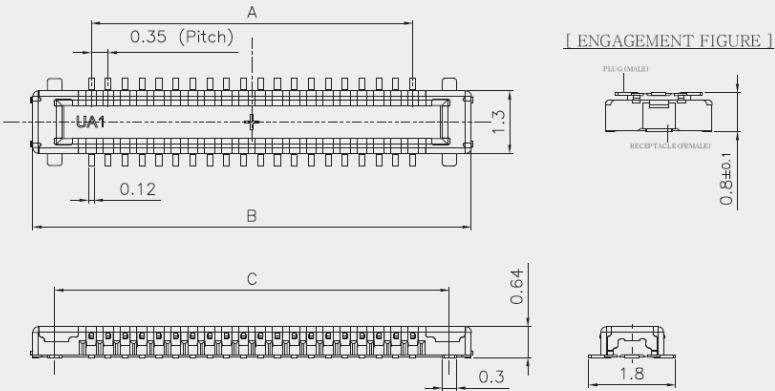
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : PLUG (MALE)

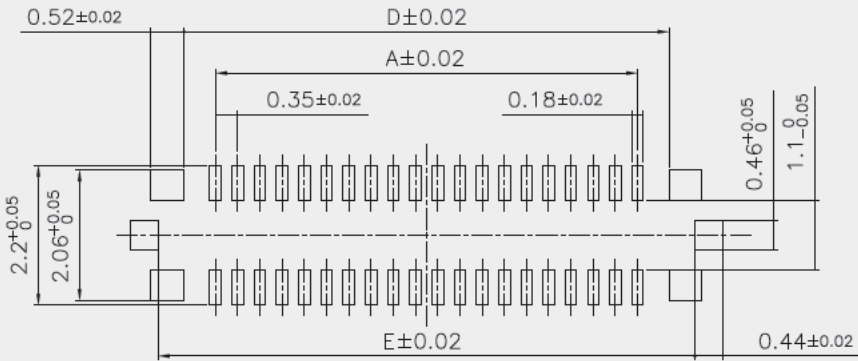
Product Drawing



Male (Plug)



Recommended PCB , Metal Mask Layout



【 RECOMMENDED PAD LAYOUT 】

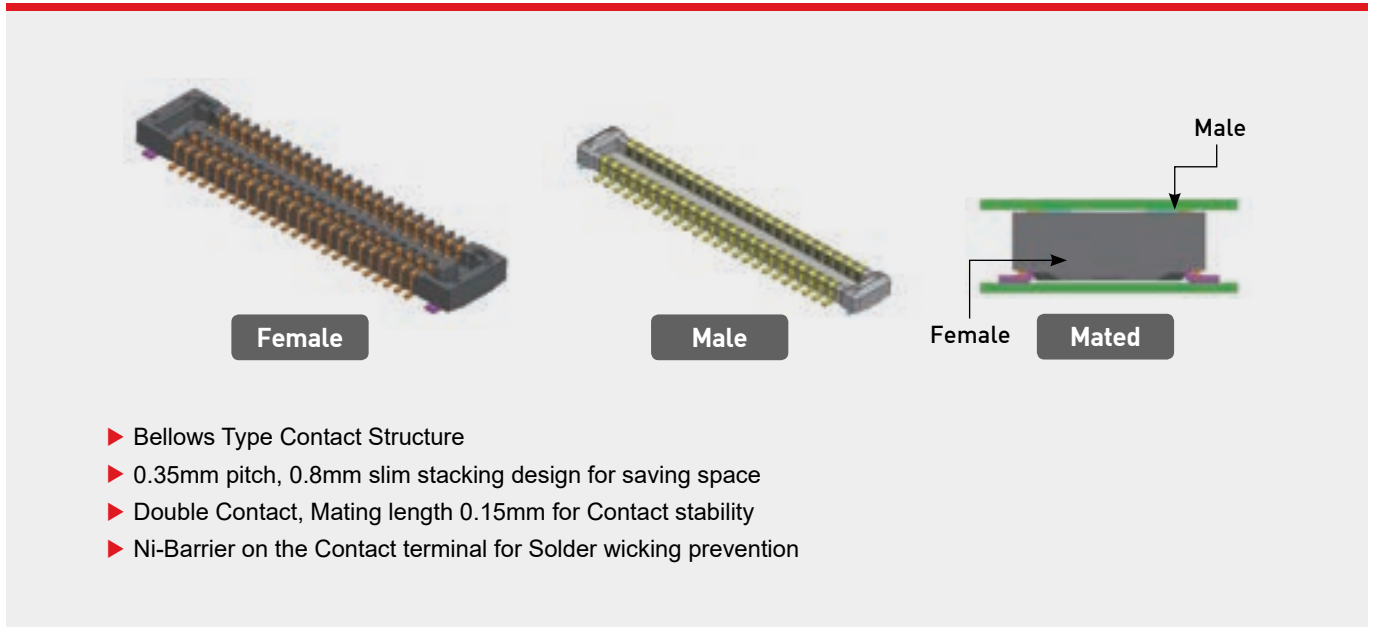
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D	E
BM035-I20B-C08-D	20	3.15	5.57	4.66	4.14	4.96
BM035-I40B-C08-D	40	6.65	9.07	8.16	7.64	8.46

Board To Board Connector

BR1

Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices



Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
BF035-V34B-C08	0.35	34	2.40	0.80	8.20	Receptacle
BM035-V34B-C08	0.35	34	2.40	0.80	8.20	Plug
BF035-V48B-C08	0.35	48	2.40	0.80	10.65	Receptacle
BM035-V48B-C08	0.35	48	2.40	0.80	10.65	Plug
BF035-V60B-C08	0.35	60	2.40	0.80	12.75	Receptacle
BM035-V60B-C08	0.35	60	2.40	0.80	12.75	Plug

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
0.3A	50mΩ [Max.]	250V AC (RMS)	-35°C ~ 85°C

Board To Board Connector

BR1
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

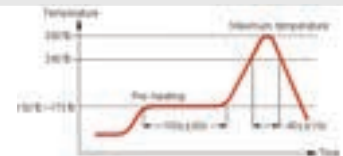
Product Specification

Ratings	Rated current	0.3A	Operating temperature range	-35°C to +85°C 1	Storage temperature range	+15°C to +35 °C
	Rated voltage	30V AC(RMS) / DC	Operating humidity range	70%RH Max.2	Storage humidity range	65%RH Max. 2

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	50mΩ [Max.]	- Open circuit voltage: 20mV (AC) - Test current: 1mA.
2. Insulation resistance	50mΩ [Min.]	250V DC
3. Withstanding voltage	No flashover or dielectric breakdown	250V AC(RMS) for 1minute
4. Insertion force / Separation force	1) Insertion force : 5.0kgf [Max.] 2) Separation force : 0.012kgf/Pin [Min]	Insert and withdraw connectors at the speed rate of 25mm per minute.
5. Durability	Contact resistance : 90mΩ [Max.]	When mated up to 30 cycles repeatedly by the rate of 10mm per minute
6. Vibration	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact resistance : 90mΩ [Max.]	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
7. Shock	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact resistance : 90mΩ [Max.]	- Acceleration : 50G (490□) - Duration : 11ms - Number of shocks : 3 times per each direction - Test current : 100mA
8. Humidity	1) Contact resistance : 90mΩ [Max.] 2) Insulation resistance : 25mΩ [Min.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	No loose contacts no deformation.	Reflow condition. (Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Female Base	LCP	Black	UL94V-0
Female Terminal	Copper Alloy	Au, Ni plated	-
Female Fitting Nail	Phosphor Bronze	Sn, Ni plated	-
Male Base	LCP	Black	UL94V-0
Male Terminal	Phosphor Bronze	Au, Ni plated	-
Male Fitting Nail	Phosphor Bronze	Sn, Ni plated	-

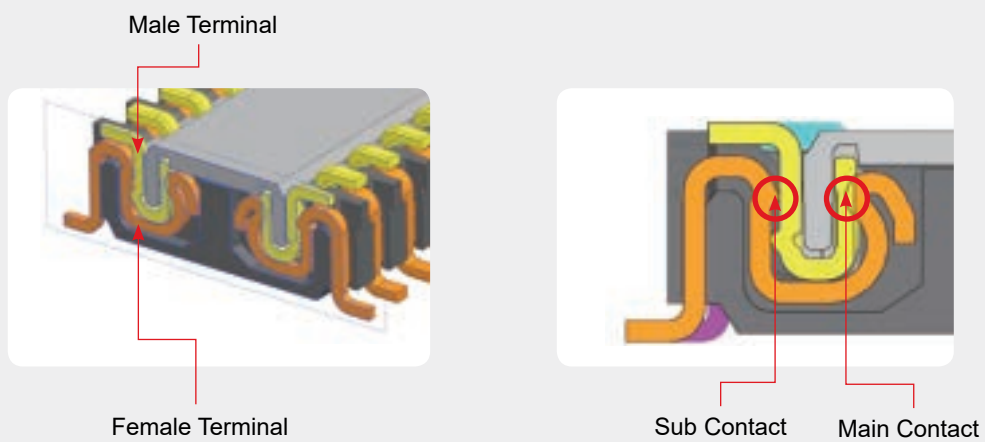
Board To Board Connector

BR1

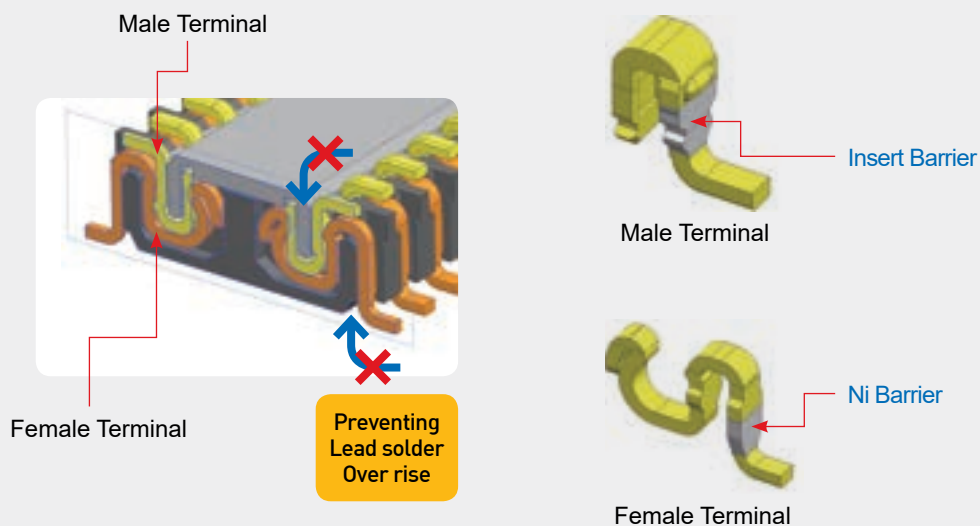
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

FEATURES AND ADVANTAGES

- Double Contact point for stable contact preservation



- Ni Barrier for preventing Lead solder over rise



Board To Board Connector



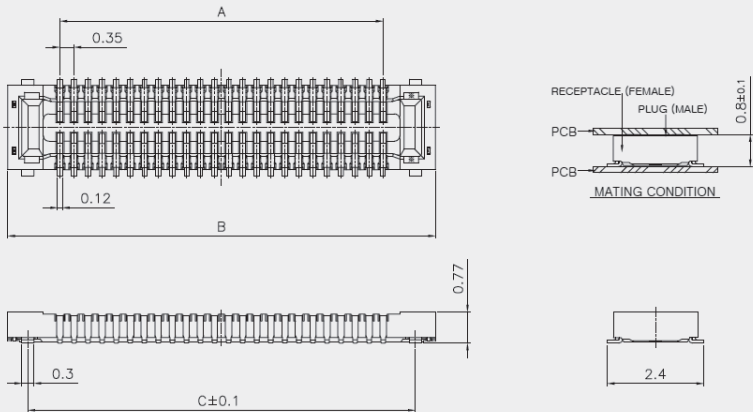
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : RECEPTACLE (FEMALE)

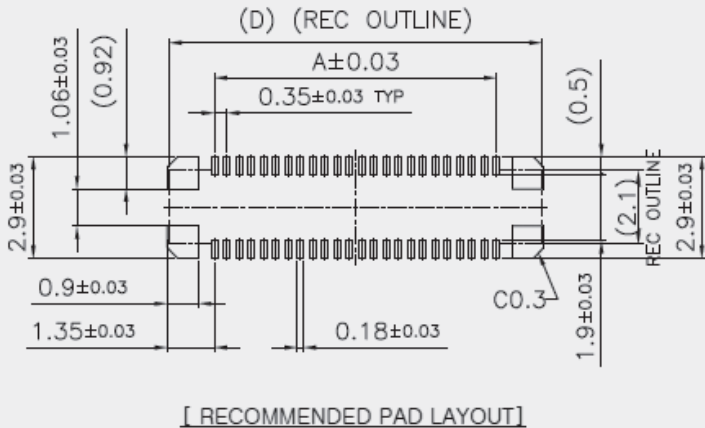
Product Drawing



Female (Receptacle)



Recommended PCB , Metal Mask Layout



Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
BF035-V24B-C08	24	3.85	6.45	5.45	6.45
BF035-V34B-C08	34	5.60	8.20	7.20	8.20
BF035-V48B-C08	48	8.05	10.65	9.65	10.65
BF035-V60B-C08	60	10.15	12.75	11.75	12.75

Board To Board Connector



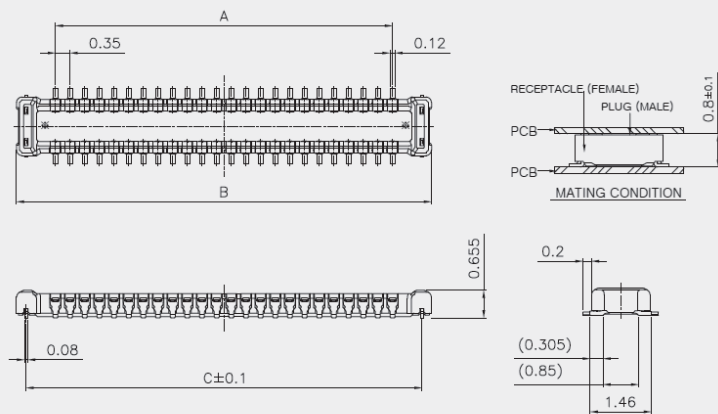
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : PLUG (MALE)

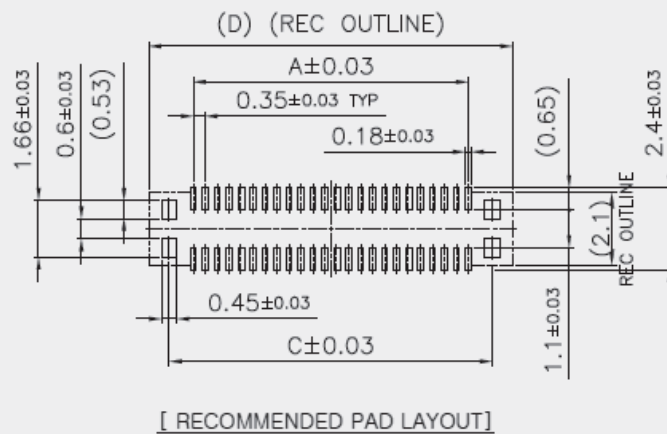
Product Drawing



Male (Plug)



Recommended PCB , Metal Mask Layout



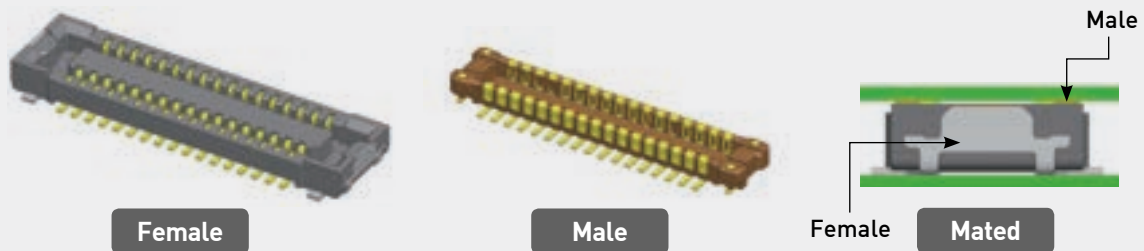
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
BM035-V24B-C08	24	3.85	5.71	5.25	6.45
BM035-V34B-C08	34	5.60	7.46	7.00	8.20
BM035-V48B-C08	48	8.05	9.91	9.45	10.65
BM035-V60B-C08	60	10.15	12.01	11.55	12.75

Board To Board Connector

BR2

Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices



- ▶ For contact stability, Double Contact and Bellows Type Contact Structure.
- ▶ 0.35mm pitch, 0.8mm slim stacking design for saving space.
- ▶ Male Terminal / Female Fitting Nail Insert Structure.

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
BF035-I34B-C08	0.35	34	2.50	0.80	8.30	Receptacle
BM035-I34B-C08	0.35	34	2.50	0.80	8.30	Plug

Rated Current	Contact Resistance	Dielectric Strength	Temperature Range
0.25A	60mΩ [Max.]	250V AC(RMS)	-35°C ~ 85°C

Board To Board Connector

BR2
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

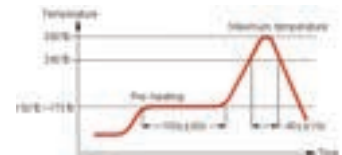
Product Specification

Ratings	Rated current	0.25A	Operating temperature range	-35°C to +85°C 1	Storage temperature range	+15°C to +35 °C
	Rated voltage	30V AC(RMS) / DC	Operating humidity range	70%RH Max.2	Storage humidity range	65%RH Max. 2

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	60mΩ [Max.]	- Open circuit voltage: 20mV (AC) - Test current: 1mA.
2. Insulation resistance	50MΩ [Min.]	250V DC
3. Withstanding voltage	No flashover or dielectric breakdown	250V AC(RMS) for 1minute
4. Insertion force / Separation force	1) Insertion force : 5.0kgf [Max.] 2) Separation force : 0.012kgf/Pin [Min]	Insert and withdraw connectors at the speed rate of 25mm per minute.
5. Durability	Contact resistance : 90mΩ [Max.]	When mated up to 30 cycles repeatedly by the rate of 10mm per minute
6. Vibration	Contact resistance : 90mΩ [Max.]	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
7. Shock resistance	1) Contact resistance : 90mΩ [Max.] 2) Insulation resistance : 25mΩ [Min.]	- Temperature : 35°C±2°C - Duration : 48hr - Salt-solution concentration : 5 ±1%
8. Humidity	1) Contact resistance : 90mΩ [Max.] 2) Insulation resistance : 25mΩ [Min.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	No loose contacts no deformation.	Reflow condition. (Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Female Base	LCP	Black	UL94V-0
Female Terminal	Phosphor Bronze	Au, Ni plated	-
Female Fitting Nail	Copper Alloy	Au, Ni plated	-
Male Base	LCP	Black	UL94V-0
Male Terminal	Phosphor Bronze	Au, Ni plated	-
Male Fitting Nail	Phosphor Bronze	Au, Ni plated	-

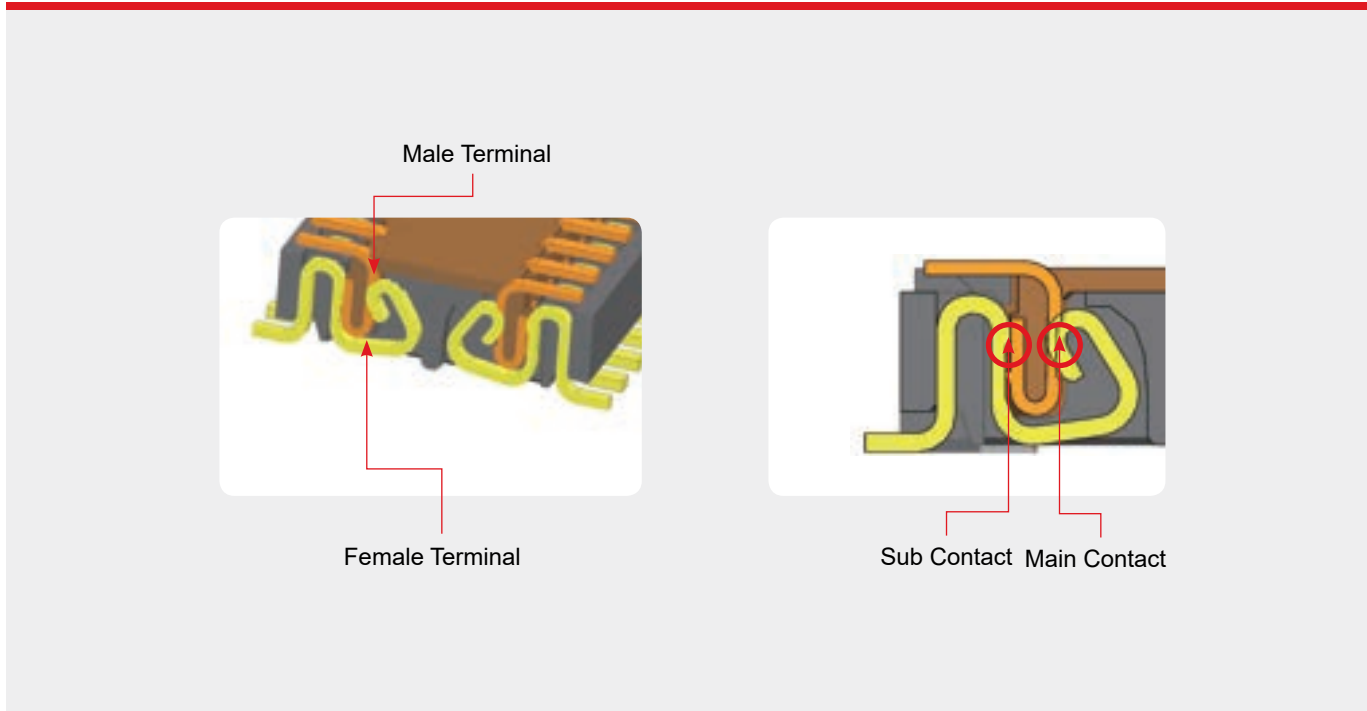
Board To Board Connector



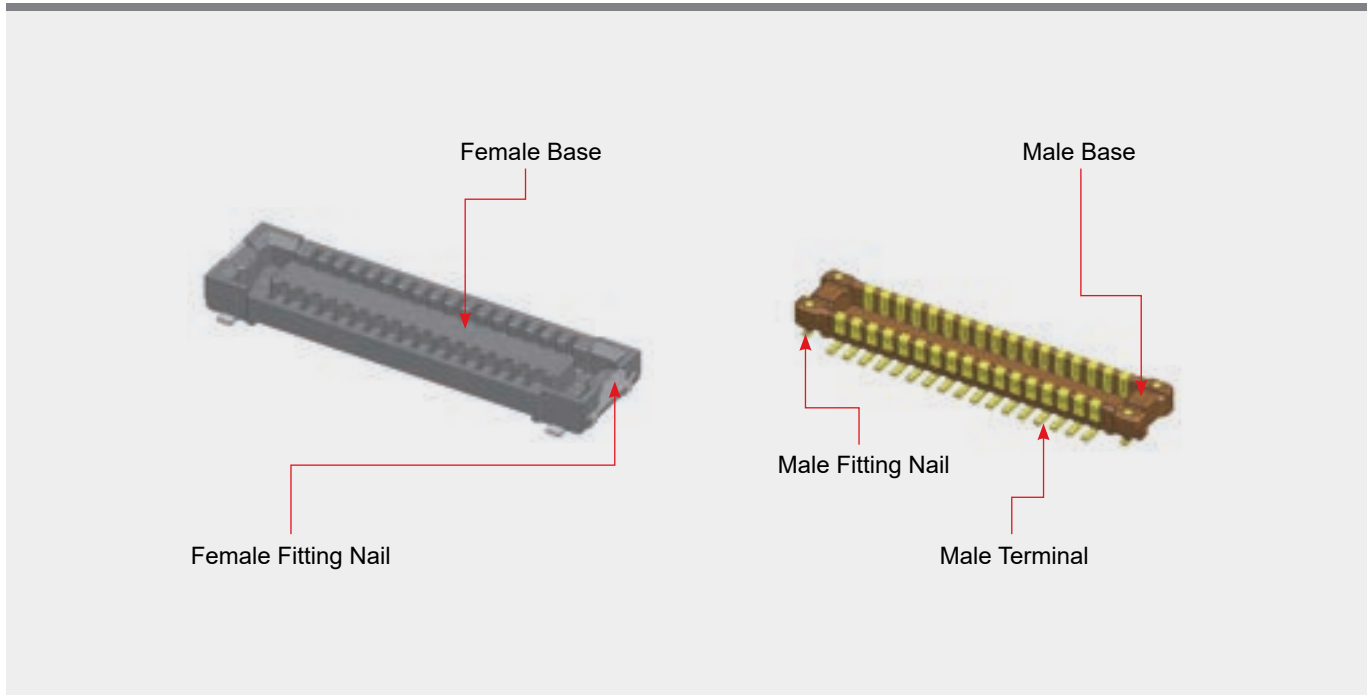
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

FEATURES AND ADVANTAGES

- ▶ Double Contact point for stable contact preservation



- ▶ Insert mold Structure



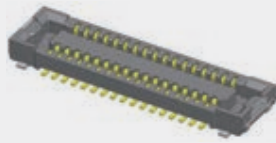
Board To Board Connector



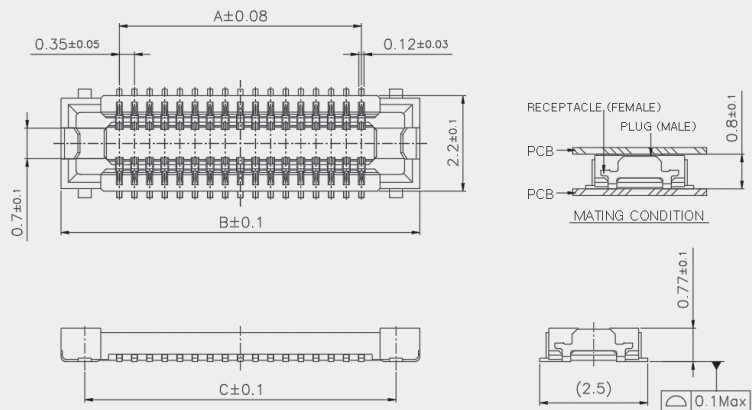
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : RECEPTACLE (FEMALE)

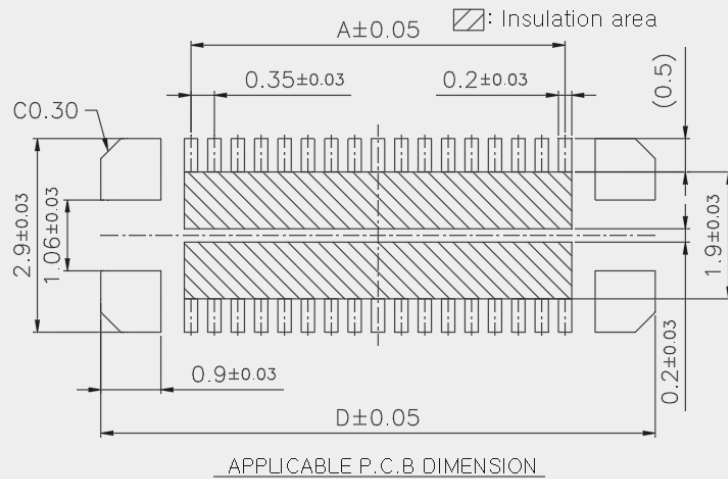
Product Drawing



Female (Receptacle)



Recommended PCB , Metal Mask Layout



Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
BF035-I34B-C08	34	5.60	8.30	7.20	8.30

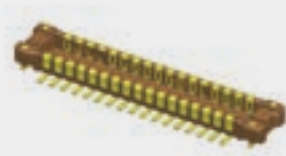
Board To Board Connector



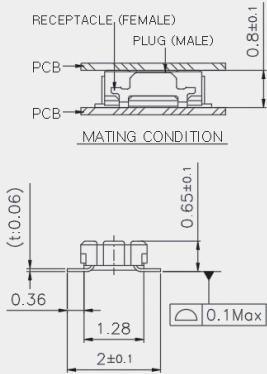
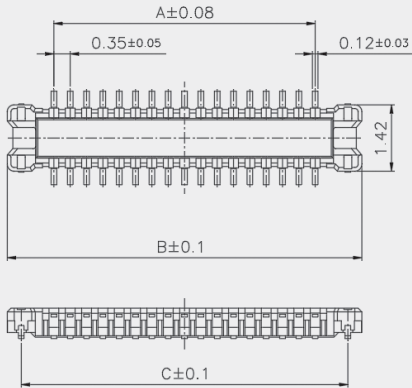
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : PLUG (MALE)

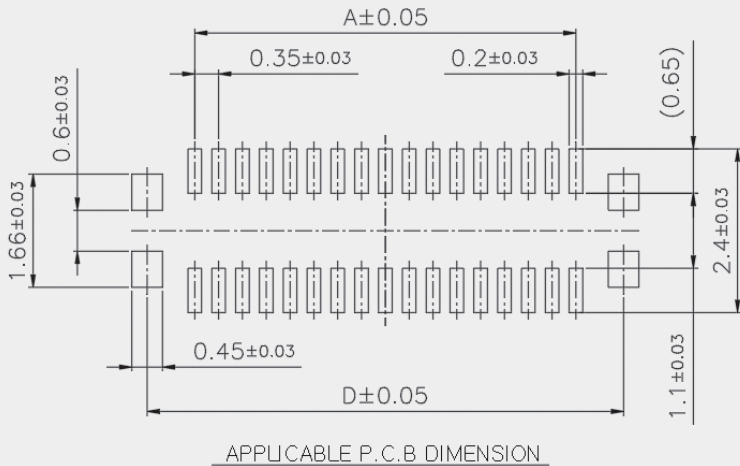
Product Drawing



Male (Plug)



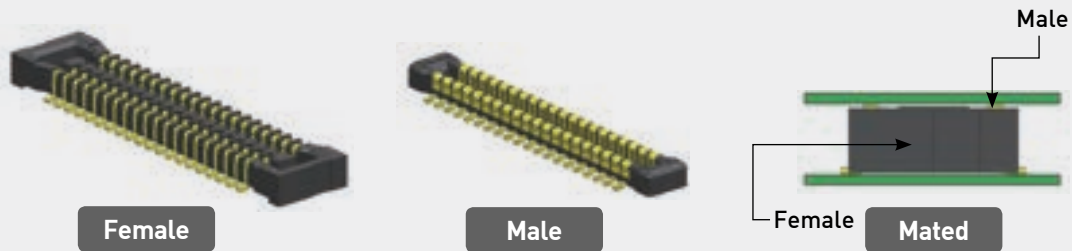
Recommended PCB , Metal Mask Layout



Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
BM035-I34B-C08	34	5.60	7.60	7.00	7.00

Board To Board Connector

THIN
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices


- ▶ For contact stability, Double Contact and Bellows Type Contact Structure
- ▶ 0.9mm stacking height and width of 2.4mm for saving space
- ▶ There is little dead space as metal is not exposed on the back of the connector Male
- ▶ RoHS compliant product

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
BF040-I40B-N09-C	0.35	40	1.80	0.90	0	Receptacle
BM040-I40B-N09-C	0.35	40	1.80	0.90	0	Plug

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
0.3A	50mΩ [Max.]	250V AC (RMS)	-35°C ~ 85°C

Board To Board Connector



Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

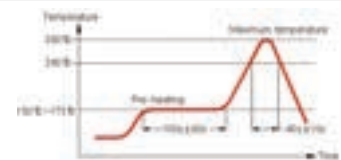
Product Specification

Ratings	Rated current	0.3A	Operating temperature range	-35°C to +85°C 1	Storage temperature range	+15°C to +35 °C
	Rated voltage	30V AC(RMS) / DC	Operating humidity range	70%RH Max.2	Storage humidity range	65%RH Max. 2

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	50mΩ [Max.]	- Open circuit voltage: 20mV (AC) - Test current: 1mA.
2. Insulation resistance	50MΩ [Min.]	250V DC
3. Withstanding voltage	No flashover or dielectric breakdown	250V AC(RMS) for 1minute
4. Insertion force / Separation force	1) Insertion force : 5.0kgf [Max.] 2) Separation force : 0.012kgf/Pin [Min]	Insert and withdraw connectors at the speed rate of 25mm per minute.
5. Durability	Contact resistance : 90mΩ [Max.]	1) When mated up to 30 cycles repeatedly by the rate of 10mm per minute
6. Vibration	Discontinuity : 1.0 microsec. [Max.]	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
7. Shock	Discontinuity : 1.0 microsec. [Max.]	- Acceleration : 50G (490m/s ²) - Duration : 11ms - Number of shocks : 3 times per each direction - Test current : 100mA
8. Humidity	1) Contact resistance - 90mΩ [Max.] 2) Insulation resistance : 25MΩ [Min.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	No loose contacts no deformation.	Reflow condition. (Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Female Base	LCP	Black	UL94V-0
Female Terminal	Copper Alloy	Au plated	-
Male Base	LCP	Black	UL94V-0
Male Terminal	Phosphor Bronze	Au plated	-

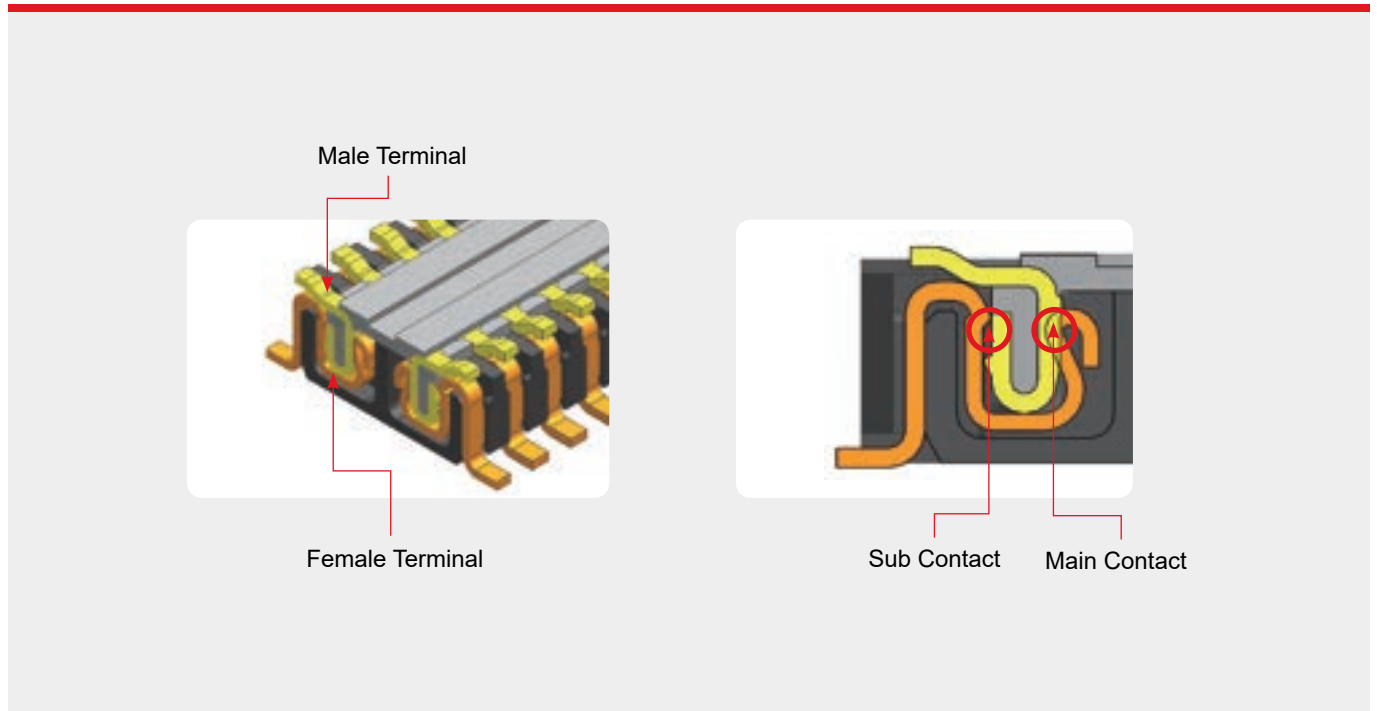
Board To Board Connector



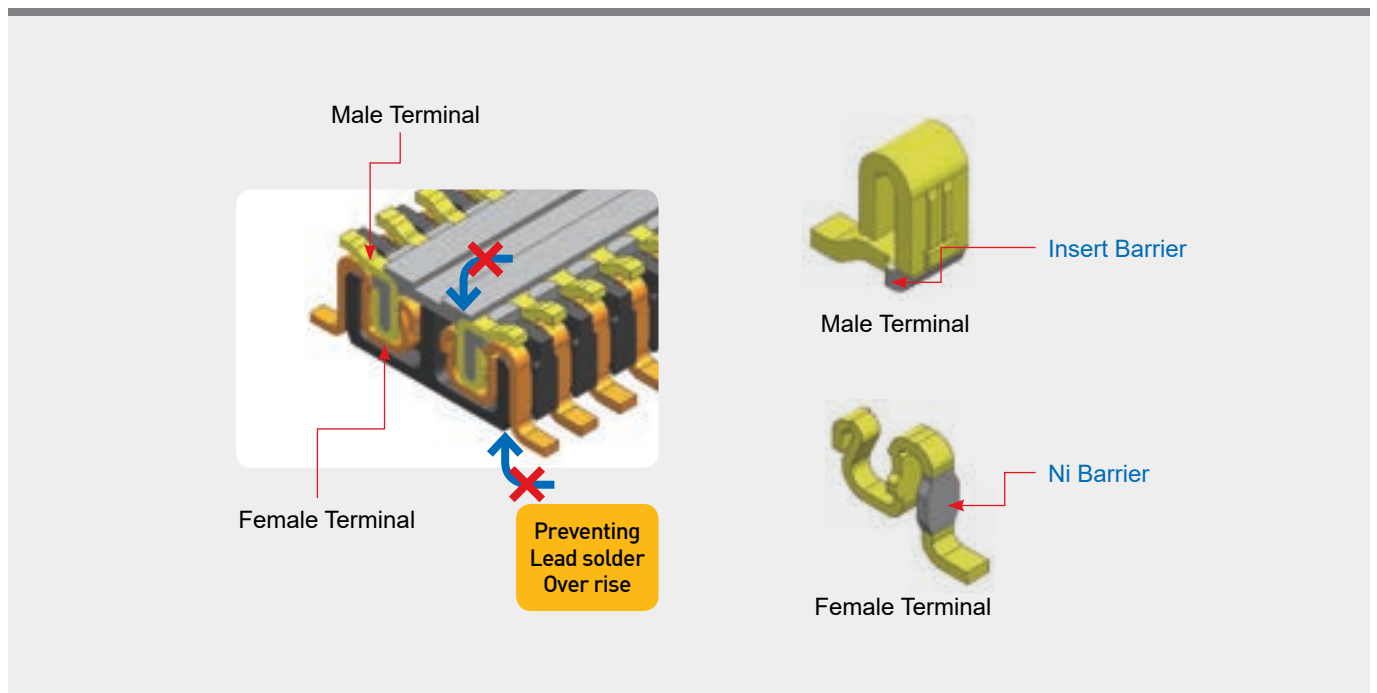
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

FEATURES AND ADVANTAGES

- Double Contact point for stable contact preservation



- Ni Barrier for preventing Lead solder over rise



Board To Board Connector



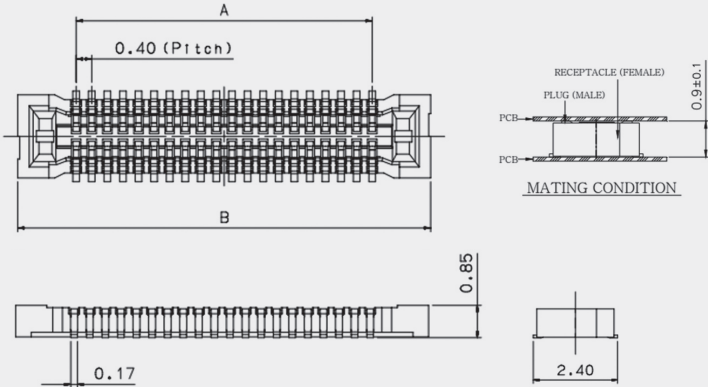
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : RECEPTACLE (FEMALE)

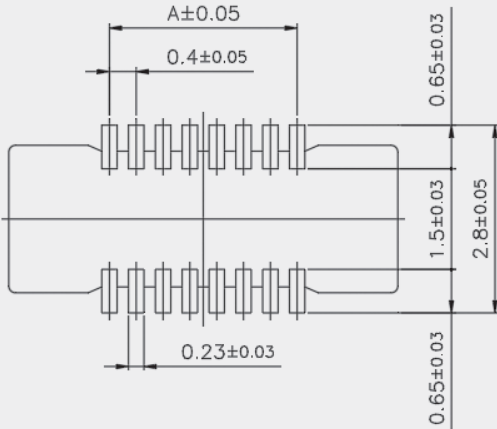
Product Drawing



Female (Receptacle)



Recommended PCB , Metal Mask Layout



【 APPLICABLE P.C.B DIMENSION 】

Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B
BF040-I40B-N09-C	40	7.60	10.60

Board To Board Connector



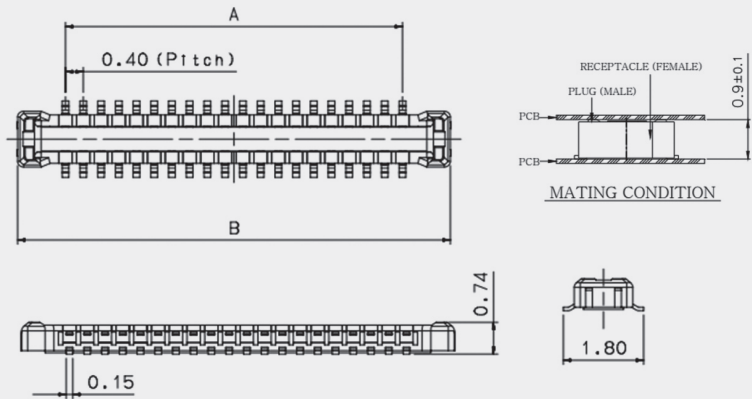
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : PLUG (MALE)

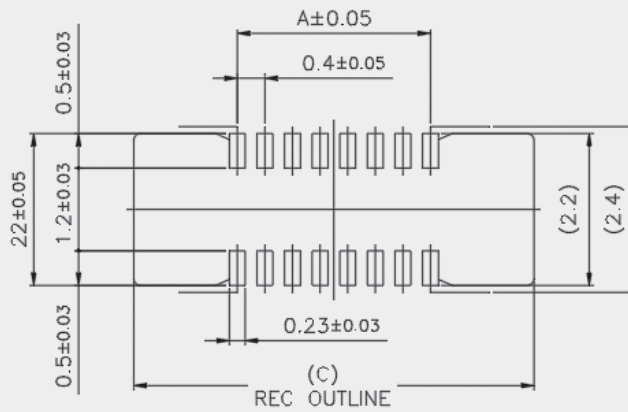
Product Drawing



Male (Plug)



Recommended PCB , Metal Mask Layout



【 APPLICABLE P.C.B DIMENSION 】

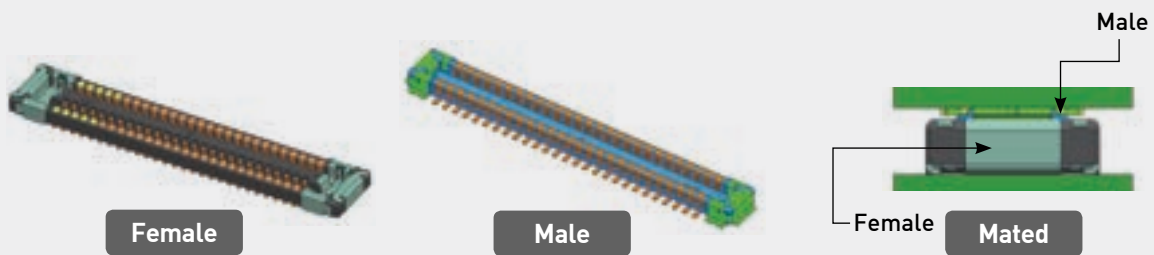
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C
BM040-I40B-N09-C	40	7.60	9.76	10.60

Board To Board Connector



Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices



- ▶ For contact stability, Double Contact and Bellows Type Contact Structure
- ▶ Functional Fitting Nail
 - 1) Robust type (Mold Prevention of damage)
 - 2) High Current
- ▶ Female , Male – Terminal / Fitting Nail Full-Insert Structure
 - 1) Mold Prevention of damage and Reinforcement of strength
 - 2) Improving product quality reliability.

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
BF035-I54B-C08-G	0.35	54	2.20	0.80	12.50	Receptacle
BM035-I54B-C08-G	0.35	54	2.20	0.80	12.50	Plug

Rated Current	Contact Resistance	Dielectric Strength	Temperature Range
Signal 0.3A/Pin Power 5.0A/Pin	Signal 50mΩ [Max.] Power 30mΩ [Max.]	250V AC(RMS)	-35°C ~ 85°C

Board To Board Connector



Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

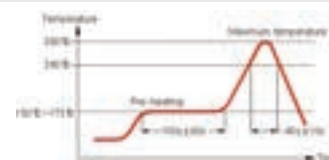
Product Specification

Ratings	Rated current	Signal : 0.3A/Pin Power : 5.0A/Pin	Operating temperature range	-35°C to +85°C 1	Storage temperature range	+15°C to +35 °C
	Rated voltage	30V AC(RMS)/DC	Operating humidity range	70%RH Max.2	Storage humidity range	65%RH Max. 2

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	- Signal : 50mΩ [Max.] - Power : 30mΩ [Max.]	- Open circuit voltage: 20mV (AC) - Test current: 1mA.
2. Insulation resistance	50MΩ [Min.]	250V DC
3. Withstanding voltage	No flashover or dielectric breakdown	250V AC(RMS) for 1minute
4. Insertion force / Separation force	1) Insertion force : 5.0kgf [Max.] 2) Separation force : 0.012kgf/Pin [Min]	Insert and withdraw connectors at the speed rate of 25mm per minute.
5. Durability	1) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.]	When mated up to 30 cycles repeatedly by the rate of 10mm per minute
6. Vibration	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.]	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
7. Shock	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.]	- Acceleration : 50G (490m/s ²) - Duration : 11ms - Number of shocks : 3 times per each direction - Test current : 100mA
8. Humidity	1) Contact resistance - Signal : 90mΩ [Max.] - Power : 50mΩ [Max.] 2) Insulation resistance : 25MΩ [Min.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	No loose contacts no deformation.	Reflow condition. (Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Female Base	LCP	Black	UL94V-0
Female Terminal	Phosphor Bronze	Au, Ni plated	-
Female Fitting Nail	Copper Alloy	Au, Ni plated	-
Male Base	LCP	Black	UL94V-0
Male Terminal	Phosphor Bronze	Au, Ni plated	-
Male Fitting Nail	Copper Alloy	Au, Ni plated	-

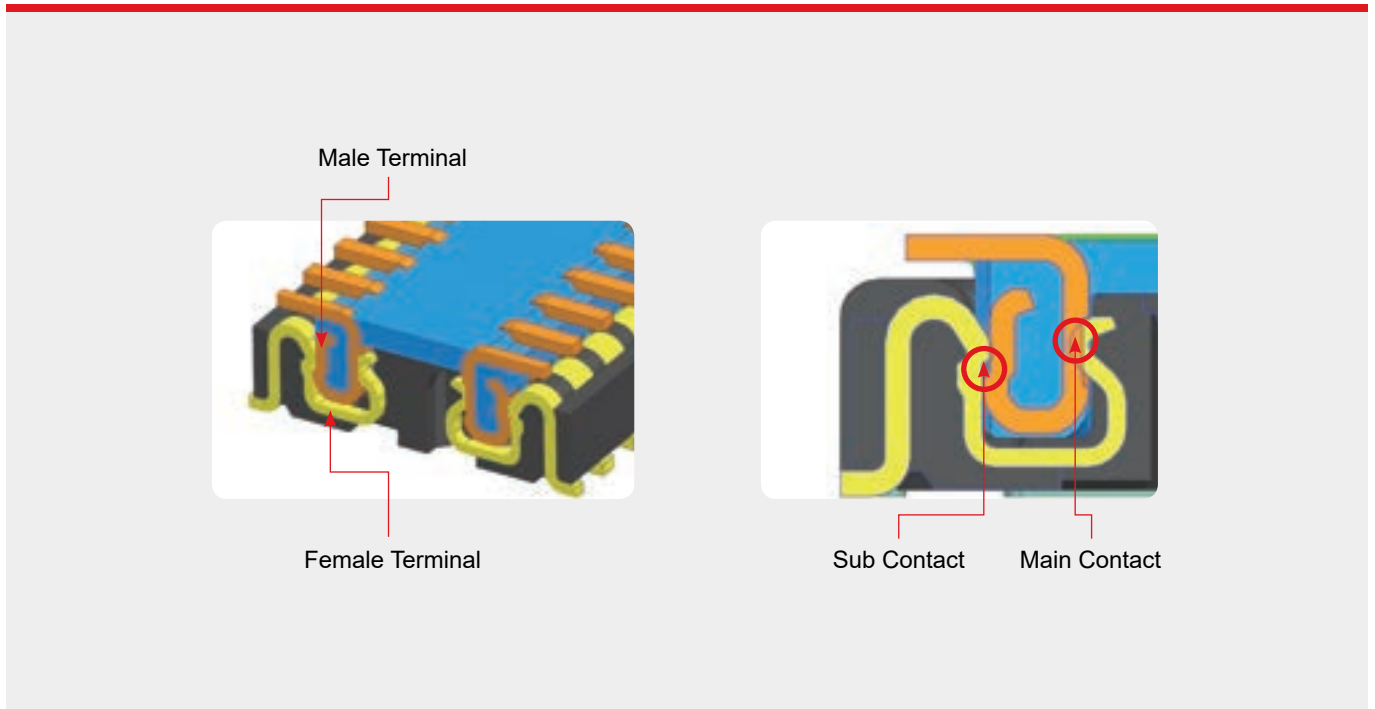
Board To Board Connector



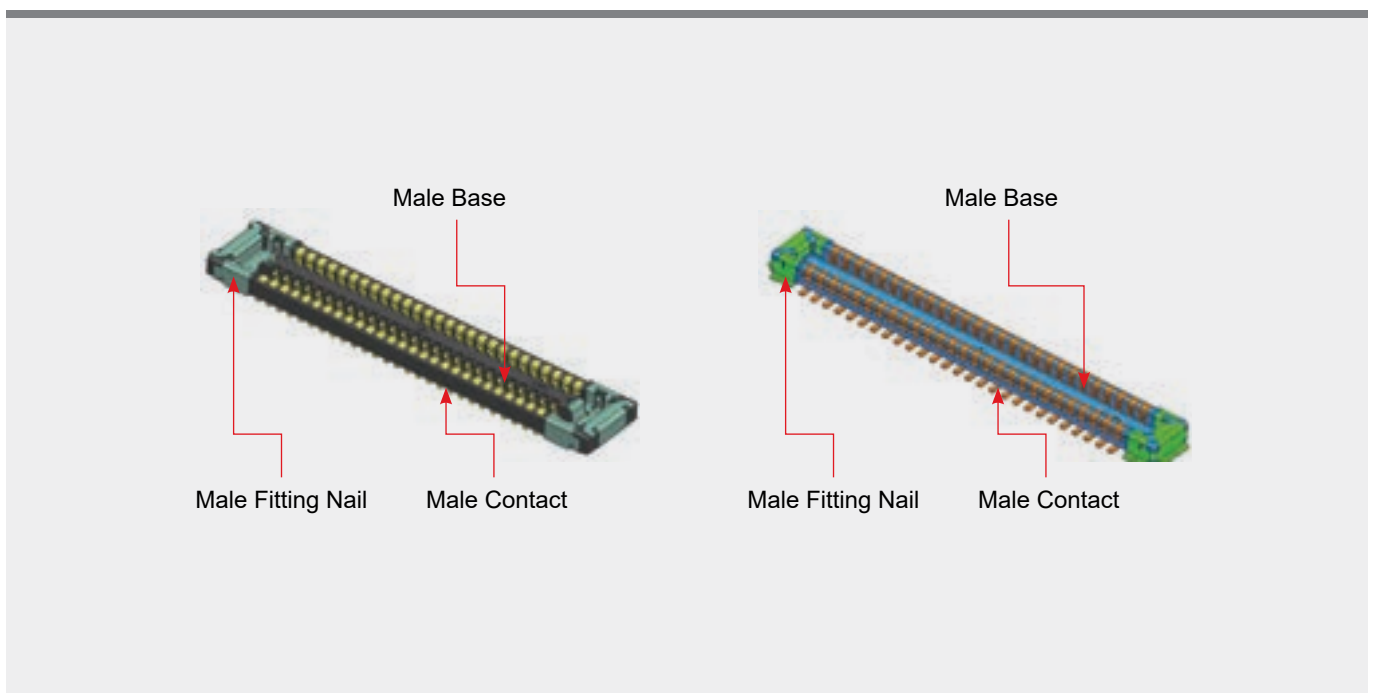
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

FEATURES AND ADVANTAGES

- Double Contact point for stable contact preservation



- Insert mold Structure



Board To Board Connector



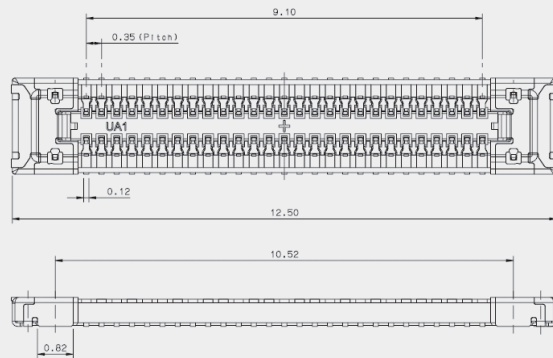
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : RECEPTACLE (FEMALE)

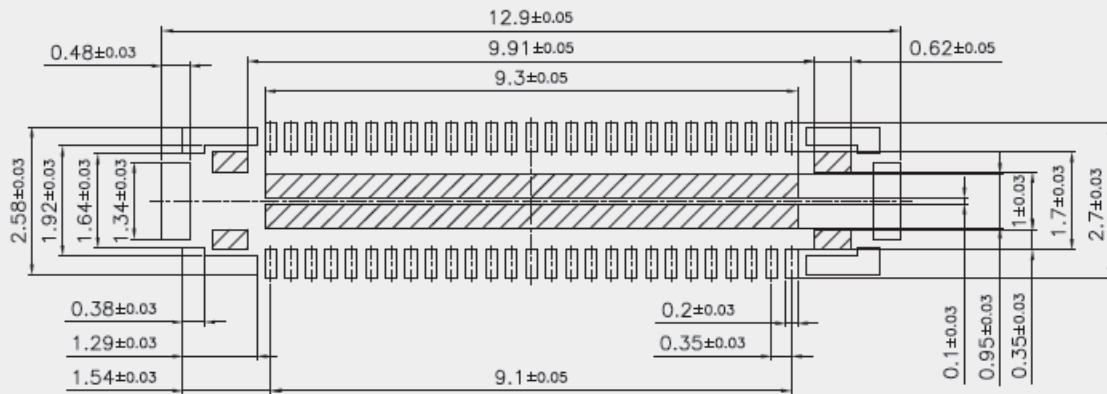
Product Drawing



Female (Receptacle)



Recommended PCB , Metal Mask Layout



【 RECOMMENDED PAD LAYOUT (For Reference) 】 (▨ Insulation area)

Board To Board Connector



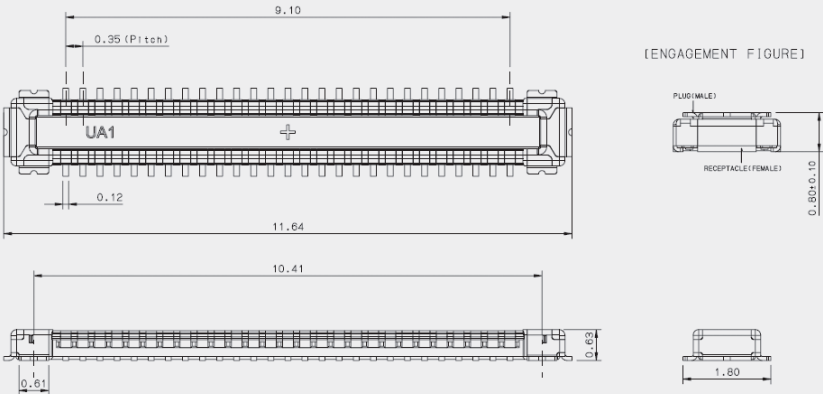
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : PLUG (MALE)

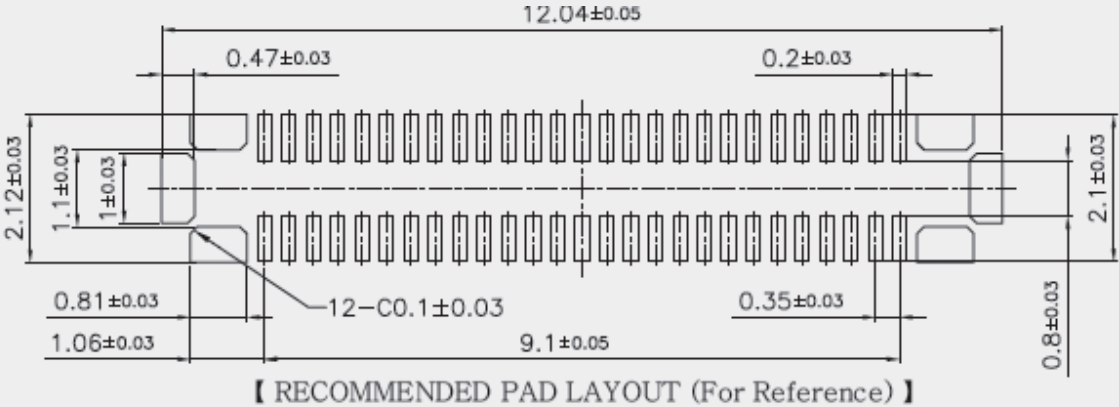
Product Drawing



Male (Plug)



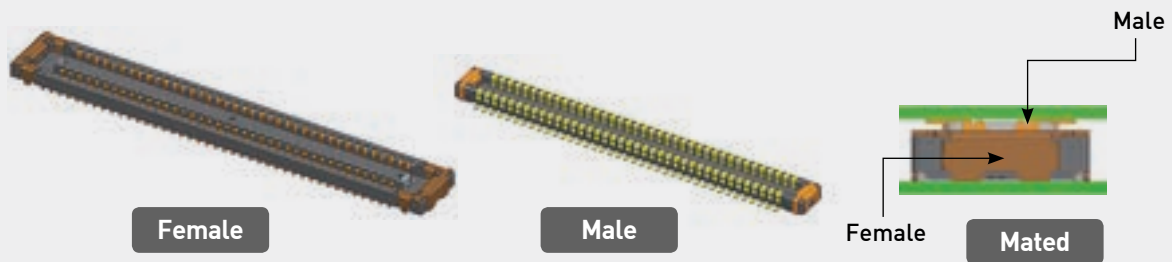
Recommended PCB , Metal Mask Layout



Board To Board Connector

BI

Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices



- ▶ For contact stability, Double Contact and Bellows Type Contact Structure
- ▶ 0.35mm pitch, 0.8mm slim stacking design for saving space
- ▶ Functional Fitting Nail
 - 1) Robust type (Mold Prevention of damage)
 - 2) High Current
- ▶ Female , Male – Terminal / Fitting Nail Full-Insert Structure
 - 1) Prevention of Base damage and Reinforcement of strength
 - 2) Improving product quality reliability.

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
BF035-I54B-C08-G	0.35	78	2.30	0.80	16.65	Receptacle
BM035-I78B-C08-C	0.35	78	2.30	0.80	16.65	Plug

Rated Current	Contact Resistance	Dielectric Strength	Temperature Range
Signal 0.3A/Pin Power 3.0A/Pin	Signal 50mΩ [Max.] Power 10mΩ [Max.]	250V AC(RMS)	-35°C ~ 85°C

Board To Board Connector



Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

Product Specification

Ratings	Rated current	Signal : 0.3A/Pin Power : 3.0A/Pin	Operating temperature range	-35°C to +85°C 1	Storage temperature range	+15°C to +35 °C
	Rated voltage	30V AC(RMS)/DC	Operating humidity range	70%RH Max.2	Storage humidity range	65%RH Max. 2

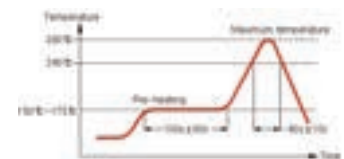
1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	- Signal : 50mΩ [Max.] - Power : 10mΩ [Max.]	- Open circuit voltage: 20mV (AC) - Test current: 1mA.
2. Insulation resistance	50MΩ [Min.]	250V DC
3. Withstanding voltage	No flashover or dielectric breakdown	250V AC(RMS) for 1minute
4. Insertion force / Separation force	1) Insertion force : 5.0kgf [Max.] 2) Separation force : 0.012kgf/Pin [Min]	Insert and withdraw connectors at the speed rate of 25mm per minute.
5. Durability	1) Contact resistance - Signal : 70mΩ [Max.] - Power : 20mΩ [Max.]	When mated up to 30 cycles repeatedly by the rate of 10mm per minute
6. Vibration	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact resistance - Signal : 70mΩ [Max.] - Power : 20mΩ [Max.]	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
7. Shock	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact resistance - Signal : 70mΩ [Max.] - Power : 20mΩ [Max.]	- Acceleration : 50G (490m/s ²) - Duration : 11ms - Number of shocks : 3 times per each direction - Test current : 100mA
8. Humidity	1) Contact resistance - Signal : 70mΩ [Max.] - Power : 20mΩ [Max.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr

9. Solder heat resistance No loose contacts no deformation.

Reflow condition.
(Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Female Base	LCP	Black	UL94V-0
Female Terminal	Phosphor Bronze	Au, Ni plated	-
Female Fitting Nail	Copper Alloy	Au, Ni plated	-
Female Inner Nail	Copper Alloy	Ni plated	-
Male Base	LCP	Black	UL94V-0
Male Terminal	Phosphor Bronze	Au, Ni plated	-
Male Fitting Nail	Copper Alloy	Au, Ni plated	-

Board To Board Connector



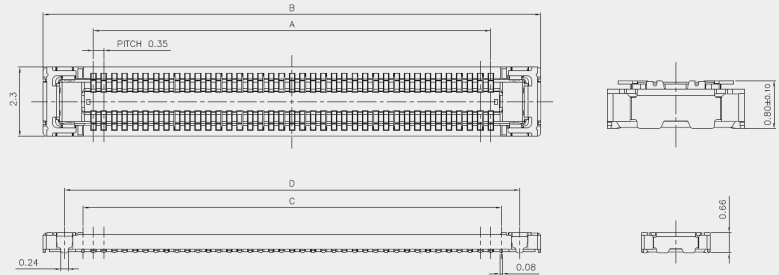
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : RECEPTACLE (FEMALE)

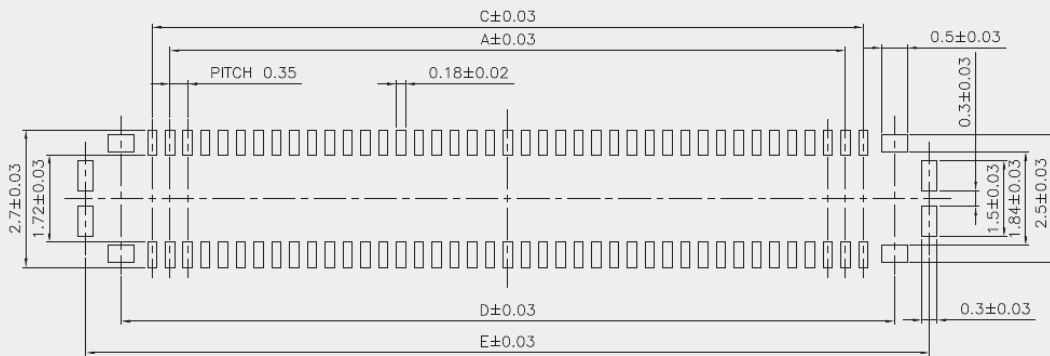
Product Drawing



Female (Receptacle)



Recommended PCB , Metal Mask Layout



RECOMMENDED PAD LAYOUT

(Metal Mask 개구부 Size 1:1 t0.08)

Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D	E
BF035-I78B-C08-C	78	13.30	16.65	14.00	15.23	16.61

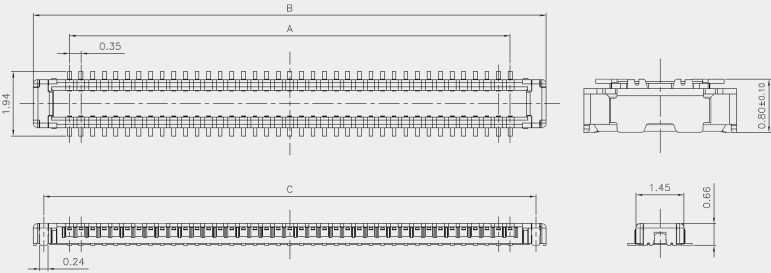
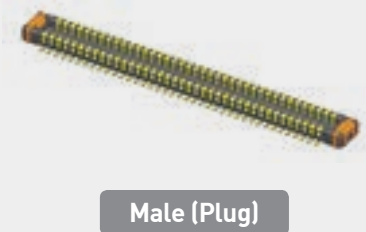
Board To Board Connector



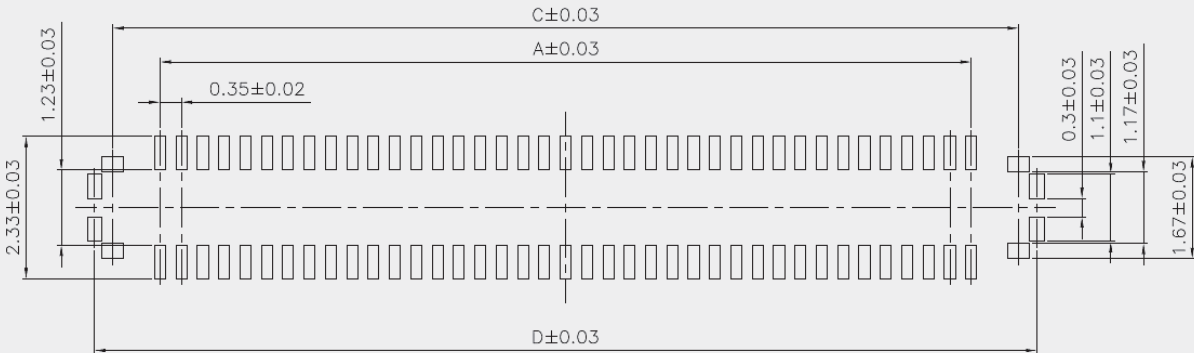
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : PLUG (MALE)

Product Drawing



Recommended PCB , Metal Mask Layout



RECOMMENDED PAD LAYOUT
(Metal Mask 개구부 Size 1:1 t0.08)

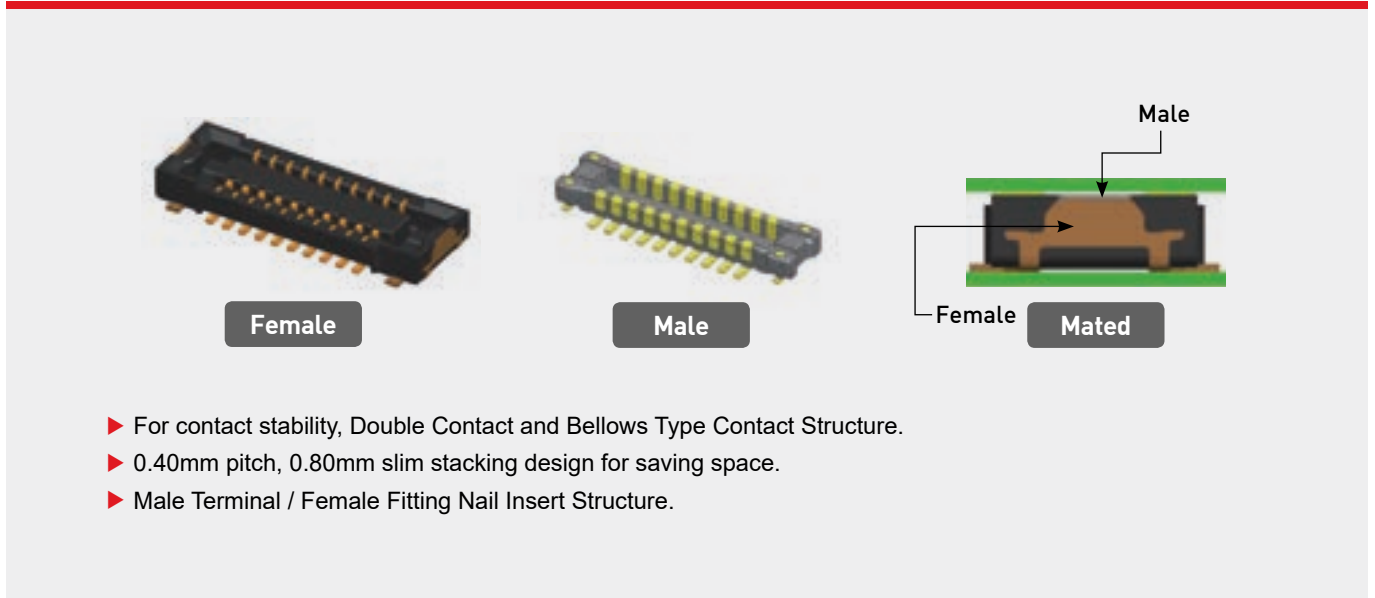
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
BM035-I78B-C08-C	78	13.30	15.49	14.85	15.45

Board To Board Connector



Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices



Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
BF040-I10B-C08-A	0.40	10	2.50	0.75	4.50	Receptacle
BM040-I10B-C08-A	0.40	10	2.50	0.75	4.50	Plug
BF040-I12B-C08-A	0.40	12	2.50	0.75	4.90	Receptacle
BM040-I12B-C08-A	0.40	12	2.50	0.75	4.90	Plug
BF040-I16B-C08-A	0.40	16	2.50	0.75	5.70	Receptacle
BM040-I16B-C08-A	0.40	16	2.50	0.75	5.70	Plug
BF040-I24B-C08-A	0.40	24	2.50	0.75	7.30	Receptacle
BM040-I24B-C08-A	0.40	24	2.50	0.75	7.30	Plug
BF040-I30B-C08-A	0.40	30	2.50	0.75	8.50	Receptacle
BM040-I30B-C08-A	0.40	30	2.50	0.75	8.50	Plug
BF040-I34B-C08-A	0.40	34	2.50	0.75	9.30	Receptacle
BM040-I34B-C08-A	0.40	34	2.50	0.75	9.30	Plug

Rated Current	Contact Resistance	Dielectric Strength	Temperature Range
0.3A	60mΩ [Max.]	250V AC(RMS)	-35°C ~ 85°C

Board To Board Connector



Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

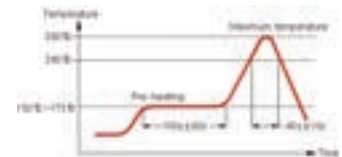
Product Specification

Ratings	Rated current	0.3A	Operating temperature range	-35°C to +85°C 1	Storage temperature range	+15°C to +35 °C
	Rated voltage	30V AC(RMS) / DC	Operating humidity range	70%RH Max.2	Storage humidity range	65%RH Max. 2

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	60mΩ [Max.]	- Open circuit voltage: 20mV (AC) - Test current: 1mA.
2. Insulation resistance	50mΩ [Min.]	250V DC
3. Withstanding voltage	No flashover or dielectric breakdown	250V AC(RMS) for 1minute
4. Insertion force / Separation force	1) Insertion force : 5.0kgf [Max.] 2) Separation force : 0.012kgf/Pin [Min.]	Insert and withdraw connectors at the speed rate of 25mm per minute.
5. Durability	Contact resistance : 90mΩ [Max.]	When mated up to 30 cycles repeatedly by the rate of 10mm per minute
6. Vibration	Contact resistance : 90mΩ [Max.]	- Vibration frequency range : 10-55-10Hz - Total amplitude : 1.5mm - Test current : 100mA - Duration : 2h each (6h in total)
7. Salt spray	1) Contact resistance : 90mΩ [Max.] 2) Insulation resistance : 25MΩ [Min.]	- Temperature : 35°C±2°C - Duration : 48hr Salt-solution concentration : 5 ±1%
8. Humidity	1) Contact resistance - 90mΩ [Max.] 2) Insulation resistance : 25MΩ [Min.] 3) Appearance : No damage, loose part no crack.	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	No loose contacts no deformation.	Reflow condition. (Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Female Base	LCP	Black	UL94V-0
Female Terminal	Phosphor Bronze	Au, Ni plated	-
Female Fitting Nail	Phosphor Bronze	Au, Ni plated	-
Male Base	LCP	Black	UL94V-0
Male Terminal	Phosphor Bronze	Au, Ni plated	-
Male Fitting Nail	Phosphor Bronze	Au, Ni plated	-

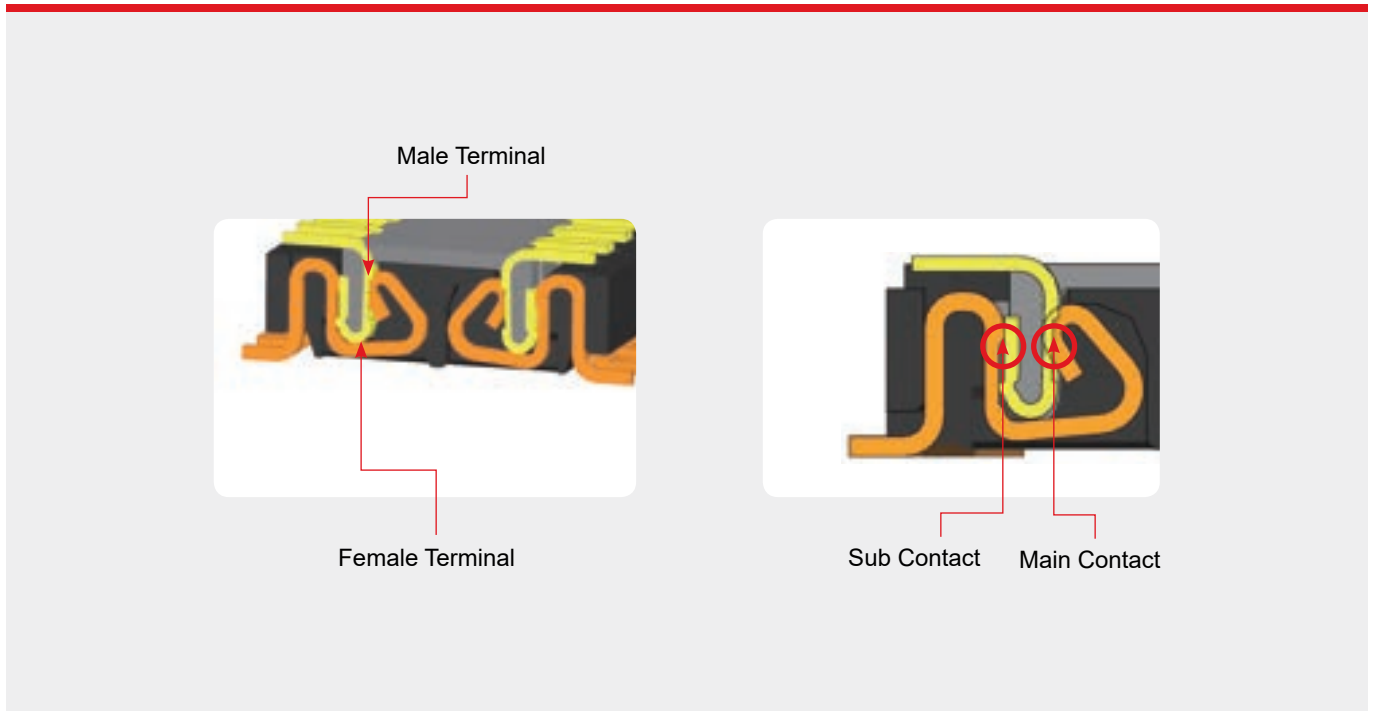
Board To Board Connector



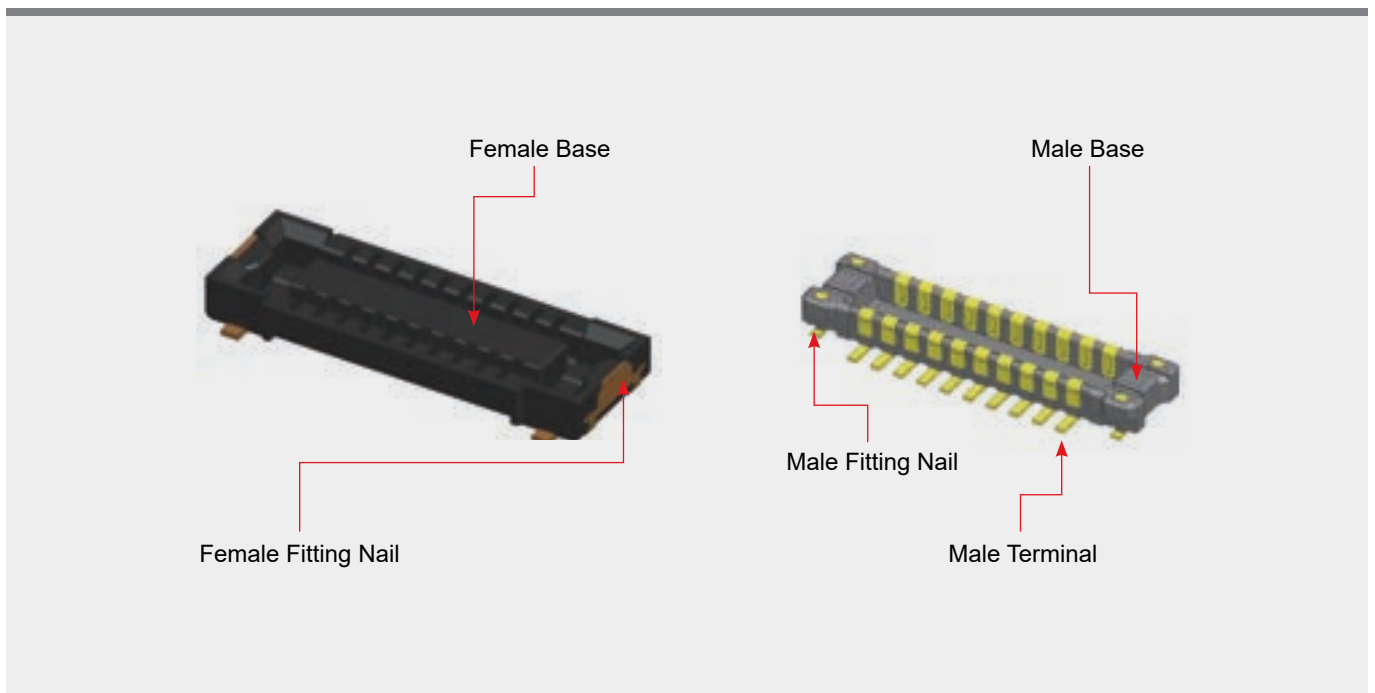
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

FEATURES AND ADVANTAGES

- Double Contact point for stable contact preservation



- Insert mold Structure



Board To Board Connector



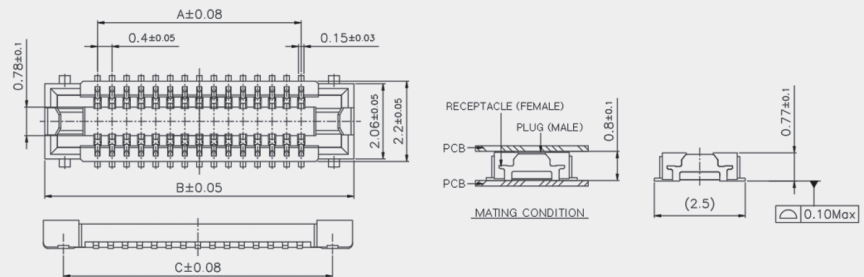
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : RECEPTACLE (FEMALE)

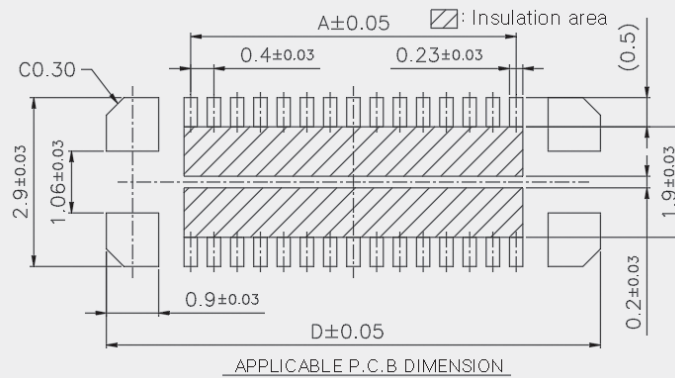
Product Drawing



Female (Receptacle)



Recommended PCB, Metal Mask Layout



Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
BF040-I10B-C08-A	10	1.6	4.5	3.4	4.5
BF040-I12B-C08-A	12	2.0	4.9	3.8	4.9
BF040-I16B-C08-A	16	2.8	5.7	4.6	5.7
BF040-I24B-C08-A	24	4.4	7.3	6.2	7.3
BF040-I30B-C08-A	30	5.6	8.5	7.4	8.5
BF040-I34B-C08-A	34	6.4	9.3	8.2	9.3

Board To Board Connector



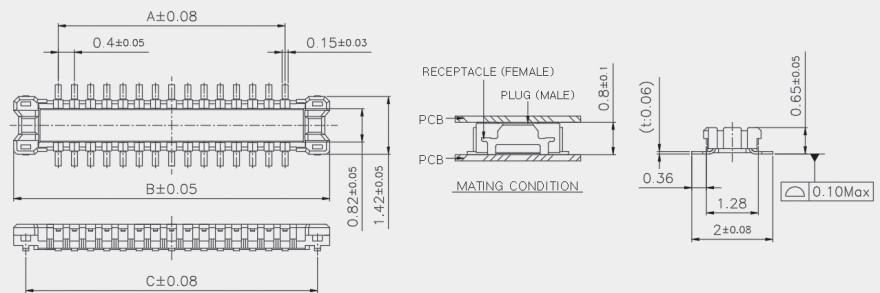
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : PLUG (MALE)

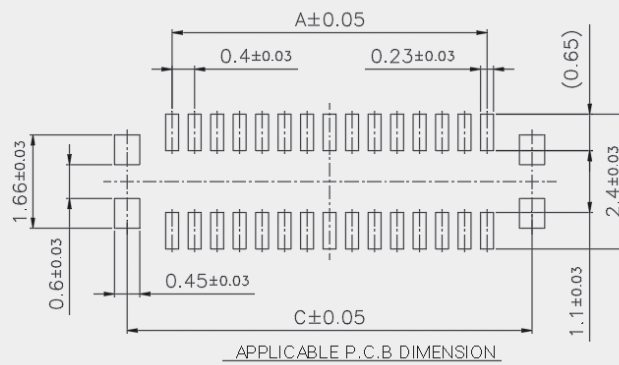
Product Drawing



Male (Plug)



Recommended PCB , Metal Mask Layout



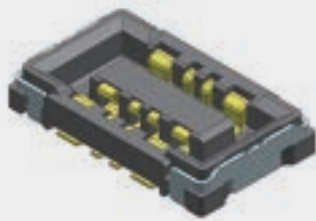
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C
BM040-I10B-C08-A	10	1.6	3.8	3.2
BM040-I12B-C08-A	12	2.0	4.2	3.6
BM040-I16B-C08-A	16	2.8	5.0	4.4
BM040-I24B-C08-A	24	4.4	6.6	6.0
BM040-I30B-C08-A	30	5.6	7.8	7.2
BM040-I34B-C08-A	34	6.4	8.6	8.0

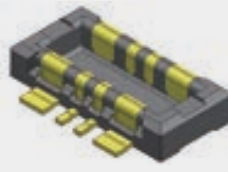
Board To Board Connector

PA

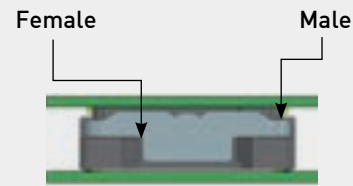
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices



Female



Male



Mated

- ▶ For contact stability, Double Contact and Bellows Type Contact Structure
- ▶ High current(3A) for Power Contact
- ▶ 0.75mm slim stacking design for saving space
- ▶ APPLICATION : Battery section of miniature mobile devices
- ▶ Male Full-Insert Structure

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
BF240-I08B-C08	2.40	8	2.50	0.75	4.20	Receptacle
BM240-I08B-C08	2.40	8	2.50	0.75	4.20	Plug

Rated Current	Contact Resistance	Dielectric Strength	Temperature Range
Signal 0.3A/Pin Power 3.0A/Pin	Signal 50mΩ [Max.] Power 10mΩ [Max.]	250V AC(RMS)	-35°C ~ 85°C

Board To Board Connector

PA

Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

Product Specification

Ratings	Rated current	Signal : 0.3A/Pin Power : 3.0A/Pin	Operating temperature range	-35°C to +85°C 1	Storage temperature range	+15°C to +35 °C
	Rated voltage	30V AC(RMS) / DC	Operating humidity range	70%RH Max.2	Storage humidity range	65%RH Max. 2

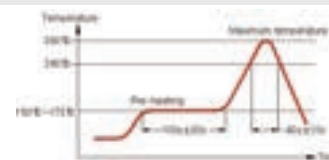
1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	- Signal : 50mΩ [Max.] - Power : 10mΩ [Max.]	- Open circuit voltage: 20mV (AC) - Test current: 1mA.
2. Insulation resistance	100MΩ [Min.]	250V DC
3. Withstanding voltage	No flashover or dielectric breakdown	250V AC(RMS) for 1minute
4. Insertion force / Separation force	1) Insertion force : 3.57kgf [Max.] 2) Separation force : 0.51kgf [Min]	Insert and withdraw connectors at the speed rate of 25mm per minute.
5. Durability	Contact Resistance - Signal : 70mΩ [Max] - Power : 20mΩ [Max]	When mated up to 30 cycles repeatedly by the rate of 10mm per minute
6. Vibration	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact Resistance - Signal : 70mΩ [Max] - Power : 20mΩ [Max]	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
7. Shock	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact Resistance - Signal : 70mΩ [Max] - Power : 20mΩ [Max]	- Acceleration : 50G (490m/s ²) - Duration : 11ms - Number of shocks : 3 times per each direction - Test current : 100mA
8. Humidity	1) Contact resistance - Signal : 70mΩ [Max.] - Power : 20mΩ [Max.] 2) Insulation resistance : 50MΩ [Min.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr

9. Solder heat resistance No loose contacts no deformation.

Reflow condition.
(Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Female Base	LCP	Black	UL94V-0
Female Terminal	Copper Alloy	Au plated	-
Female Fitting Nail	Phosphor Bronze	Au plated	-
Male Base	LCP	Black	UL94V-0
Male Terminal	Copper Alloy	Au plated	-

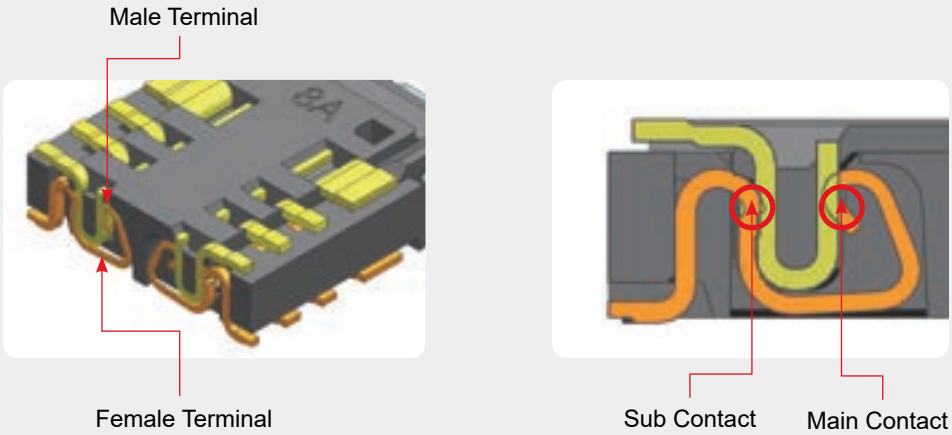
Board To Board Connector



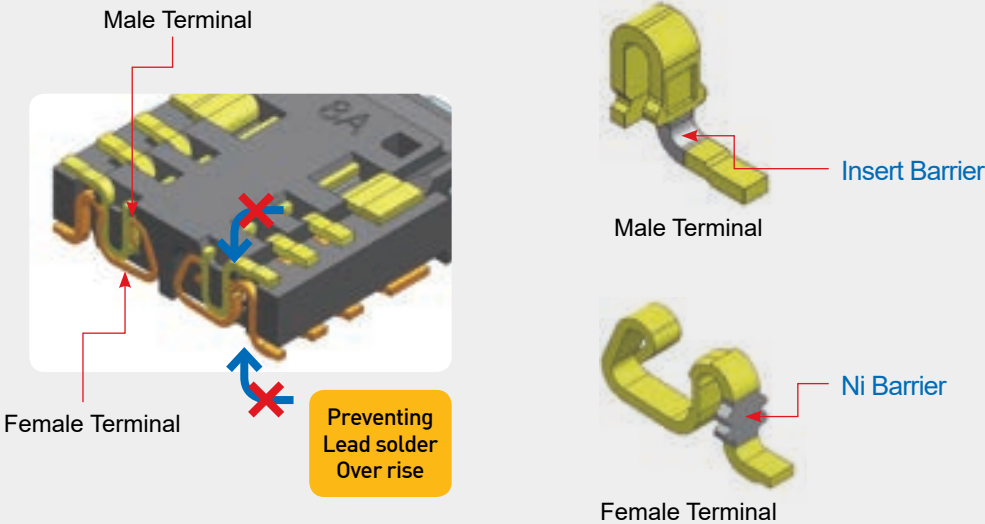
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

FEATURES AND ADVANTAGES

- ▶ Double Contact point for stable contact preservation



- ▶ Insert or Ni Barrier for preventing Lead solder over rise



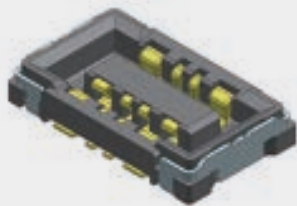
Board To Board Connector



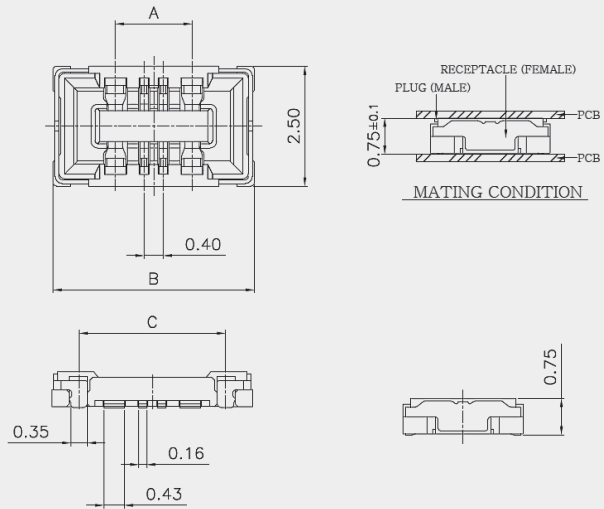
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : RECEPTACLE (FEMALE)

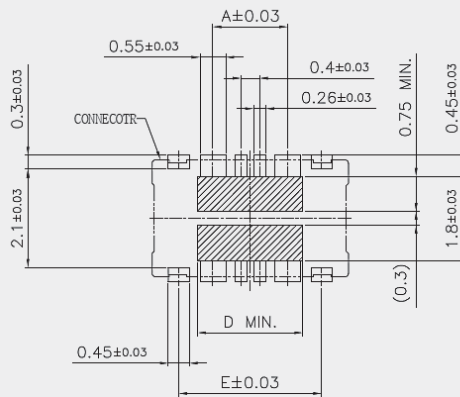
Product Drawing



Female (Receptacle)



Recommended PCB , Metal Mask Layout



【 APPLICABLE P.C.B DIMENSION 】
 (RECOMMEND Thickness of Metal Mask : 0.10mm)
 (RECOMMEND open aperture ratio of metal mask : 80%)

Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D	E
BF240-I08B-C08	Signal 4, Power 4	1.60	4.20	3.06	2.25	3.06

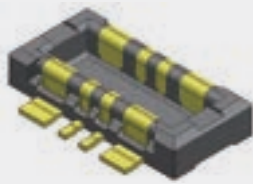
Board To Board Connector



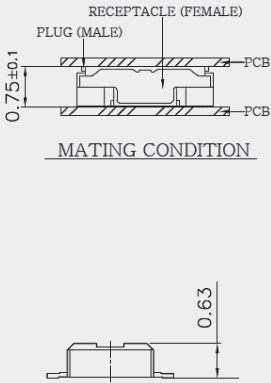
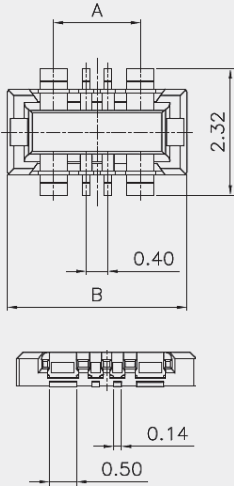
Applications | Smart Phone, Smart Watch, Tablet PC, Mobile Devices, Wearable Devices

TYPE : PLUG (MALE)

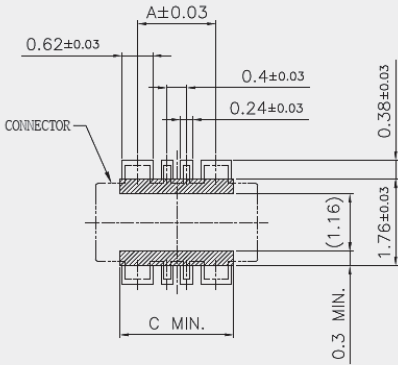
Product Drawing



Male (Plug)



Recommended PCB , Metal Mask Layout



【 APPLICABLE P.C.B DIMENSION 】
 (RECOMMEND Thickness of Metal Mask : 0.10mm)
 (RECOMMEND open aperture ratio of metal mask : 80%)

Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C
BM240-I08B-C08	Signal 4, Power 4	1.60	3.30	2.32

Automotive Connector

Applications | Floating Board to Board Connector, Camera Module Connector

Mating Size / Unit : (mm) / Please click images to see detail

Item	Pitch (mm)	PINS	Width (mm)	Height (mm)	Current	Remark	Page	
	VB1	1.00	40	15.80	15.95	0.5A (Max. 1.5A)	Board to Board Connector (Automotive)	65 page

Floating Board To Board Connector

VB1

Automotive Connector

Product Number Structure

B M 100 - V 40 T - C 159
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Type of connectors : Board to Board

② Style : Plug

③ Contact Pitch : 1.00mm

④ Type : Vertical

⑤ No. of position : 40P

⑥ Test of on board : Through hole

⑦ Shape symbol : With Fitting Nail

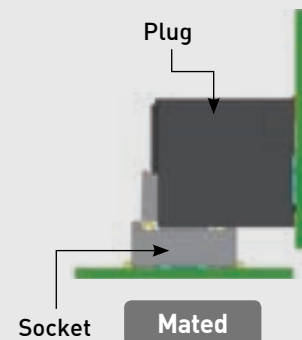
⑧ Connector Height : 15.9mm



Socket



Plug



Socket

Mated

- ▶ Floating structure for absorbing Vibration in the X, Y, Z direction
- ▶ Floating range ± 0.5 mm in X, Y direction
- ▶ Large guide chamfer for mating misalignment prevention
- ▶ Double Contact, Mating length 1.5mm for Contact stability
- ▶ 1.0mm Pitch, 15.9mm mating height

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
BF100-V40T-C159	1.00	40	15.80	15.95	32.50	Receptacle
BM100-V40T-C159	1.00	40	15.80	15.95	32.50	Plug

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
0.5A	50m Ω [Max.]	250V AC(RMS)	-35°C ~ 125°C

Floating Board To Board Connector

VB1

Automotive Connector

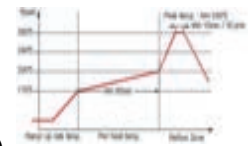
Product Specification

Ratings	Rated current	0.5A/Pin	Operating temperature range	-35°C to +125°C 1	Storage temperature range	+15°C to +35 °C
	Rated voltage	50V AC(RMS) / DC	Operating humidity range	70%RH Max.2	Storage humidity range	65%RH Max. 2

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Voltage drop	50mΩ [Max.]	Test according to the following conditions. - Power supply 0 V to 20 V DC at 0 A to 150 A. - Current shunts.
2. Insulation resistance	100MΩ [Min.]	500V DC
3. Withstanding voltage	No flashover or dielectric breakdown	500V AC(RMS) for 1minute
4. Dry Circuit Resistance	50mΩ [Max.]	Insert / Remove the product at a speed of 50mm±10/ min.
5. Connector to connector engagement / disengagement force	7.5kgf [Max.]	Test according to the following conditions. Measure and record the resistance between A & B, as shown in the figure below. Then deduct the 150mm conductor resistance (B and C) to find the total connection dry circuit resistance (D and E). - Test Current: 100mA (DC) - Test Voltage: 20mV
6. Thermal shock	1) Appearance : No damage, loose part no crack. 2) Contact resistance : 80mΩ Max	Test according to the following conditions. - Test conditions : -40°C (30 minutes) → 125°C (30 minutes) - Number and duration of the test : 300 times, 12 days - Preprocessing : 24hr
7. Solder heat resistance	There will be no peeling or deformation. No abnormalities in appearance and structure.	- Bath temperature : 85°C / Humidity : 85% - Reflow temperature profile is below (Peak 260°C , 10s, 3cycles Min.)



Materials / Finish

Part	Materials	Finish	UL Regulation
Female Base	PA	Black	UL94V-0
Female Terminal	Copper Alloy	Au, Ni plated	-
Female Fitting Nail	Phosphor Bronze	Au, Ni plated	-
Male Base	PA	Black	UL94V-0
Male Terminal	Phosphor Bronze	Au, Ni plated	-
Male Fitting Nail	Phosphor Bronze	Au, Ni plated	-

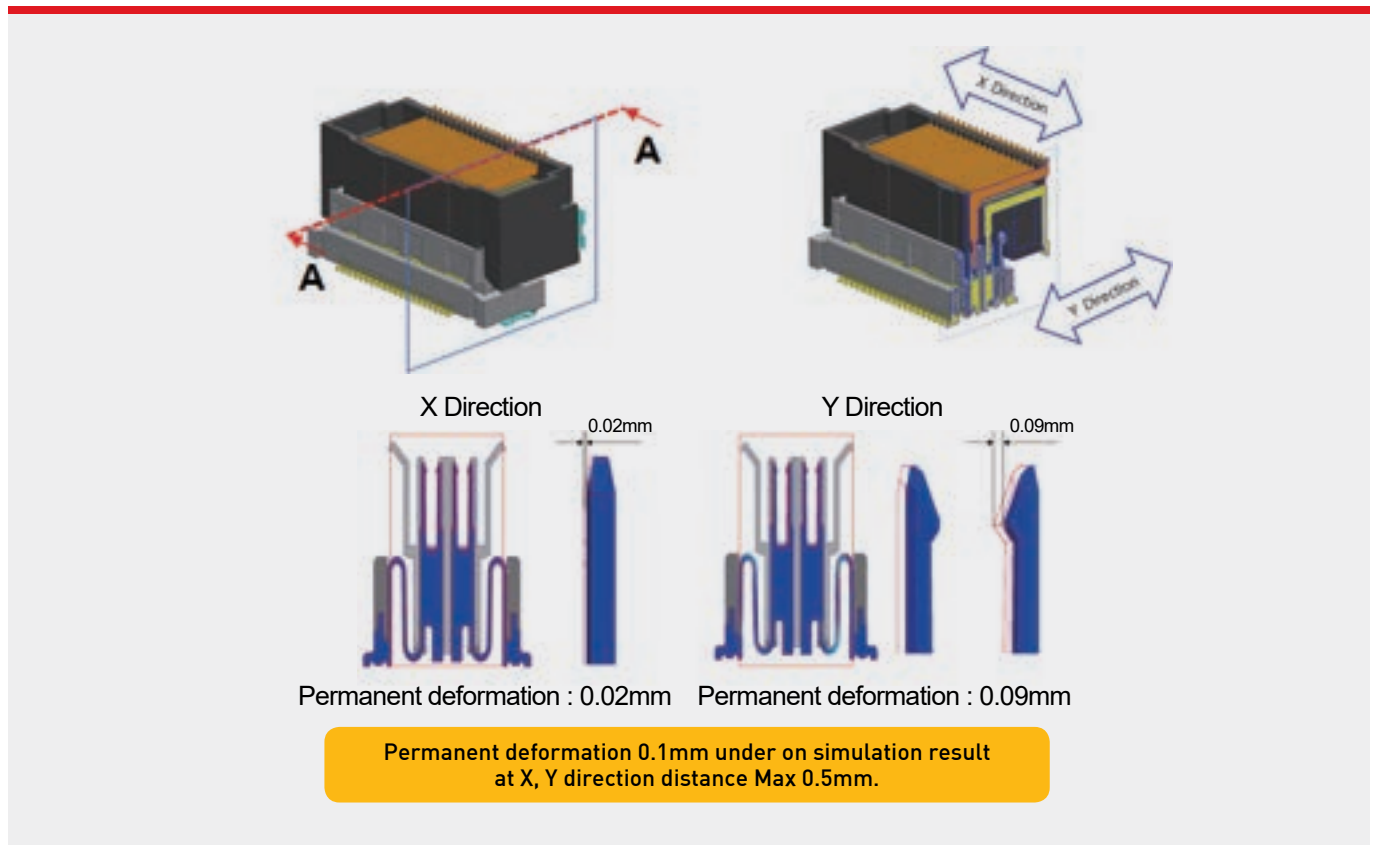
Floating Board To Board Connector

VB1

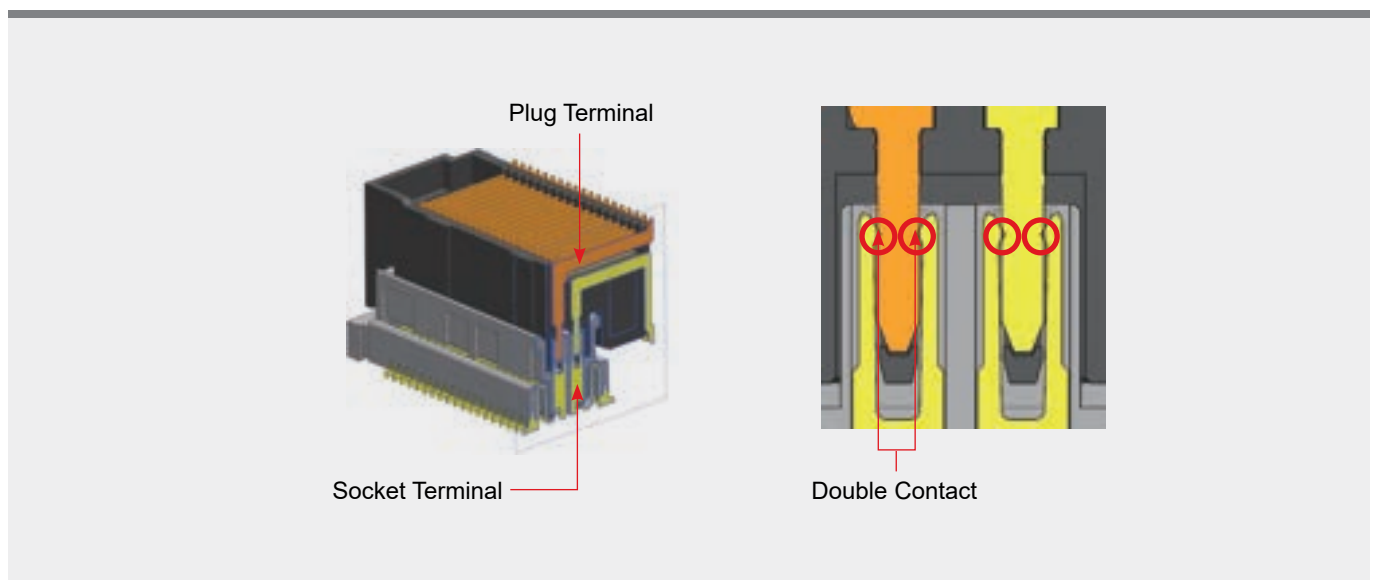
Automotive Connector

FEATURES AND ADVANTAGES

- ▶ Floating Structure for Vibration Resistance (Floating Range $\pm 0.5\text{mm}$ in X, Y direction)



- ▶ Double Contact point for stable contact preservation



Floating Board To Board Connector

VB1

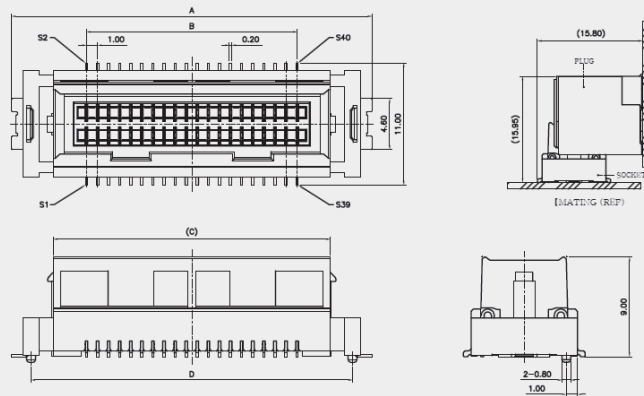
Automotive Connector

TYPE : RECEPTACLE (FEMALE)

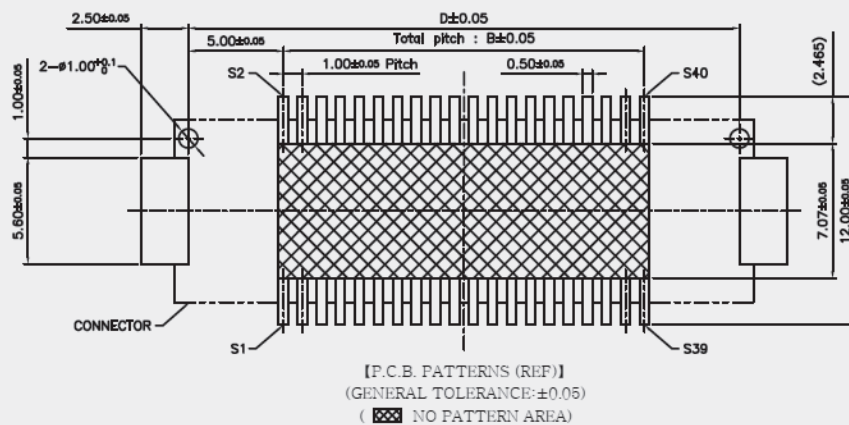
Product Drawing



Female (Receptacle)



Recommended PCB , Metal Mask Layout



Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
BF100-V40T-C159	40	32.50	19.00	25.00	29.00

Floating Board To Board Connector



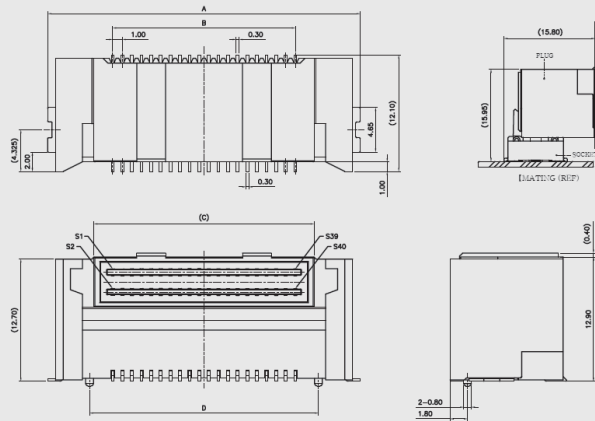
Automotive Connector

TYPE : PLUG (MALE)

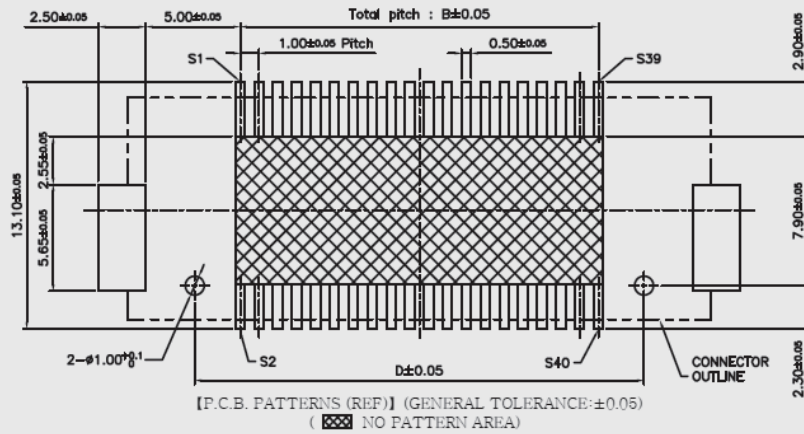
Product Drawing



Male (Plug)



Recommended PCB , Metal Mask Layout



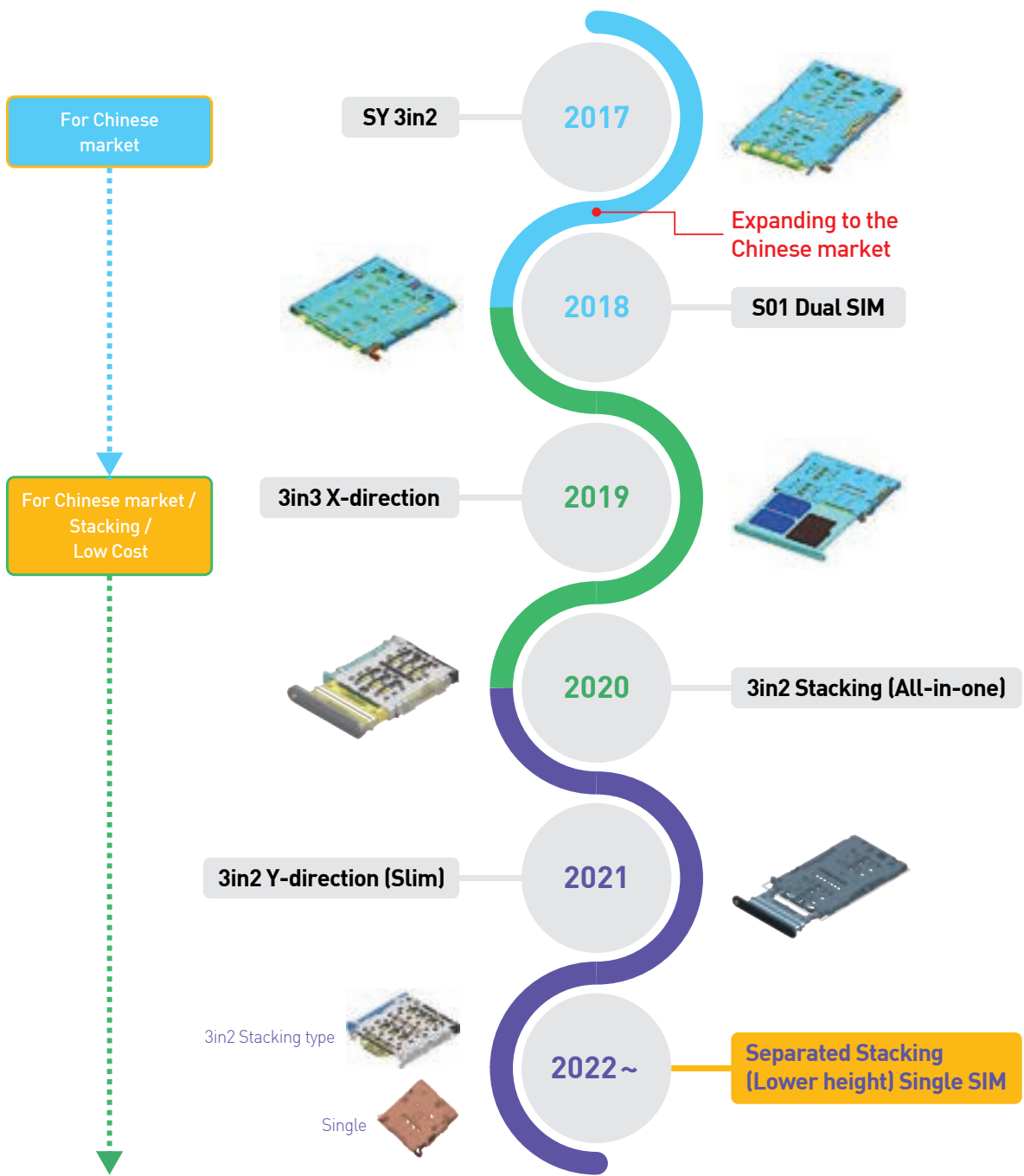
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
BM100-V40T-C159	40	32.50	19.00	22.90	23.80

SOCKET

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car











Road Map



SOCKET

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Mating Size / Unit : (mm) / Please click images to see detail

Item	Concept	Length	Width	Height	Type	Code	Page
 S02	Nano SIM 2ea & micro SD	29.10	21.50	1.40	Tray	TS254-C20B-C14	72 page
 TS3	micro SIM	15.45	15.98	1.27	P/Push	SS254-C06B-C13-B	77 page
 SM	NANO SIM	13.65	13.25	1.23	P/Push	NS254-C07B-C12	82 page
 Micro SD 1.68	micro SD	13.85	15.95	1.68	P/Push	MS110-C10B-C16-B	86 page
 Micro SD 1.36	micro SD	13.85	15.95	1.36	P/Push	MS110-C10B-C13-A	91 page
 S05	3in2 Stack, SD&SIM	17.73	16.18	2.58	Tray	TS254-C21B-C26-A	95 page
 S06	3in2 Mold, SD&SIM	26.75	16.74	1.35	Tray	TS254-C21B-C14-A	101 page
 S07	3in2 Stack Mold	16.40	2.30	15.25	Tray	TS254-C21B-C14-A/B/C	107 page
 SQ	micro SD	7.00	11.10	1.70	P/Pull	MS110-C09B-C17	112 page
 UCS2	micro SIM & micro SD	14.10	18.27	2.28	P/Pull	DS110-C17B-C23-A	116 page

Product Number Structure

T S 254 - C 20 B - C 14 - A

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① **Connector Type**

- D : Dual
- M : Memory / micro-SD card
- N : Nano SIM
- S : SIM Socket
- T : Triple

② **Product** : Socket

③ **Pitch**

ex) 110: 1.10mm / 254: 2.54mm

④ **Cover Type**

Shell Cover

⑤ **Power Contacts**

ex) 06 : 6pins
10 : 10pins
21 : 21pins

⑥ **Mounting Type**

- On Board

⑦ **Shape**

With Fitting

⑧ **Height**

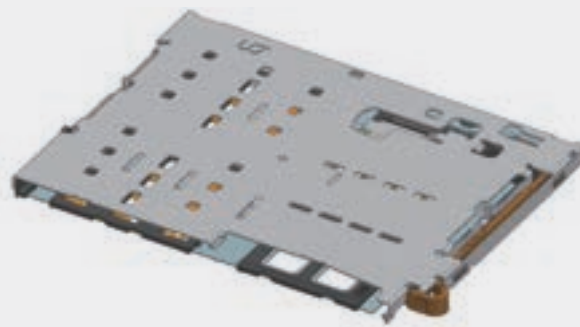
ex) 12 : 1.23mm

⑨ **Version**

SIM and Memory Card Socket Connector

S02

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car



- ▶ 3in3 Mold Tray Socket
- ▶ SD & SIM Terminal deformation prevention structure
- ▶ TRAY reverse insertion prevention structure
- ▶ Switch OFF - ON Structure
- ▶ All-in-one Cover & Latch

Specifications

Current Rating	Contact Resistance	Insulation Resistance	Dielectric Strength	Temperature Range
0.5A/Pin	100mΩ [Max.]	1,000MΩ [Min.]	AC 500V	-40°C ~ 85°C

Mating Size & Product No.

PINS	PITCH	WIDTH	HEIGHT	LENGHT	CODE
20	2.54	21.50	1.40	29.10	TS254-C20B-C23

SIM and Memory Card Socket Connector

S02
Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

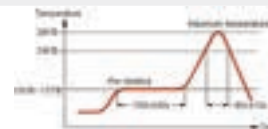
Product Specification

Ratings	Rated current	0.5A/Pin	Operating temperature range	-40°C to +85°C 1	Storage temperature range	-5°C to +40 °C (With packing)
	Rated voltage	Max 10V AC(RMS) or DC	Operating humidity range	10% to 80% RH 2	Storage humidity range	65%RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	100mΩ [Max.]	- Open circuit voltage: 20mV. - Test current: 10mA.
2. Insulation resistance	1,000MΩ [Min.]	- Test voltage: 500V d.c. - Test time: 1 minute ± 5 seconds.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 500V for 1minute
4. Tray insert force	1,000gf [Max.]	Insert the tray at a rate of 25±3 mm/min. (actual card used)
5. Rod withdrawal force	400~1200gf	- Press Rod with a pin. (Speed 25 mm/min) - Measure the force at the third time when the actual use card is mounted.
6. Durability	1) Check whether the SIM card terminal surface is split and the card terminal is short. 2) contact resistance - Max 100mΩ 3) Pin removal force (2,000 times) - 400~1200gf	1) Attach and detach 500 times. 2) Attach and detach 2,000 times. 3) Reattach the 0.7T SD/SIM card tested in Sample No.2 and attach/detach an additional 3,000 times
7. Vibration	Discontinuity : 1.0 microsec. MAX.	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz / Approx 1min. - Duration : 2h each (6h in total)
8. Shock resistance	Discontinuity : 1.0 microsec. MAX.	- Acceleration : 50G (490%) - Duration : 11ms - Number of shocks : 3 both axial directions, 3 times each, 18 times in total - Test voltage : 5V d.c. - Test current : 1mA d.c.
9. Humidity	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
10. Temperature cycle	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- 40±3(°C) : 30 minutes → 85±2(°C) : 30 minutes, 96 cycles
11. Solder heat resistance	- No have something wrong of push functions. - No have deformation and fall off. - No have something wrong outward appearance and structure.	Reflow condition. (Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Base A	LCP	Black	UL94V-0
Terminal	Copper Alloy	Au-Pd , Ni plated	-
Cover	Stainless Steel	Au, Ni plated	-
Eject Rod	Stainless Steel	-	-
Lever	Stainless Steel	-	-

SIM and Memory Card Socket Connector

S02

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

FEATURES AND ADVANTAGES

▶ SIM & SD Terminal deformation prevention structure

- Strengthen contact stability
- Improving product quality reliability

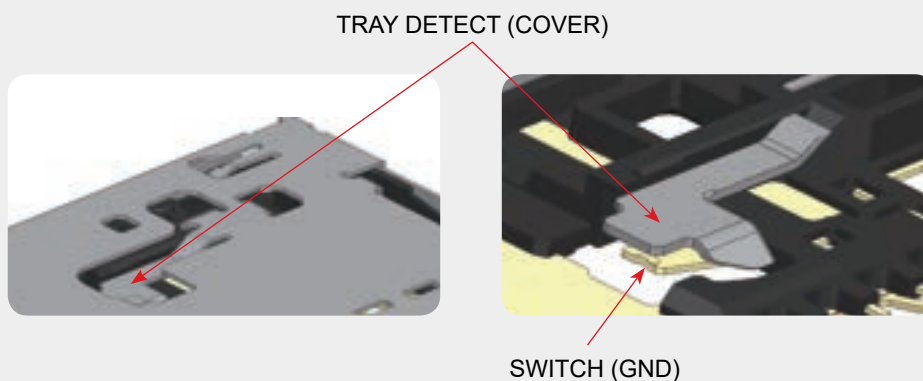


SIM CONTACT

micro SD CONTACT

▶ Switch y-axis ON-OFF structure

- Normal [CLOSE] → Tray inserted [OPEN]
- Strengthen contact stability
- Improving product quality reliability



TRAY DETECT (COVER)

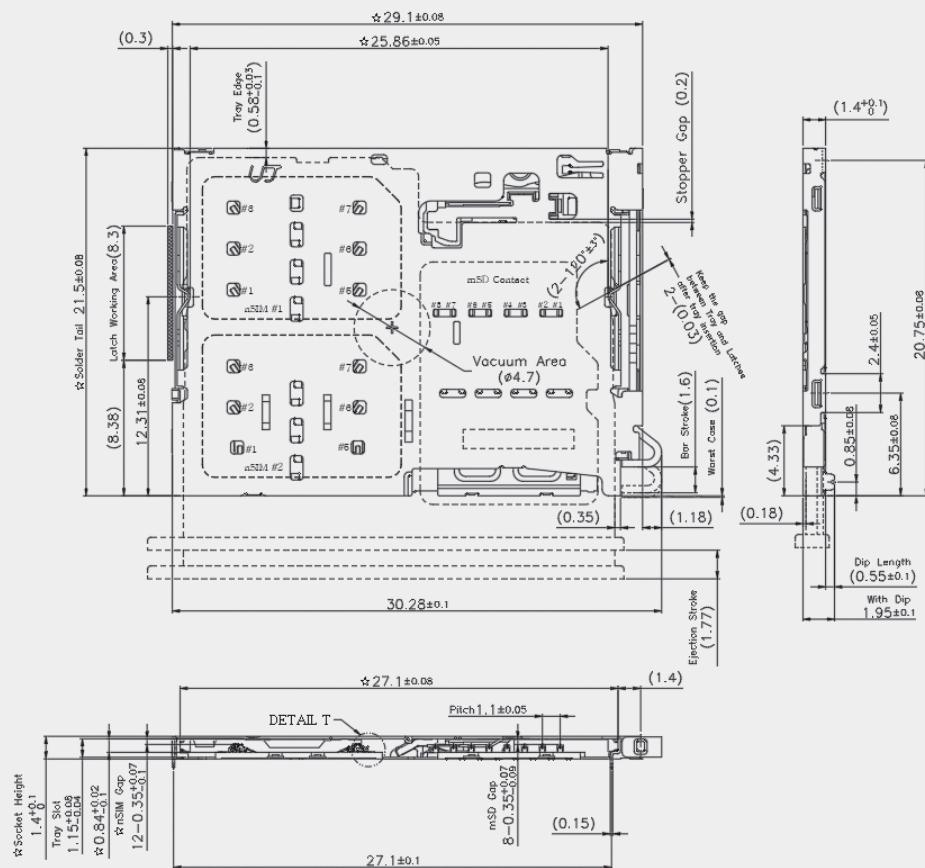
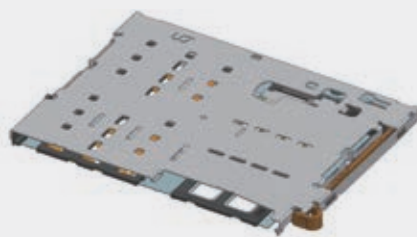
SWITCH (GND)

SIM and Memory Card Socket Connector



Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Drawing

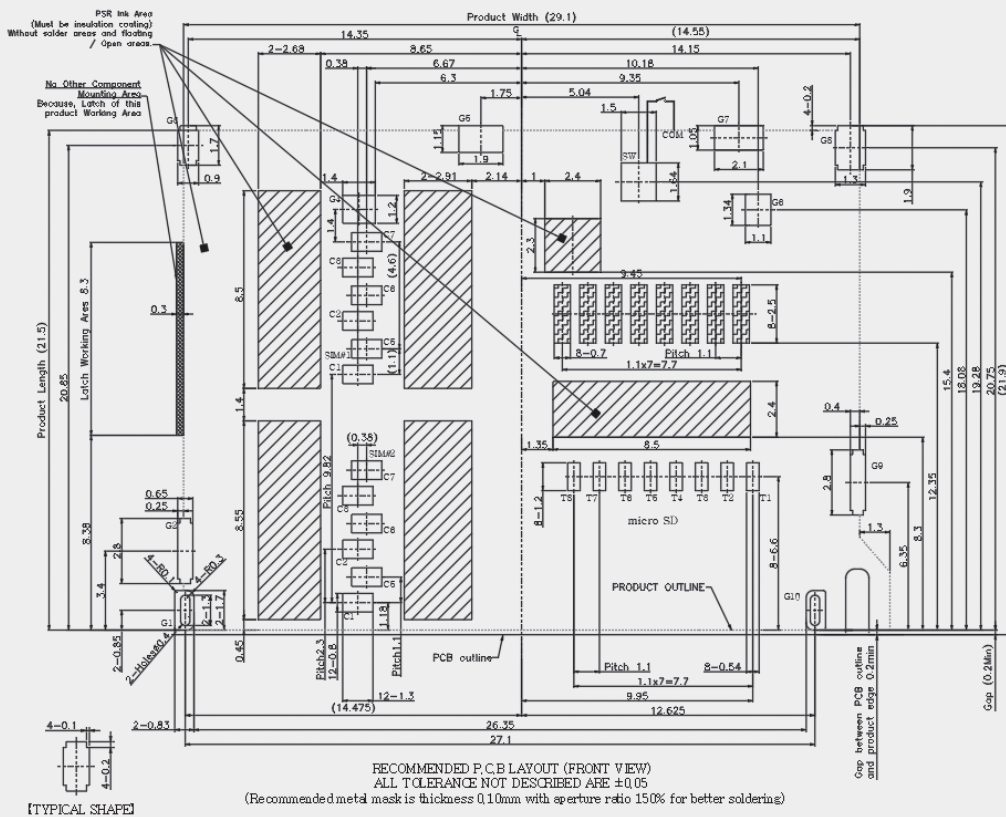




SIM and Memory Card Socket Connector

S02

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Recommended PCB Dimensions



-  Not connect (Peel cover layer/Open)
 Tips of micro-SD contact terminals are always sliding on PCB when mSD card inserted.
 So, it is possible to make scratches on the PCB.
-  Hatching areas are pattern prohibition (No Via / No Trace)
 Because of contact terminals are touchable

[MANO SIM CARD PIN-MAP]

Pin No.	Description
C1	VCC (Supply V)
C2	RST (Reset)
C3	CLK (Clock)
(C4)	(None)
C5	GND (Ground)
C6	VPP (Program V)
C7	I/O
(C8)	(None)

This product has no C4,C8 contact terminal.
 (이 제품은 C4,C8 접촉단자가 없음.)

[micro SD CARD PIN-MAP]

Pin No.	Description
T1	DAT2
T2	CD/DAT6*
T3	CMD
T4	VDD
T5	CLK
T6	VSS (GND)
T7	DAT0
T8	DAT1

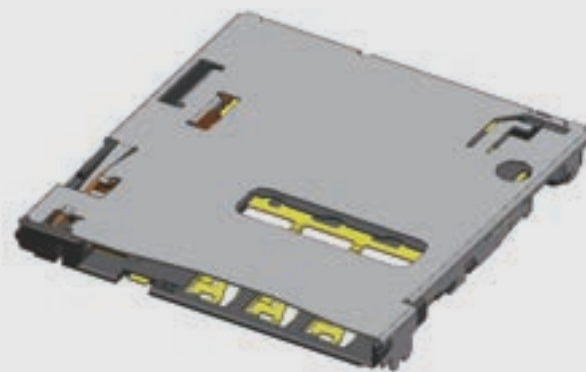
G1-G10	GROUND
S/W	TRAY DETECTION SWITCH
COM	ALL OF GROUND (G1~G10)

* There is only tray insertion / removal detection switch physically.
 (물리적으로 트레이 삽입/ 제거 감지 스위치만 있음)
 Therefore, After tray detection, (트레이 감지 후)
 This product is necessary to detect the SIM or SD card separately in software.
 (소프트웨어에서 SIM 또는 SD카드를 별도로 감지하기 위해 필요한 제품임.)

SIM and Memory Card Socket Connector

TS3

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car



- ▶ MICRO SIM Card Socket
- ▶ Push In – Push Out (Simple Installation)
- ▶ Application structure Card Detect Switch

Specifications

Current Rating	Contact Resistance	Insulation Resistance	Dielectric Strength	Temperature Range
0.5A/Pin	CONTACT 150mΩ [Max.] DETECT 200mΩ [Max.]	1,000MΩ [Min.]	AC 500V	-40°C ~ 85°C

Mating Size & Product No.

PINS	PITCH	WIDTH	HEIGHT	LENGHT	CODE
6	2.54	15.98	1.27	15.45	SS254-C06B-C13-B

SIM and Memory Card Socket Connector

TS3
Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Specification

Ratings	Rated current	0.5A/Pin	Operating temperature range	-40°C to +85°C 1	Storage temperature range	-5°C to +40 °C (With packing)
	Rated voltage	AC 125V	Operating humidity range	10% to 80% RH 2	Storage humidity range	65%RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	CONTACT - 150mΩ [Max.] DETECT - 200mΩ [Max.]	- Open circuit voltage: 20mV. - Test current: 10mA.
2. Insulation resistance	1,000MΩ [Min.]	- Test voltage: 500V d.c. - Test time: 1 minute ± 5 seconds.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 500V for 1minute
4. Card Insertion force & Withdrawal force	Initial : 500 ±200 gf After : 500 ±200 gf	- Push-pull gauge at 25±3m/min speed.
5. Vibration	- MAX. Change from Initial contact resistance 40mΩ MAX.	- Vibration frequency range : 10-55-10Hz - Total amplitude : 1.52mm - Sweep time : 30sec - Duration : 2h each (6h in total)
6. Durability	- MAX. Change from Initial contact resistance 40mΩ MAX. - Card Insertion Force & withdrawal force 500 ±200 gf	1) Attach and detach 500 times. 2) Attach and detach 2,000 times. 3) Reattach the 0.7T SD/SIM card tested in Sample No.2 and attach/detach an additional 3,000 times
7. Temperature and Humidity cycle	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- 40±3(°C) : 30 minutes → 85±2(°C) : 30 minutes, 96 cycles
8. Humidity	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Salt mist	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- Salt water concentration : 5±1% Weight ratio - Temperature : 35°C±2°C - Duration : 72h
10. Heat	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- Temperature : 105±2°Ctio - Duration : 96h

Materials / Finish

Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Terminal	Copper Alloy	Au, Ni plated	-
Cover	Stainless Steel	Au, Ni plated	-
CAM Slider	Copper Alloy	Ni plated	-
CAM Plate	LCP	Black	UL94V-0
CAM Stick	Stainless Steel	-	-
Spring	Stainless Steel	-	-
Stopper	Stainless Steel	-	-

SIM and Memory Card Socket Connector

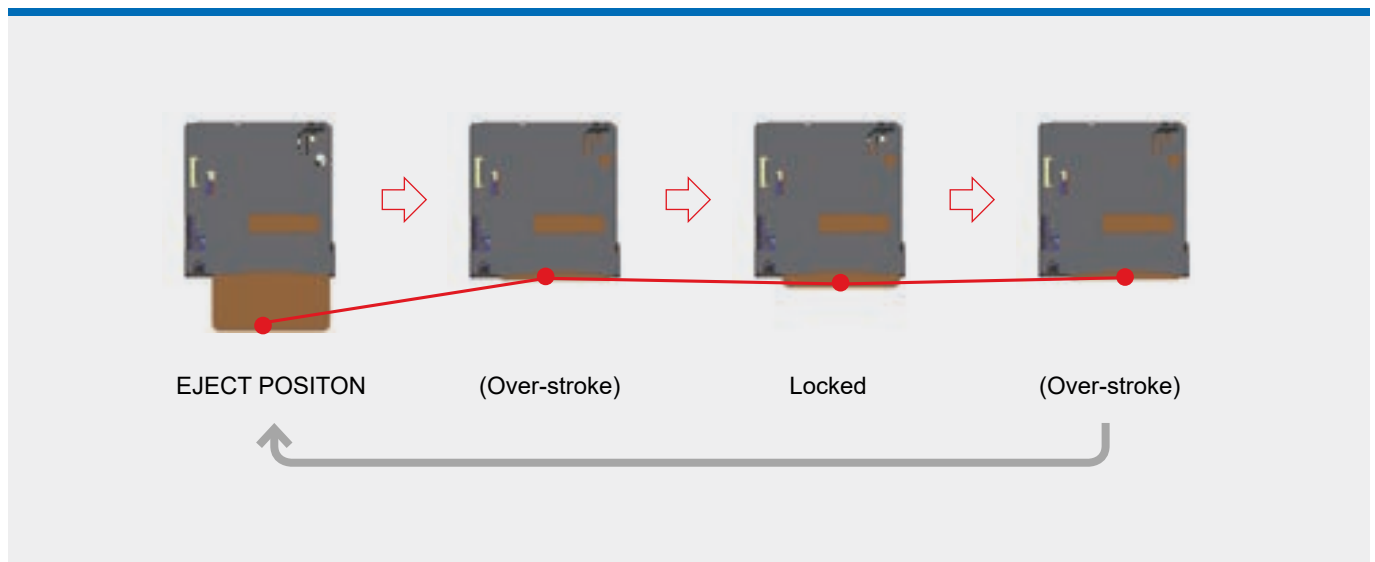
TS3

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

FEATURES AND ADVANTAGES

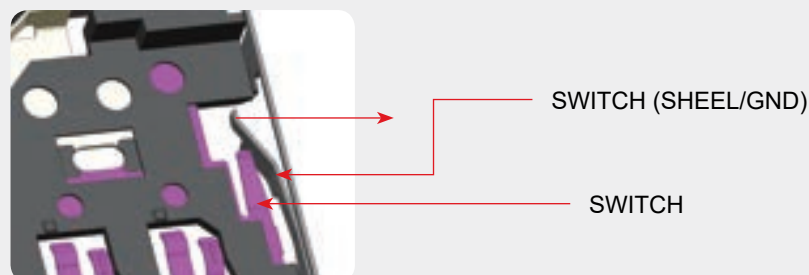
► CARD INSERT

- Easy card instalation (Push In – Push Out)
- Improving product quality reliability



► CARD DETECTION

- Strengthen contact stability
- Improving product quality reliability

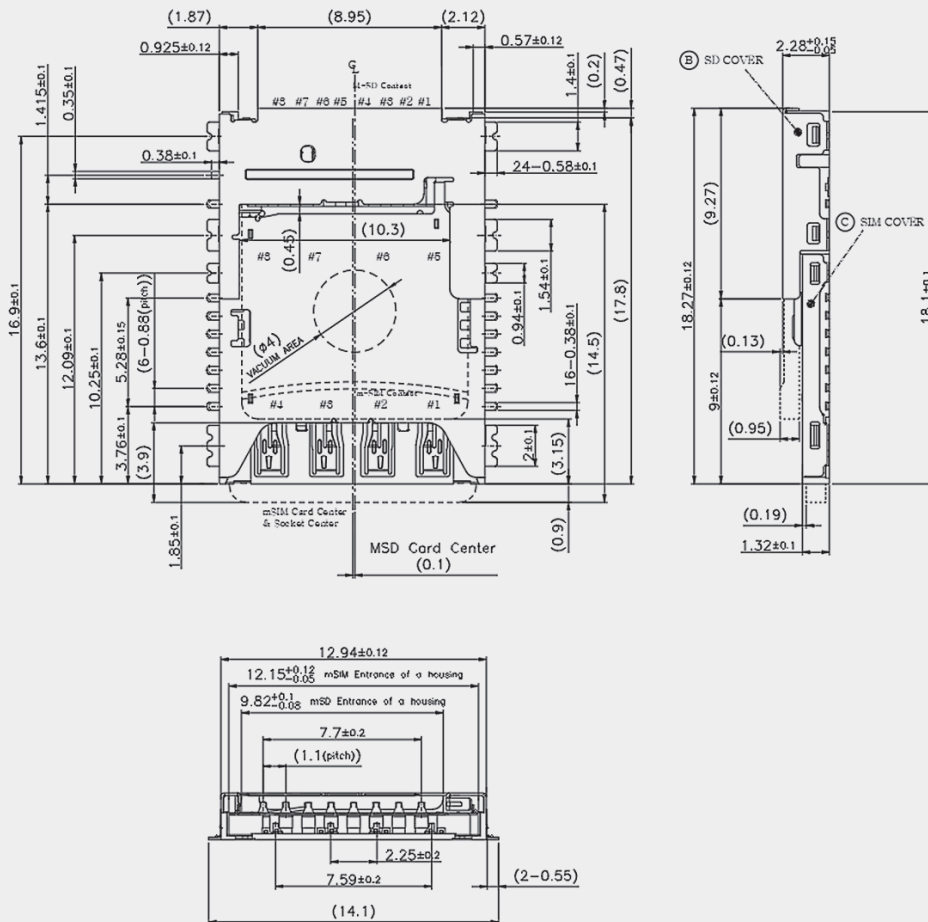
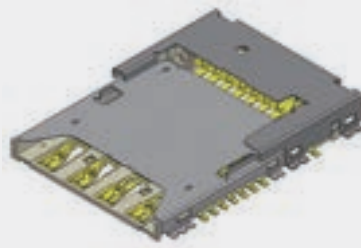


SIM and Memory Card Socket Connector



Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Drawing

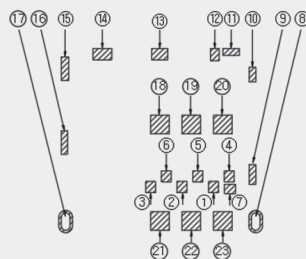
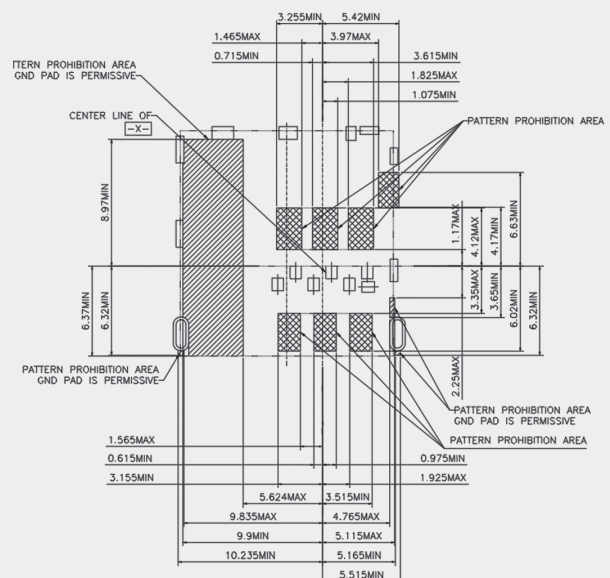
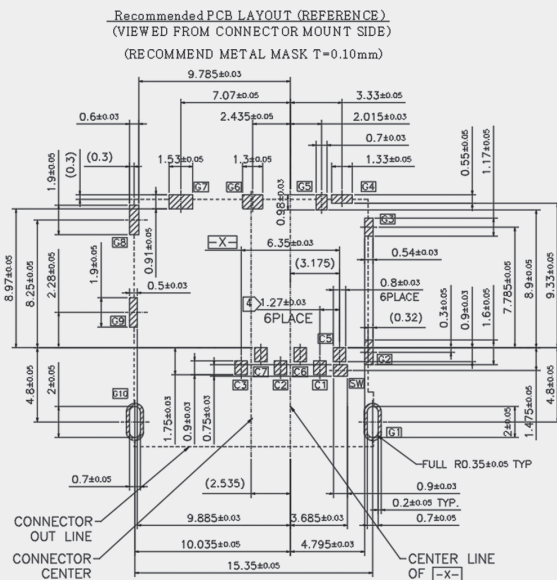


SIM and Memory Card Socket Connector



Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

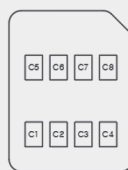
Recommended PCB Dimensions



Connector Pin Assignments

No.	Pin name	Description
①	C1	Vcc of SIM
②	C2	RST of SIM
③	C3	CLK of SIM
④	C5	GND of SIM
⑤	C6	Vpp of SIM
⑥	C7	I/O of SIM
⑦	SW	Detection Switch
⑧-⑩	GND	Shell Ground
⑪-⑬	NC	Not connected

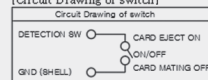
SIM CARD PAD LAYOUT1



SIM Card Pin Assignments

PIN	Item
C1	Vcc
C2	RST
C3	CLK
C4	Reserved
C5	GND
C6	Vpp
C7	I/O
C8	Reserved

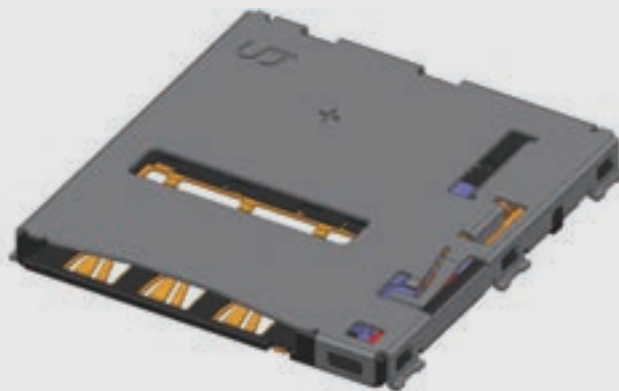
Circuit Drawing of switch



SIM and Memory Card Socket Connector



Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car



- ▶ NANO SIM Card Socket
- ▶ Push In – Push Out (Simple Installation)
- ▶ Application structure Card Detect Switch

Specifications

Current Rating	Contact Resistance	Insulation Resistance	Dielectric Strength	Temperature Range
0.5A/Pin	CONTACT 150mΩ [Max.] DETECT 150mΩ [Max.]	1,000MΩ [Min.]	AC 500V	-40°C ~ 85°C

Mating Size & Product No.

PINS	PITCH	WIDTH	HEIGHT	LENGTH	CODE
6	2.54	13.25	1.23	13.65	NS254-C07B-C12

SIM and Memory Card Socket Connector



Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Specification

Ratings	Rated current	0.5A/Pin	Operating temperature range	-40°C to +85°C 1	Storage temperature range	-5°C to +40 °C (With packing)
	Rated voltage	AC 125V	Operating humidity range	10% to 80% RH 2	Storage humidity range	65%RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	CONTACT - 150mΩ [Max.] DETECT - 150mΩ [Max.]	- Open circuit voltage: 20mV. - Test current: 10mA.
2. Insulation resistance	1,000MΩ [Min.]	- Test voltage: 500V d.c. - Test time: 1 minute ± 5 seconds.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 500V for 1minute
4. Card Insertion force & Withdrawal force	Insert : 1.0 kgf Max Withdrawal : 1.0 kgf Max	- Push-pull gauge at 25±3m/min speed.
5. Vibration	- MAX. Change from Initial contact resistance 50mΩ MAX.	- Vibration frequency range : 10-55-10Hz - Total amplitude : 1.52mm - Sweep time : 30sec - Duration : 2h each (6h in total)
6. Durability	- MAX. Change from Initial contact resistance 50mΩ MAX.	- Attach and detach 5,000 times.
7. Temperature and Humidity cycle	- MAX. Change from Initial contact resistance 50mΩ MAX. - Insulation resistance : 100MΩ Min	- 40±3(°C) : 30 minutes → 85±2(°C) : 30 minutes, 96 cycles
8. Humidity	- MAX. Change from Initial contact resistance 50mΩ MAX. - Insulation resistance : 100MΩ Min	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Salt mist	- MAX. Change from Initial contact resistance 50mΩ MAX. - Insulation resistance : 100MΩ Min	- Salt water concentration : 5±1% Weight ratio - Temperature : 35°C±2°C - Duration : 72h
10. Heat	- MAX. Change from Initial contact resistance 50mΩ MAX. - Insulation resistance : 100MΩ Min	- Temperature : 105±2°Ctio - Duration : 96h

Materials / Finish

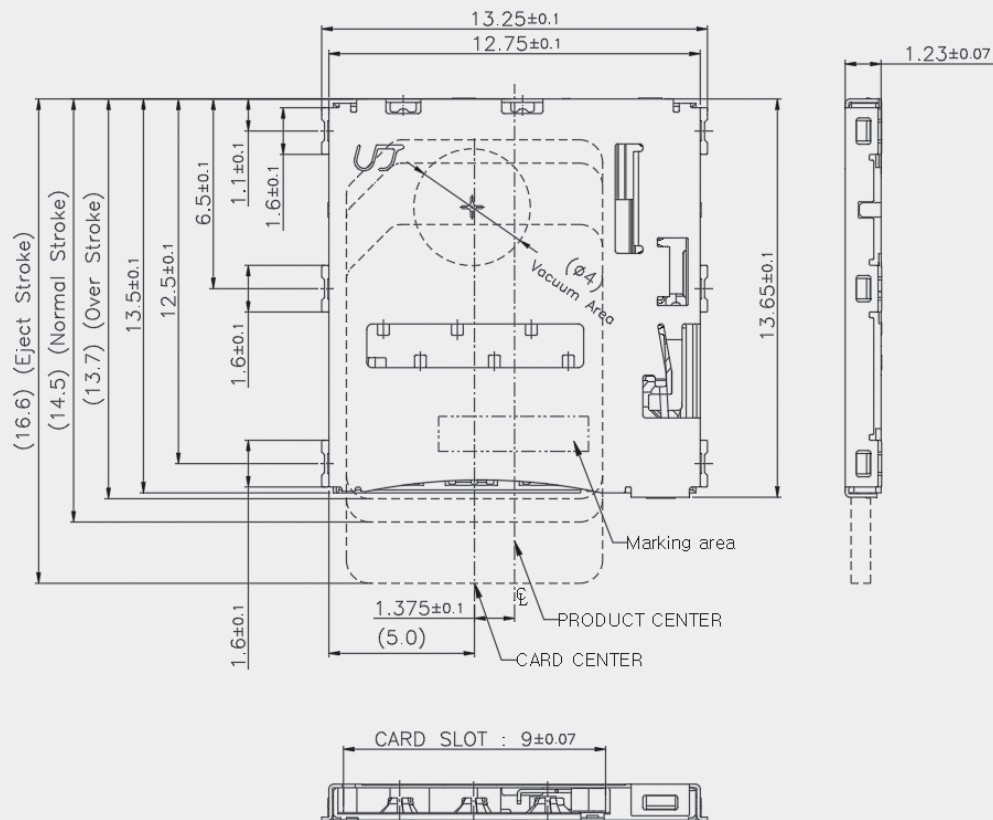
Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Terminal	Copper Alloy	Au, Ni plated	-
Cover	Nickel silver	Au, Ni plated	-
Switch A	Copper Alloy	Au, Ni plated	-
Switch B	Copper Alloy	Au, Ni plated	-
Ejector	Stainless Steel	-	-
CAM Stick	Stainless Steel	-	-
Spring	Stainless Steel	-	-

SIM and Memory Card Socket Connector



Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Drawing

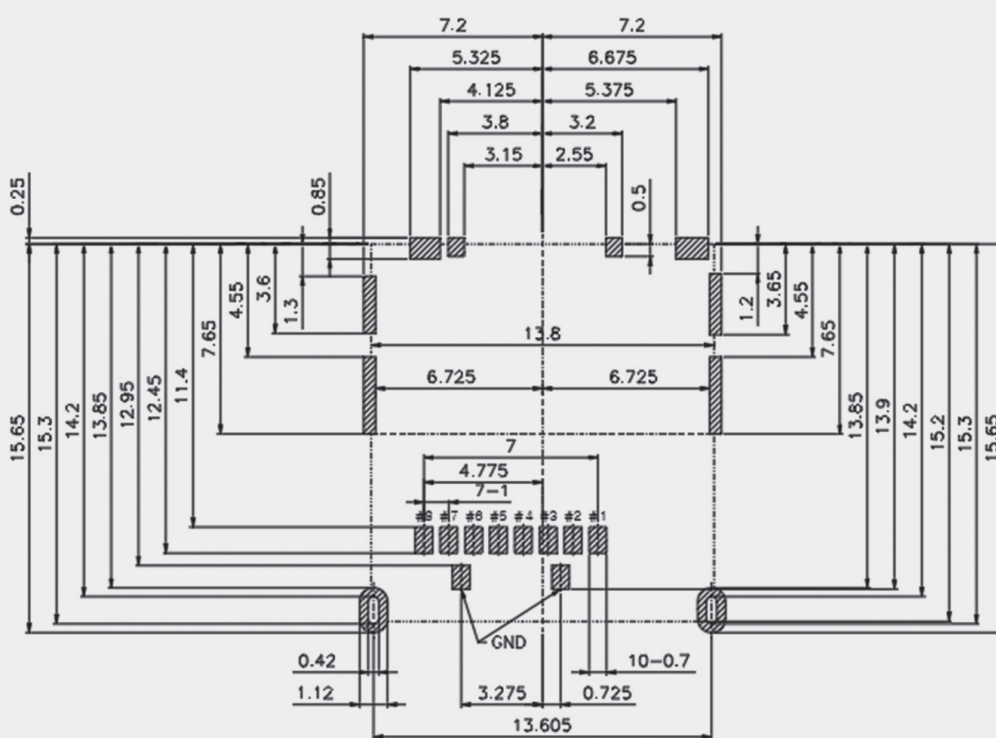


SIM and Memory Card Socket Connector

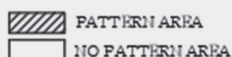


Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

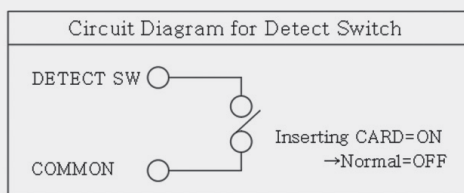
Recommended PCB Dimensions



Recommended PCB LAYOUT
TOLERANCES UNLESS OTHERWISE SPEC. ±0.05



[Circuit Diagram for Detect Switch]



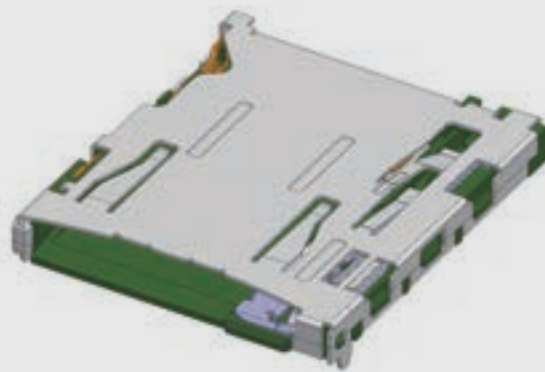
[Pin Assignments]

PIN	SD Mode
#1	DAT2
#2	DAT3/CD
#3	CMD
#4	VDD
#5	CLK
#6	VSS
#7	DAT0
#8	DAT1

Micro-SD Card Socket Connector

micro SD 1.68

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car



- ▶ micro-SD Card Socket
- ▶ Push In – Push Out (Simple Installation)
- ▶ Application structure Card Detect Switch

Specifications

Current Rating	Contact Resistance	Insulation Resistance	Dielectric Strength	Temperature Range
0.5A/Pin	60mΩ [Max.]	1,000MΩ [Min.]	AC 500V	-40°C ~ 85°C

Mating Size & Product No.

PINS	PITCH	WIDTH	HEIGHT	LENGHT	CODE
8	1.10	15.95	1.68	13.85	MS110-C10B-C16-H

Micro-SD Card Socket Connector

micro SD 1.68

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Specification

Ratings	Rated current	0.5A/Pin	Operating temperature range	-40°C to +85°C 1	Storage temperature range	-5°C to +40 °C (With packing)
	Rated voltage	AC 125V	Operating humidity range	10% to 80% RH 2	Storage humidity range	65%RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	60mΩ [Max.]	- Open circuit voltage: 20mV. - Test current: 10mA.
2. Insulation resistance	1,000MΩ [Min.]	- Test voltage: 500V d.c. - Test time: 1 minute ± 5 seconds.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 500V for 1minute
4. Card Insertion force & Withdrawal force	Initial : 500 ±200 gf After : 500 ±200 gf	- Push-pull gauge at 25±3m/min speed.
5. Vibration	- MAX. Change from Initial contact resistance 40mΩ MAX.	- Vibration frequency range : 10-55-10Hz - Total amplitude : 1.52mm - Sweep time : 30sec - Duration : 2h each (6h in total)
6. Durability	- MAX. Change from Initial contact resistance 40mΩ MAX. - Card Insertion Force & withdrawal force 500 ±200 gf	- Attach and detach 10,000 times. - Attach and detach 600 time / Hr or less
7. Temperature and Humidity cycle	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- 40±3(°C) : 30 minutes → 85±2(°C) : 30 minutes, 96 cycles
8. Humidity	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Salt mist	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- Salt water concentration : 5±1% Weight ratio - Temperature : 35°C±2°C - Duration : 72h
10. Heat	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- Temperature : 105±2°Ctio - Duration : 96h

Materials / Finish

Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Terminal	Copper Alloy	Au, Ni plated	-
Cover	Nickel silver	Au, Ni plated	-
Switch A	Copper Alloy	Au, Ni plated	-
Switch B	Copper Alloy	Au, Ni plated	-
Ejector	Stainless Steel	-	-
CAM Stick	Stainless Steel	-	-
Spring	Stainless Steel	-	-

Micro-SD Card Socket Connector

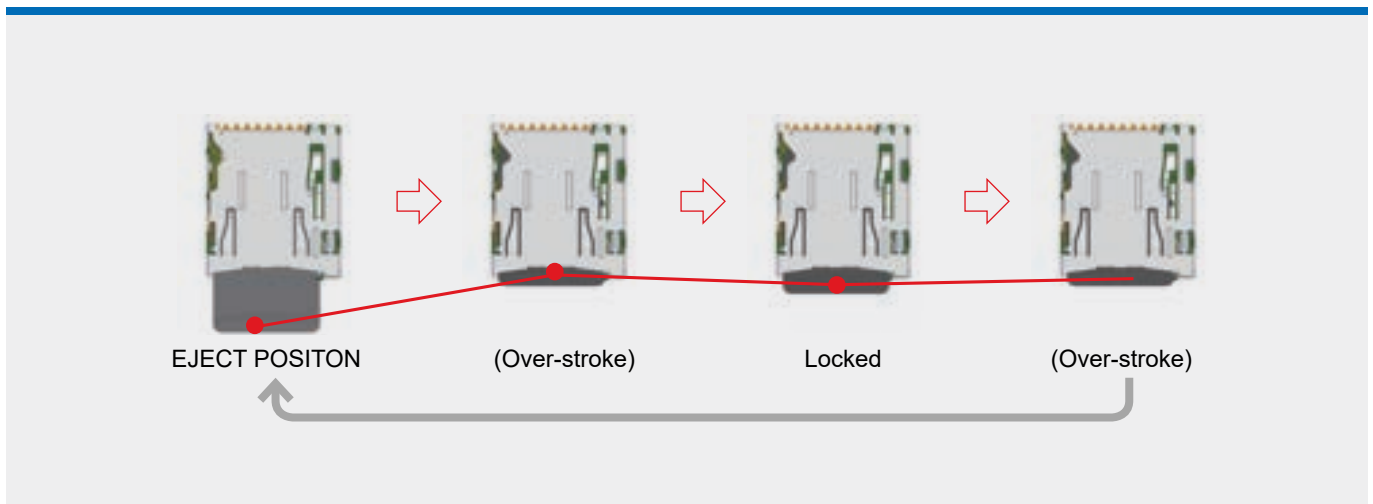
micro SD 1.68

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

FEATURES AND ADVANTAGES

► CARD INSERT

- Easy card instalation (Push In – Push Out)
- Improving product quality reliability

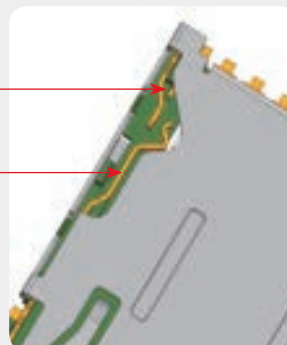


► CARD DETECTION

- Normal [OPEN] --> Card inserted [CLOSE]
- Strengthen contact stability
- Improving product quality reliability

SWITCH B (GROUND)

SWITCH A

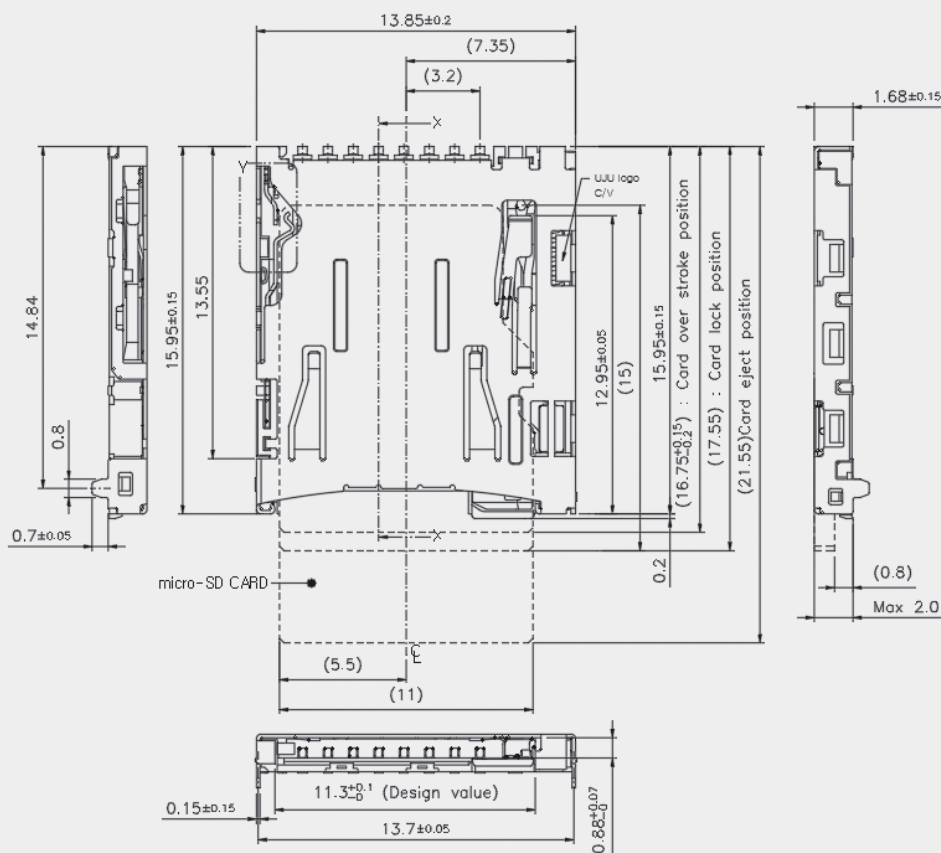
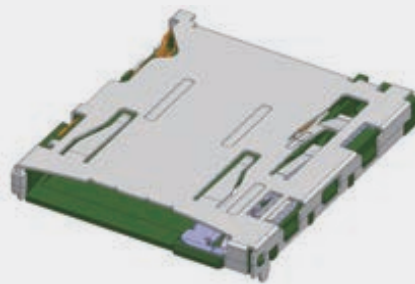


Micro-SD Card Socket Connector

micro SD 1.68

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

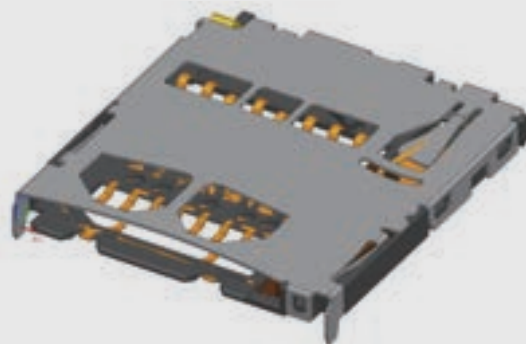
Product Drawing



Micro-SD Card Socket Connector

micro SD 1.36

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car



- ▶ micro-SD Card Socket
- ▶ Push In – Push Out (Simple Installation)
- ▶ Application structure Card Detect Switch

Specifications

Current Rating	Contact Resistance	Insulation Resistance	Dielectric Strength	Temperature Range
0.5A/Pin	60mΩ [Max.]	1,000MΩ [Min.]	AC 500V	-40°C ~ 85°C

Mating Size & Product No.

PINS	PITCH	WIDTH	HEIGHT	LENGHT	CODE
8	1.10	15.95	1.36	13.85	MS110-C10B-C13-A

Micro-SD Card Socket Connector

micro SD 1.36

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Specification

Ratings	Rated current	0.5A/Pin	Operating temperature range	-40°C to +85°C 1	Storage temperature range	-5°C to +40 °C (With packing)
	Rated voltage	AC 125V	Operating humidity range	10% to 80% RH 2	Storage humidity range	65%RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	60mΩ [Max.]	- Open circuit voltage: 20mV. - Test current: 10mA.
2. Insulation resistance	1,000MΩ [Min.]	- Test voltage: 500V d.c. - Test time: 1 minute ± 5 seconds.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 500V for 1minute
4. Card Insertion force & Withdrawal force	Initial : 500 ±200 gf After : 500 ±200 gf	- Push-pull gauge at 25±3m/min speed.
5. Vibration	- MAX. Change from Initial contact resistance 40mΩ MAX.	- Vibration frequency range : 10-55-10Hz - Total amplitude : 1.52mm - Sweep time : 30sec - Duration : 2h each (6h in total)
6. Durability	- MAX. Change from Initial contact resistance 40mΩ MAX. - Card Insertion Force & withdrawal force 500 ±200 gf	- Attach and detach 10,000 times. - Attach and detach 600 time / Hr or less
7. Temperature and Humidity cycle	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- 40±3(°C) : 30 minutes → 85±2(°C) : 30 minutes, 96 cycles
8. Humidity	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Salt mist	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- Salt water concentration : 5±1% Weight ratio - Temperature : 35°C±2°C - Duration : 72h
10. Heat	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- Temperature : 105±2°Ctio - Duration : 96h

Materials / Finish

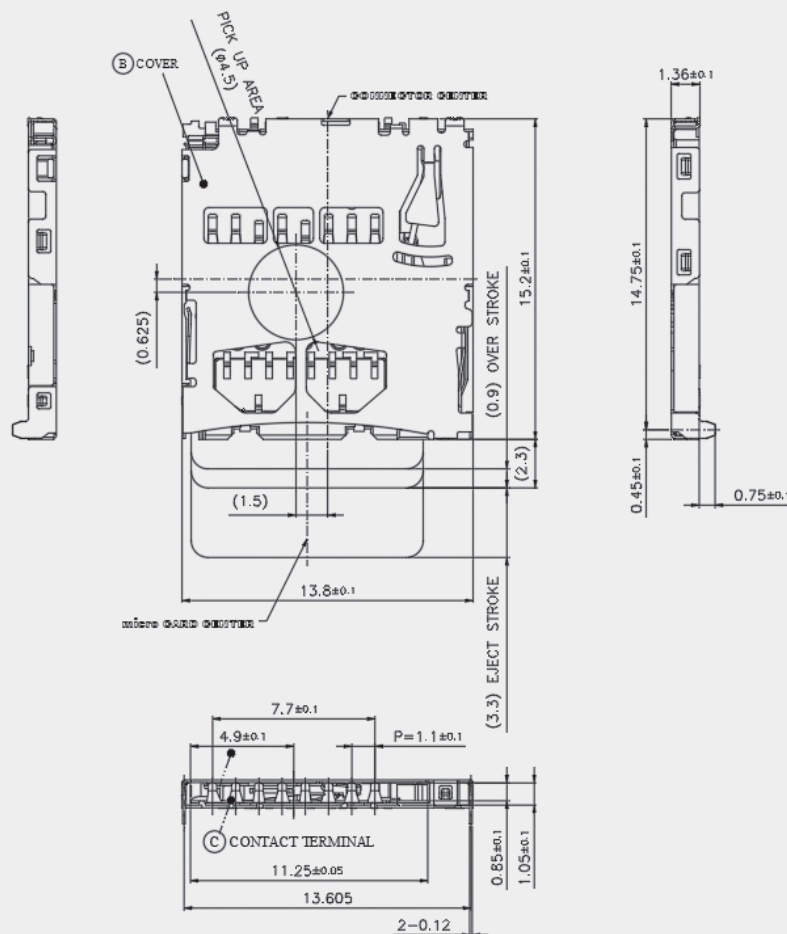
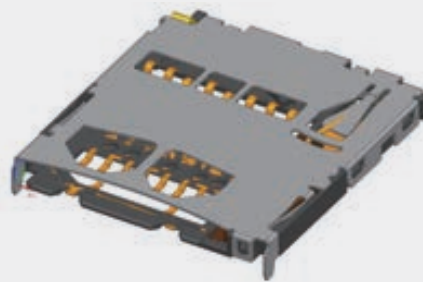
Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Terminal	Copper Alloy	Au, Ni plated	-
Cover	Nickel silver	Au, Ni plated	-
Switch A	Copper Alloy	Au, Ni plated	-
Switch B	Copper Alloy	Au, Ni plated	-
Ejector	Stainless Steel	-	-
CAM Stick	Stainless Steel	-	-
Spring	Stainless Steel	-	-

Micro-SD Card Socket Connector

micro SD 1.36

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Drawing

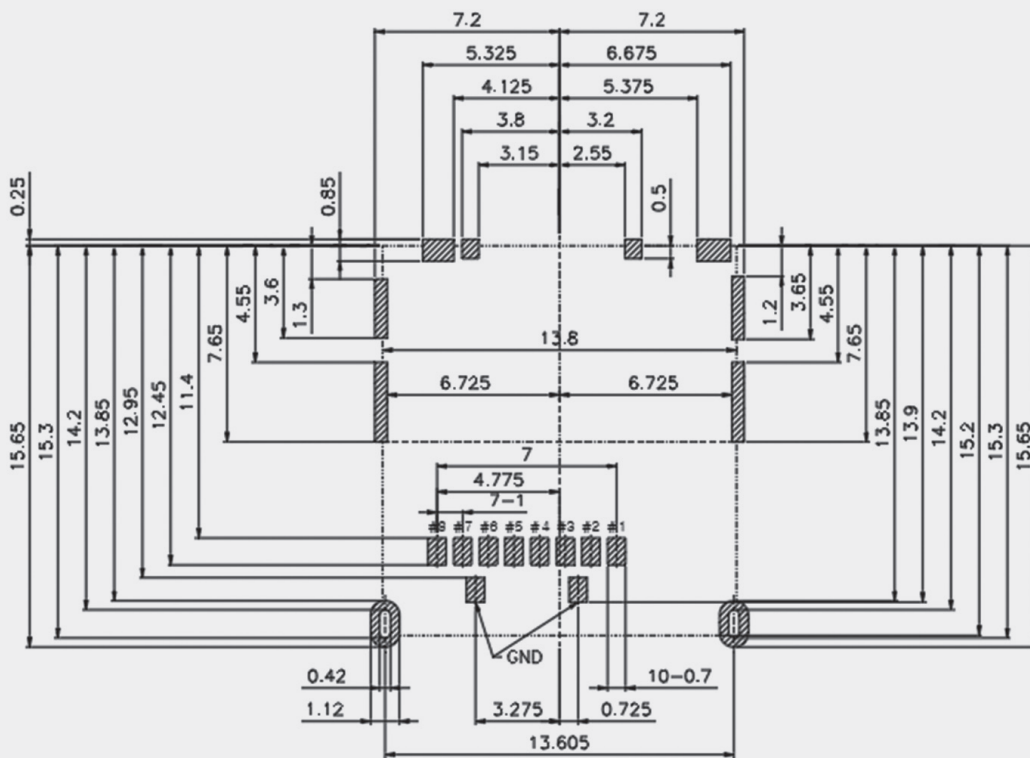


Micro-SD Card Socket Connector

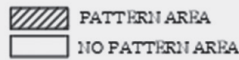
micro SD 1.36

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

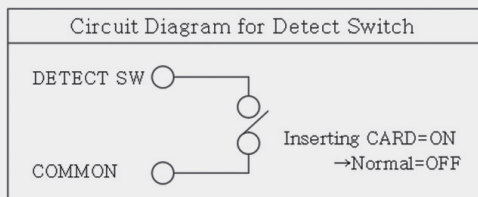
Recommended PCB Dimensions



Recommended PCB LAYOUT
TOLERANCES UNLESS OTHERWISE SPEC. ±0.05



[Circuit Diagram for Detect Switch] [Pin Assignments]

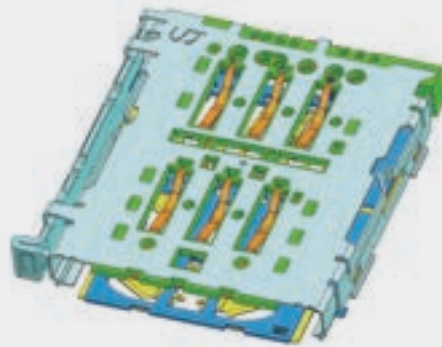


PIN	SD Mode
#1	DAT2
#2	DAT3/CD
#3	CMD
#4	VDD
#5	CLK
#6	VSS
#7	DAT0
#8	DAT1

SIM and Memory Card Socket Connector

S05

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car



- ▶ 3in2 Stack Mold Tray Socket
- ▶ SD & SIM Terminal deformation prevention structure
- ▶ TRAY reverse insertion prevention structure
- ▶ Switch ON-OFF Structure
- ▶ All-in-one Cover & Latch

Specifications

Current Rating	Contact Resistance	Insulation Resistance	Dielectric Strength	Temperature Range
0.5A/Pin	100mΩ [Max.]	1,000MΩ [Min.]	AC 500V	-40°C ~ 85°C

Mating Size & Product No.

PINS	PITCH	WIDTH	HEIGHT	LENGHT	CODE
21	2.54	16.18	2.58	17.73	TS254-C21B-C26-A

SIM and Memory Card Socket Connector

S05

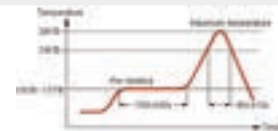
Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Specification

Ratings	Rated current	0.5A/Pin	Operating temperature range	-40°C to +85°C 1	Storage temperature range	-5°C to +40 °C (With packing)
	Rated voltage	Max 10V AC(RMS) or DC	Operating humidity range	10% to 80% RH 2	Storage humidity range	65%RH

- Including terminal temperature rise.
- Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	100mΩ [Max.]	- Open circuit voltage: 20mV. - Test current: 10mA.
2. Insulation resistance	1,000MΩ [Min.]	- Test voltage: 500V d.c. - Test time: 1 minute ± 5 seconds.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 500V for 1minute
4. Tray insert force	1,000gf [Max.]	Insert the tray at a rate of 25±3 mm/min. (actual card used)
5. Rod withdrawal force	- SIM1+SIM2 : 400~1200gf - SIM1+SD : 400~1300gf	- Press Rod with a pin. (Speed 25 mm/min) - Measure the force at the third time when the actual use card is mounted.
6. Durability	1) Check whether the SIM card terminal surface is split and the card terminal is short. 2) contact resistance - Max 100mΩ 3) Pin removal force (2,000 times) - SIM1+SIM2 : 400~1200gf - SIM1+SD : 400~1300gf	1) Attach and detach 500 times. 2) Attach and detach 2,000 times. 3) Reattach the 0.7T SD/SIM card tested in Sample No.2 and attach/detach an additional 3,000 times
7. Vibration	Discontinuity : 1.0 microsec. MAX.	- Acceleration : 50G (490%) - Duration : 11ms - Number of shocks : 3 both axial directions, 3 times each, 18 times in total - Test voltage : 5V d.c. - Test current : 1mA d.c.
8. Shock resistance	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out	On concrete : 1.8m Height, six axis 3 times, 150g total weight On tile : 0.1m Height, XYZ axis 3,500 times, 150g total weight
9. Humidity	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
10. Temperature cycle	No damage or mechanical defect Contact resistance : 120mΩ Max. / contact Insulation Resistance : 50MΩ Min.	- 40±3(°C) : 30 minutes → 85±2(°C) : 30 minutes, 96 cycles
11. Solder heat resistance	- No have something wrong of push functions. - No have deformation and fall off. - No have something wrong outward appearance and structure.	Reflow condition. (Refer to Reflow)



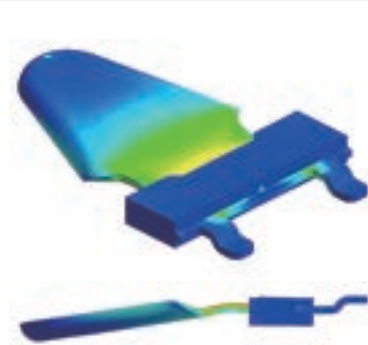
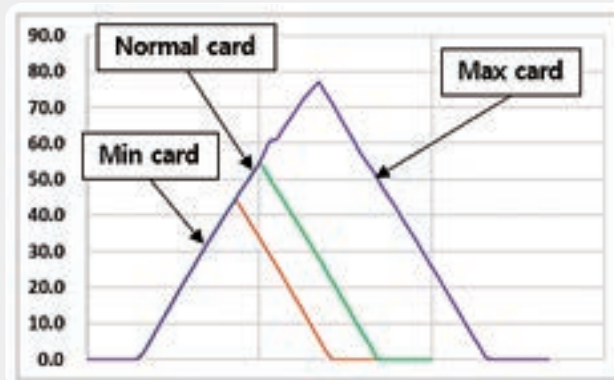
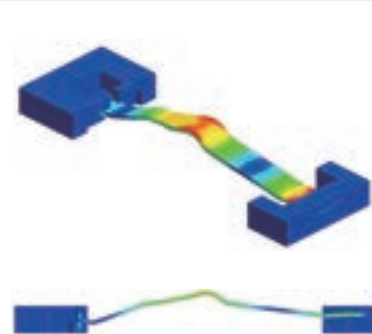
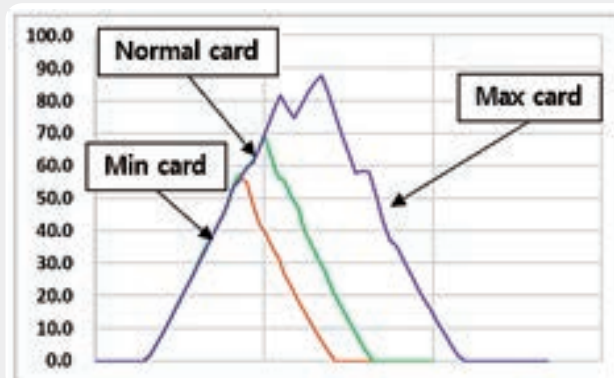
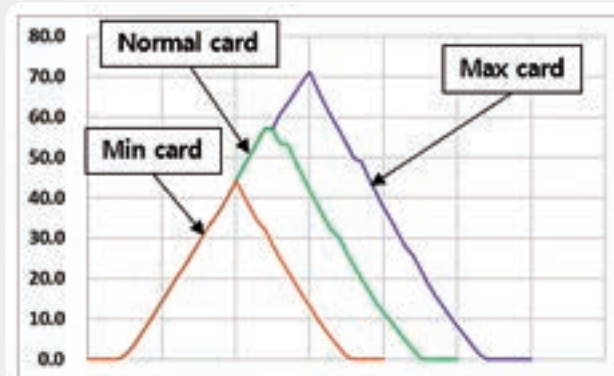
Materials / Finish

Part	Materials	Finish	UL Regulation
Base A	LCP	Black	UL94V-0
Terminal A	Copper Alloy	Au-Pd , Ni plated	-
Base B	LCP	Black	UL94V-0
Terminal B	Copper Alloy	Au-Pd , Ni plated	-
Cover	Stainless Steel	Ni plated	-
Switch	Copper Alloy	Au-Pd , Ni plated	-
Eject Rod	Stainless Steel	-	-
Lever	Stainless Steel	-	-

SIM and Memory Card Socket Connector

S05

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

SIM1

SIM2

SIM3

Contact Force Simulation

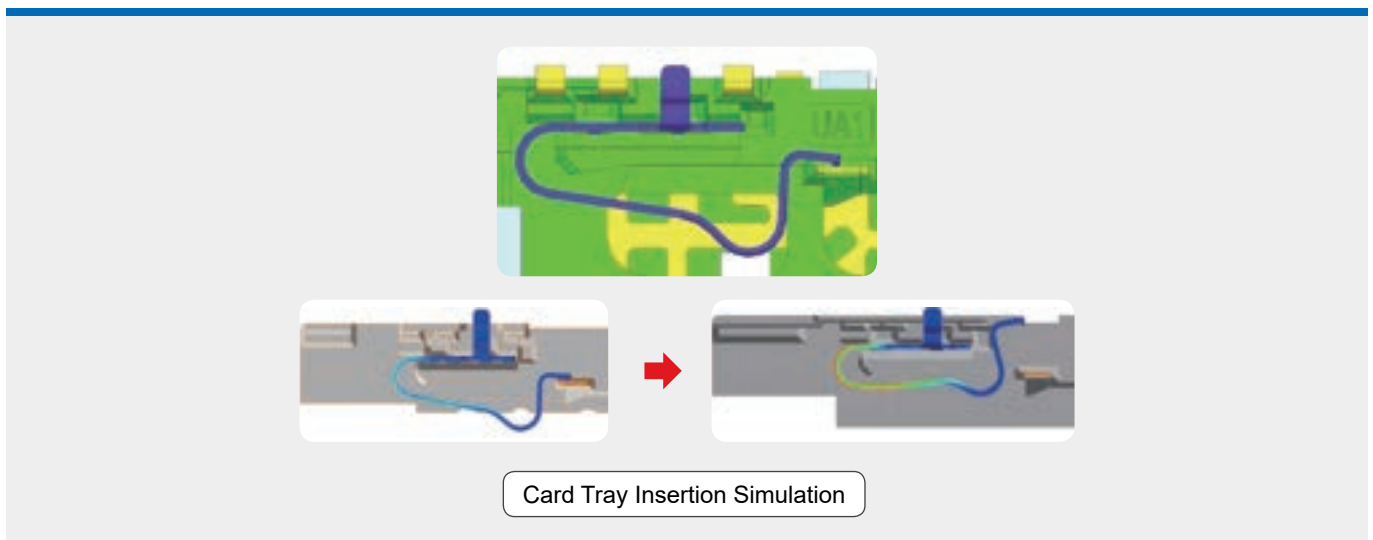
SIM and Memory Card Socket Connector

S05

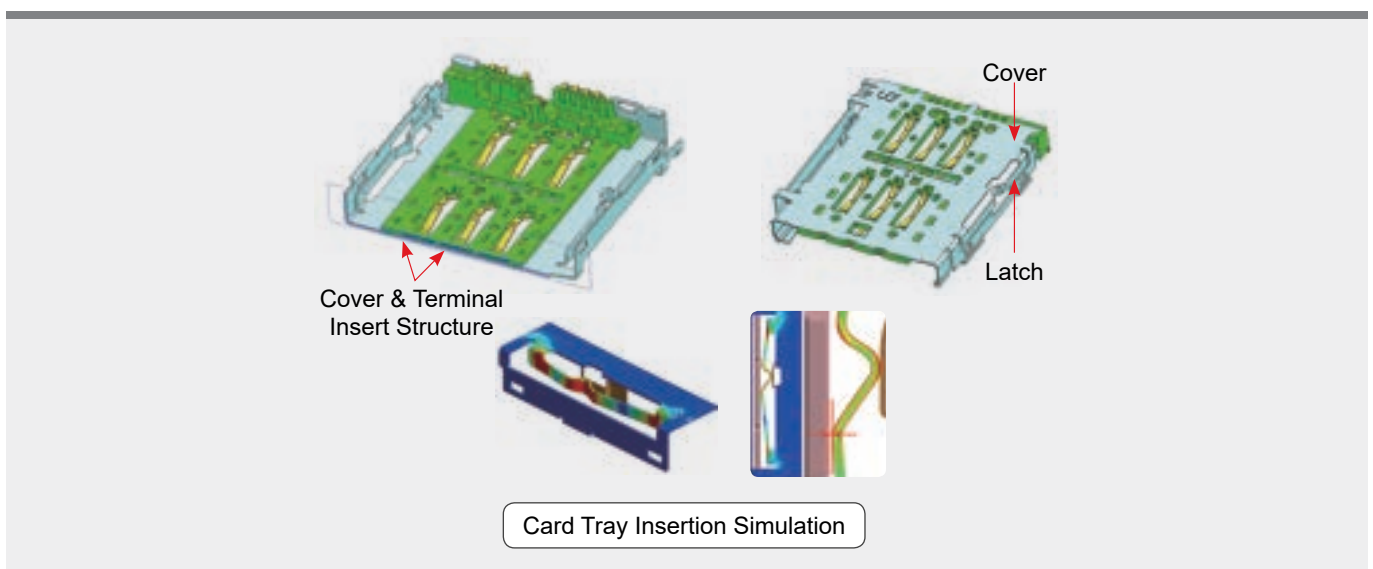
Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

FEATURES AND ADVANTAGES

- ▶ **Switch y-axis ON-OFF structure**
 - Normal [CLOSE] → Tray inserted [OPEN]
 - Strengthen contact stability
 - Improving product quality reliability



- ▶ **Cover & Terminal full insert Injection molding, Cover & Latch all in one structure**
 - Improving product strength
 - Improving product quality reliability

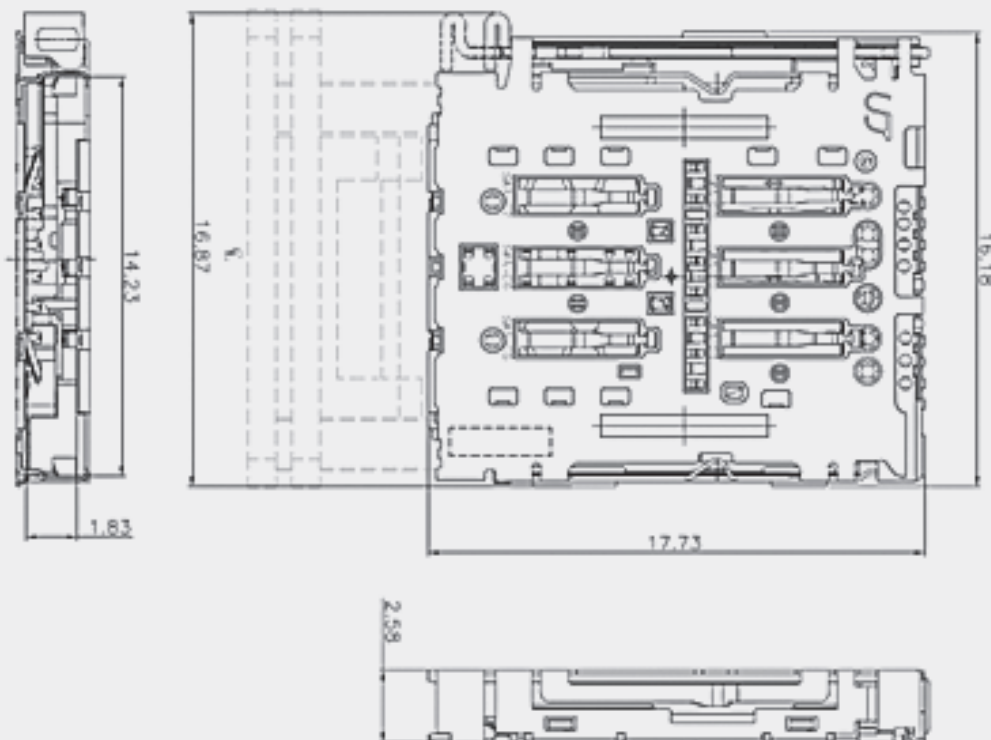
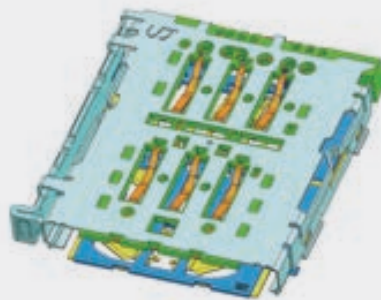


SIM and Memory Card Socket Connector

S05

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Drawing

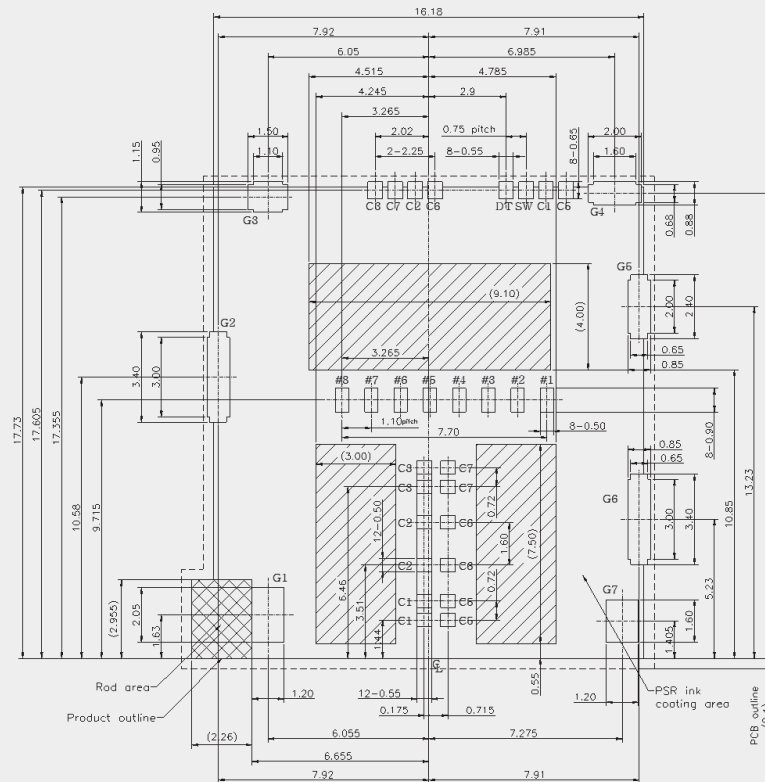


SIM and Memory Card Socket Connector



Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Recommended PCB Dimensions



【NANO SIM CARD PIN-MAP】

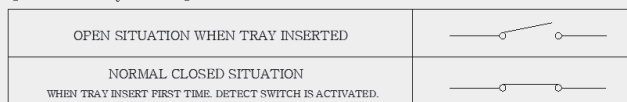
Pin No.	Description
C1	VCC (Supply V)
C2	RST (Reset)
C3	CLK (Clock)
(C4)	(None)
C5	GND (Ground)
C6	VPP (Program V)
C7	I/O
(C8)	(None)

【micro SD CARD PIN-MAP】

Pin No.	Description
T1	DAT2
T2	CD/DAT3*
T3	CMD
T4	VDD
T5	CLK
T6	VSS (GND)
T7	DAT0
T8	DAT1

SW	TRAY DETECTION
DT	GROUND
G1-G7	GROUND or Not CONNECT

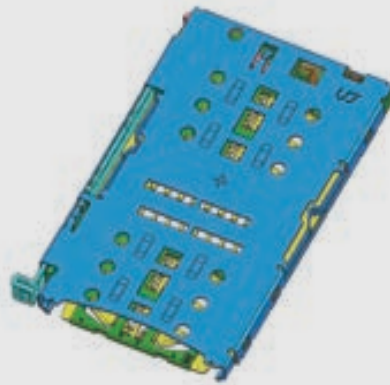
【TIMING SEQUENCE】



SIM and Memory Card Socket Connector

S06

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car



- ▶ 3in2 Mold Tray Socket
- ▶ SD & SIM Terminal deformation prevention structure
- ▶ TRAY reverse insertion prevention structure
- ▶ Switch ON-OFF Structure
- ▶ All-in-one Cover & Latch

Specifications

Current Rating	Contact Resistance	Insulation Resistance	Dielectric Strength	Temperature Range
0.5A/Pin	100mΩ [Max.]	1,000MΩ [Min.]	AC 500V	-40°C ~ 85°C

Mating Size & Product No.

PINS	PITCH	WIDTH	HEIGHT	LENGHT	CODE
21	2.54	16.74	1.35	26.75	TS254-C21B-C14-A

SIM and Memory Card Socket Connector

S06

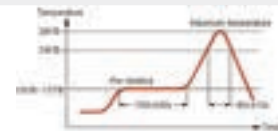
Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Specification

Ratings	Rated current	0.5A/Pin	Operating temperature range	-40°C to +85°C 1	Storage temperature range	-5°C to +40 °C (With packing)
	Rated voltage	Max 10V AC(RMS) or DC	Operating humidity range	10% to 80% RH 2	Storage humidity range	65%RH

- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	100mΩ [Max.]	- Open circuit voltage: 20mV. - Test current: 10mA.
2. Insulation resistance	1,000MΩ [Min.]	- Test voltage: 500V d.c. - Test time: 1 minute ± 5 seconds.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 500V for 1minute
4. Tray insert force	1,000gf [Max.]	Insert the tray at a rate of 25±3 mm/min. (actual card used)
5. Rod withdrawal force	- SIM1+SIM2 : 400~1200gf - SIM1+SD : 400~1300gf	- Press Rod with a pin. (Speed 25 mm/min) - Measure the force at the third time when the actual use card is mounted.
6. Durability	1) Check whether the SIM card terminal surface is split and the card terminal is short. 2) contact resistance - Max 100mΩ 3) Pin removal force (2,000 times) - SIM1+SIM2 : 400~1200gf - SIM1+SD : 400~1300gf	1) Attach and detach 500 times. 2) Attach and detach 2,000 times. 3) Reattach the 0.7T SD/SIM card tested in Sample No.2 and attach/detach an additional 3,000 times
7. Vibration	Discontinuity : 1.0 microsec. MAX.	- Acceleration : 50G (490%) - Duration : 11ms - Number of shocks : 3 both axial directions, 3 times each, 18 times in total - Test voltage : 5V d.c. - Test current : 1mA d.c.
8. Shock resistance	Discontinuity : 1.0 microsec. MAX.	On concrete : 1.8m Height, six axis 3 times, 150g total weight On tile : 0.1m Height, XYZ axis 3,500 times, 150g total weight
9. Humidity	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
10. Temperature cycle	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- 40±3(°C) : 30 minutes → 85±2(°C) : 30 minutes, 96 cycles
11. Solder heat resistance	- No have something wrong of push functions. - No have deformation and fall off. - No have something wrong outward appearance and structure.	Reflow condition. (Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Terminal	Copper Alloy	Au-Pd , Ni plated	-
Cover	Stainless Steel	Ni plated	-
Switch	Copper Alloy	Au-Pd , Ni plated	-
Eject Rod	Stainless Steel	-	-
Lever	Stainless Steel	-	-

SIM and Memory Card Socket Connector

S06

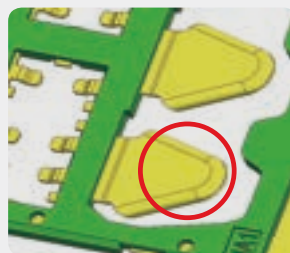
Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

FEATURES AND ADVANTAGES

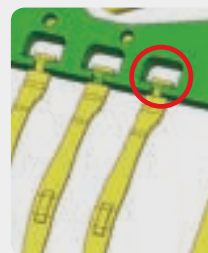
- ▶ **Minimum size Combo 3in2 (microSD & nano-SIM) Assembled Type Socket**
 - Easy to manage inventory control
 - Easy to manage product solder twist (one assembly)



- ▶ **SIM & SD Terminal deformation prevention structure**
 - Strengthen contact stability
 - Improving product quality reliability

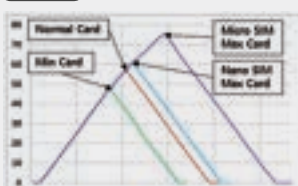


Triangle

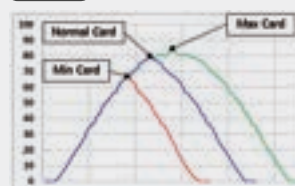


Insert Mold

SIM1,2



SD



Contact Force Simulation

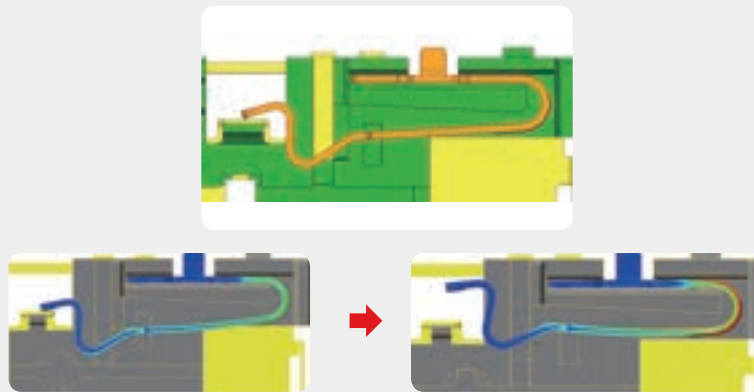
SIM and Memory Card Socket Connector

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Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

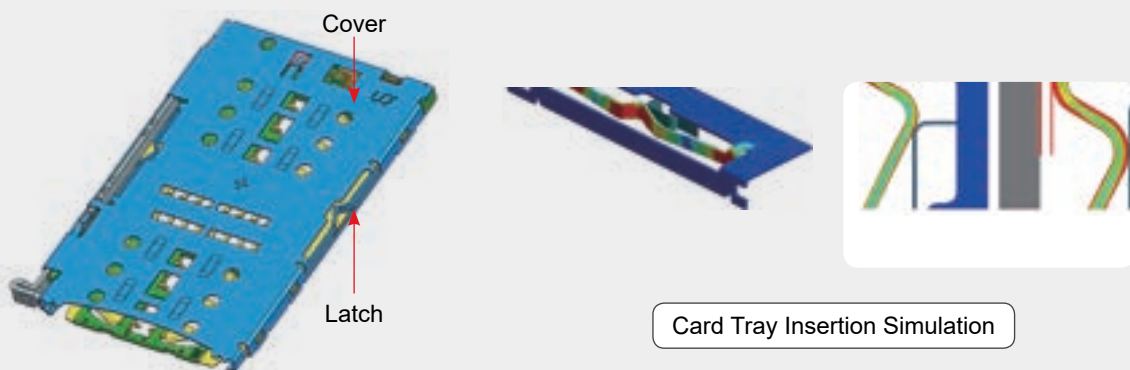
FEATURES AND ADVANTAGES

- ▶ **Switch y-axis ON-OFF structure**
 - Normal [CLOSE] → Tray inserted [OPEN]
 - Strengthen contact stability
 - Improving product quality reliability



Card Tray Insertion Simulation

- ▶ **Cover & Latch all in one structure**
 - Improving product strength
 - Improving product quality reliability



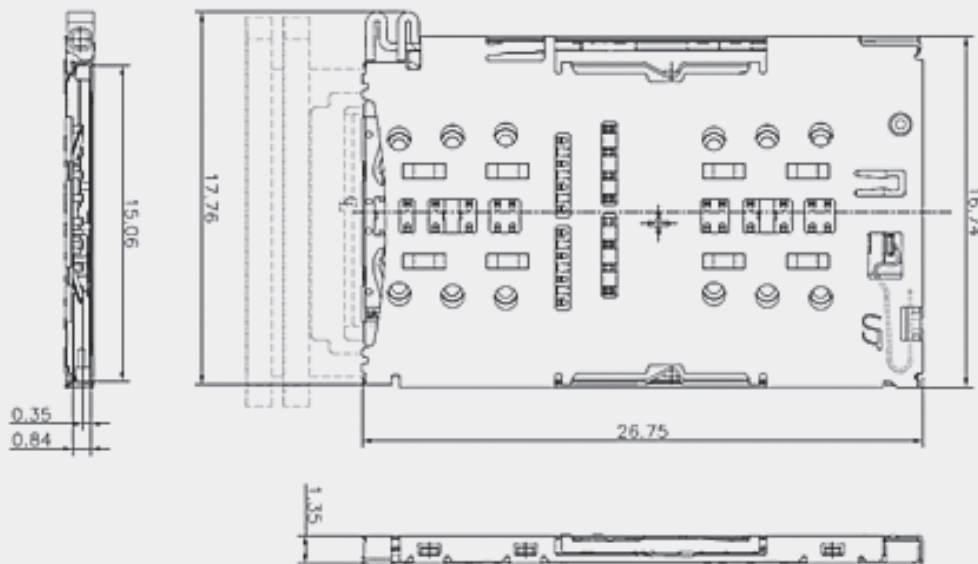
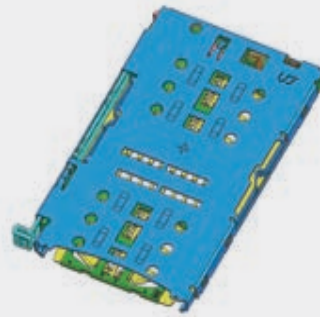
Card Tray Insertion Simulation

SIM and Memory Card Socket Connector

S06

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Drawing

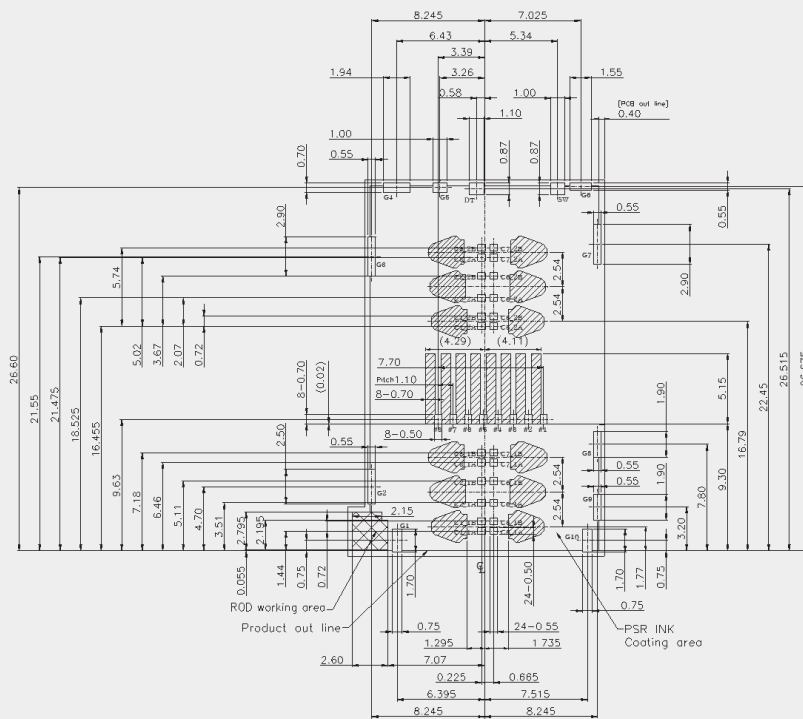


SIM and Memory Card Socket Connector

S06

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Recommended PCB Dimensions



RECOMMENDED P.C.B LAYOUT (FRONT VIEW)
TOLERANCE : ±0.05

() No trace / No VIA (No signal / No ground)

Recommend metal mask is thickness 0.1mm with aperture ratio 150% for soldering.
(메탈 마스크 권장 두께는 0.1mm, 개구율은 150%)

【micro SD CARD PIN-MAP】

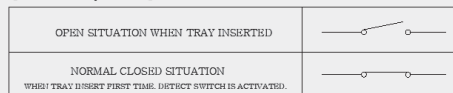
Pin No.	Description
#1	DAT2
#2	CD/DAT3
#3	CMD
#4	VDD
#5	CLK
#6	VSS
#7	DAT0
#8	DAT1

【NANO SIM CARD PIN-MAP】

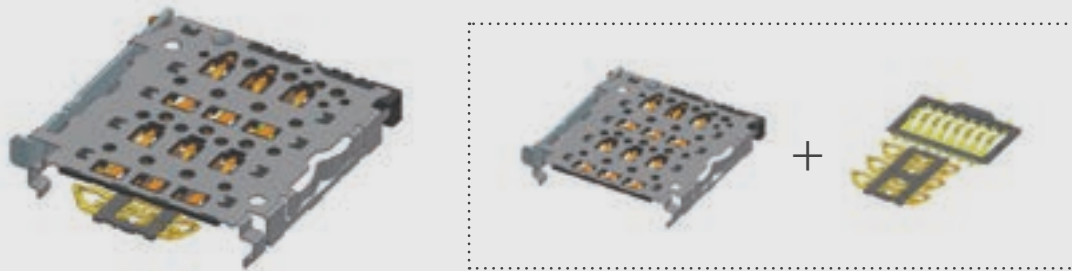
Pin No.	Pin No.	Description
C1-1	C1-2	VCC
C2-1	C2-2	RST
C3-1	C3-2	CLK
C5-1	C6-2	GND
C6-1	C6-2	VFP
C7-1	C7-2	I/O

G1-G10	GND or NOT CONNECT
S/W	GROUND
TRAY D/T	TRAY DETECTOR

【TIMING SEQUENCE】



SIM and Memory Card Socket Connector

S07


- ▶ 3in2 Stack Mold Tray Socket
- ▶ SD & SIM Terminal deformation prevention structure
- ▶ TRAY reverse insertion prevention structure
- ▶ Switch ON-OFF Structure
- ▶ All-in-one Cover & Latch

Specifications

Current Rating	Contact Resistance	Insulation Resistance	Dielectric Strength	Temperature Range
TOP Ass'y 0.5A/Pin	100mΩ [Max.]	1,000mΩ [Min.]	AC 500V	-40°C ~ 85°C
SD/SIM Ass'y 0.3A/Pin				

Mating Size & Product No.

PINS	PITCH	WIDTH	HEIGHT	LENGHT	CODE
6	2.54	2.30	15.25	16.40	TS254-C21B-C14-A
6	2.54	8.00	0.78	8.01	TS254-C21B-C14-B
8	1.10	7.62	0.79	10.10	TS254-C21B-C14-C

SIM and Memory Card Socket Connector

S07

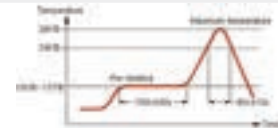
Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Specification

Ratings	Rated current	0.5A/Pin	Operating temperature range	-40°C to +85°C 1	Storage temperature range	-5°C to +40 °C (With packing)
	Rated voltage	Max 10V AC(RMS) or DC	Operating humidity range	10% to 80% RH 2	Storage humidity range	65%RH

- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	100mΩ [Max.]	- Open circuit voltage: 20mV. - Test current: 10mA.
2. Insulation resistance	1,000MΩ [Min.]	- Test voltage: 500V d.c. - Test time: 1 minute ± 5 seconds.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 500V for 1minute
4. Tray insert force	1,000gf [Max.]	Insert the tray at a rate of 25±3 mm/min. (actual card used)
5. Rod withdrawal force	- SIM1+SIM2 : 400~1200gf - SIM1+SD : 400~1300gf	- Press Rod with a pin. (Speed 25 mm/min) - Measure the force at the third time when the actual use card is mounted.
6. Durability	1) Check whether the SIM card terminal surface is split and the card terminal is short. 2) contact resistance - Max 100mΩ 3) Pin removal force (2,000 times) - SIM1+SIM2 : 400~1200gf - SIM1+SD : 400~1300gf	1) Attach and detach 500 times. 2) Attach and detach 2,000 times. 3) Reattach the 0.7T SD/SIM card tested in Sample No.2 and attach/detach an additional 3,000 times
7. Vibration	Discontinuity : 1.0 microsec. MAX.	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz / Approx 1min. - Duration : 2h each (6h in total)
8. Shock resistance	Discontinuity : 1.0 microsec. MAX.	- Acceleration : 50G (490%) - Duration : 11ms - Number of shocks : 3 both axial directions, 3 times each, 18 times in total - Test voltage : 5V d.c. - Test current : 1mA d.c.
9. Humidity	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
10. Temperature cycle	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- 40±3(°C) : 30 minutes → 85±2(°C) : 30 minutes, 96 cycles
11. Solder heat resistance	- No have something wrong of push functions. - No have deformation and fall off. - No have something wrong outward appearance and structure.	Reflow condition. (Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Top Base	LCP	Black	UL94V-0
Top Terminal	Copper Alloy	Au-Pd , Ni plated	-
Cover	Stainless Steel	Ni plated	-
Switch	Copper Alloy	Au-Pd , Ni plated	-
Eject Rod	Stainless Steel	-	-
Lever	Stainless Steel	-	-
Rivet Pin	Stainless Steel	-	-
SIM Base	LCP	Black	UL94V-0
SIM Terminal	Copper Alloy	Au-Pd , Ni plated	-
SD Base	LCP	Black	UL94V-0
SD Terminal	Copper Alloy	Au-Pd , Ni plated	-

SIM and Memory Card Socket Connector

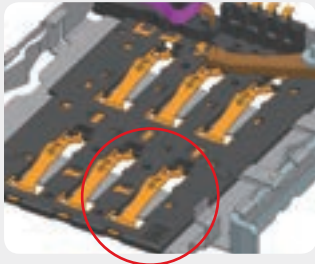
S07

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

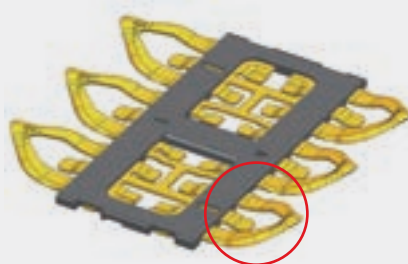
FEATURES AND ADVANTAGES

► SIM & SD Terminal deformation prevention structure

- Strengthen contact stability
- Improving product quality reliability



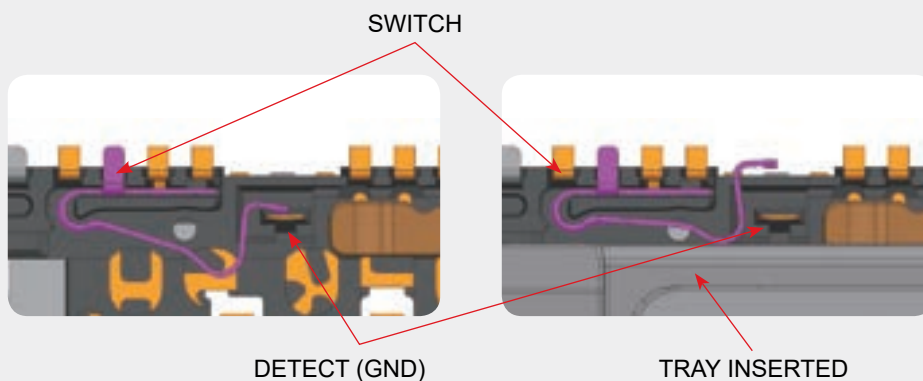
SIM CONTACT



micro SD CONTACT

► Switch y-axis ON-OFF structure

- Normal [CLOSE] --> Tray inserted [OPEN]
- Strengthen contact stability
- Improving product quality reliability



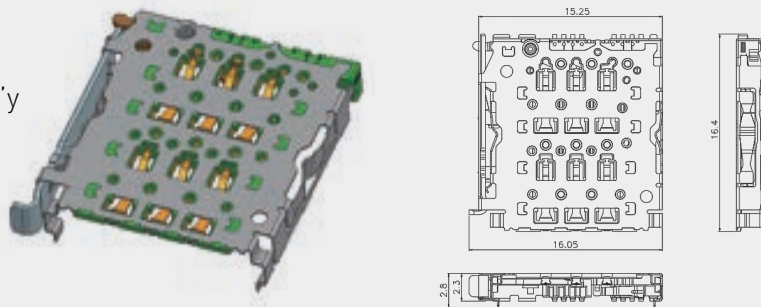
SIM and Memory Card Socket Connector

S07

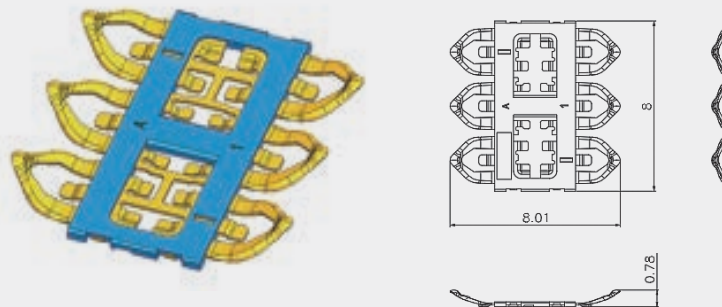
Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Drawing

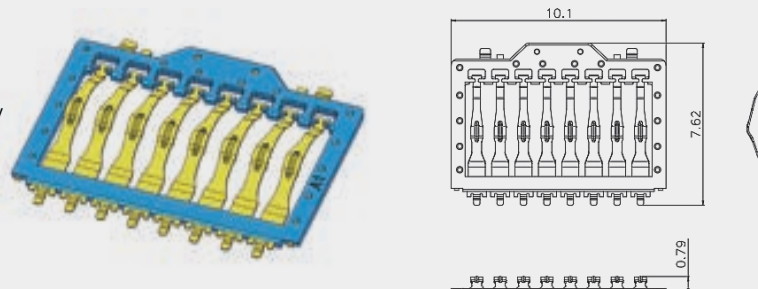
▶ TOP Ass'y



▶ SIM Ass'y



▶ SD Ass'y

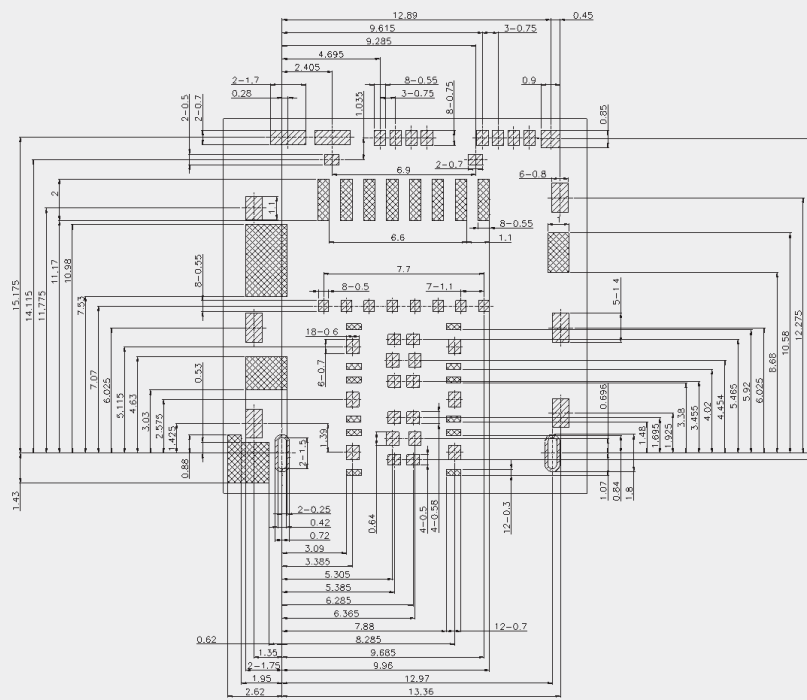


SIM and Memory Card Socket Connector





Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Recommended PCB Dimensions



RECOMMENDED P.C.B LAYOUT (FRONT VIEW)(Scale 8:1)
TOLERANCE : ±0.05
Recommend metal mask is thickness 0.1mm(에탈마스크 권장 두께는 0.1mm)

- () Pad Area, () Non Solder Pad area
1. Touch area of contact tips.
 2. No electrical function and only for mechanical function.
 3. Don't's brush Tin pasted on the area during SMT process.

[NANO SIM CARD PIN-MAP]

NANO Card	Pin No.	Description
C1	S1	VCC
C2	S2	RST
C3	S3	CLK
C5	S5	GND
C6	S6	VPP
C7	S7	I/O

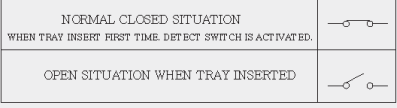
[micro SD CARD PIN-MAP]

SD Card	Pin No.	Description
P1	A1	DAT2
P2	A2	CD/DAT3
P3	A3	CMD
P4	A4	VDD
P5	A5	CLK
P6	A6	VSS
P7	A7	DAT0
P8	A8	DAT1
-	A9/A10	GROUND

[TOP PIN-MAP]

NANO Card	Pin No.	Description
C7	G17	I/O
C6	G14	VPP
C5	G12	GND
C3	G18	CLK
C2	G15	RST
C1	G13	VCC
G1-G11 : GND PIN		
G19 : DETECT LEVER (GROUND)		
G16 : DETECT SWITCH		

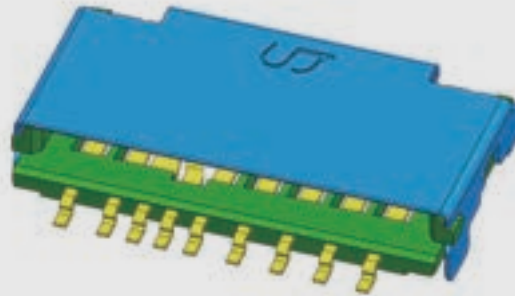
[TIMING SEQUENCE]



SIM and Memory Card Socket Connector

SQ

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car



- ▶ Terminal deformation prevention structure
- ▶ Detect Terminal Structure
- ▶ Push-Pull Type

Specifications

Current Rating	Contact Resistance	Insulation Resistance	Dielectric Strength	Temperature Range
0.5A/Pin	100mΩ [Max.]	1,000MΩ [Min.]	AC 500V	-40°C ~ 85°C

Mating Size & Product No.

PINS	PITCH	WIDTH	HEIGHT	LENGTH	CODE
8	1.10	11.10	1.70	7.00	MS110-C09B-C17

SIM and Memory Card Socket Connector



Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Specification

Ratings	Rated current	0.5A/Pin	Operating temperature range	-40°C to +85°C 1	Storage temperature range	-5°C to +40 °C (With packing)
	Rated voltage	Max 10V AC(RMS) or DC	Operating humidity range	10% to 80% RH 2	Storage humidity range	65%RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	100mΩ [Max.]	- Open circuit voltage: 20mV. - Test current: 10mA.
2. Insulation resistance	1,000MΩ [Min.]	- Test voltage: 500V d.c. - Test time: 1 minute ± 5 seconds.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 500V for 1minute
4. Card insert force	1,000gf [Max.]	Insert the card at a rate of 25±3 mm/min. (actual card used)
5. Card retention force	800~1,000gf	Insert the card at a rate of 25±3 mm/min. (actual card used)
6. Durability	1) Contact resistance : After test 140mΩ Max 2) No have damage, Crack terminal junction variation and shake on product	it perform test repeat insert and withdrawal test of card with 400~600 cycle/h speed. - micro-SD : 10,000times - One cycle : 6sec (minute 10times) - Change the card every 1,000 times - After every 10 cycles blow with dry air.
7. Vibration	Discontinuity : 1.0 microsec. MAX.	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz / Approx 1min. - Duration : 2h each (6h in total)
8. Shock resistance	Discontinuity : 1.0 microsec. MAX.	- Acceleration : 50G (490%) - Duration : 11ms - Number of shocks : 3 both axial directions, 3 times each, 18 times in total - Test voltage : 5V d.c. - Test current : 1mA d.c.
9. Humidity	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
10. Temperature cycle	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- 40±3(°C) : 30 minutes → - 85±2(°C) : 30 minutes, 5 cycles
11. Solder heat resistance	- No have something wrong of push functions. - No have deformation and fall off. - No have something wrong outward appearance and structure.	Reflow condition. (Refer to Reflow)



Materials / Finish

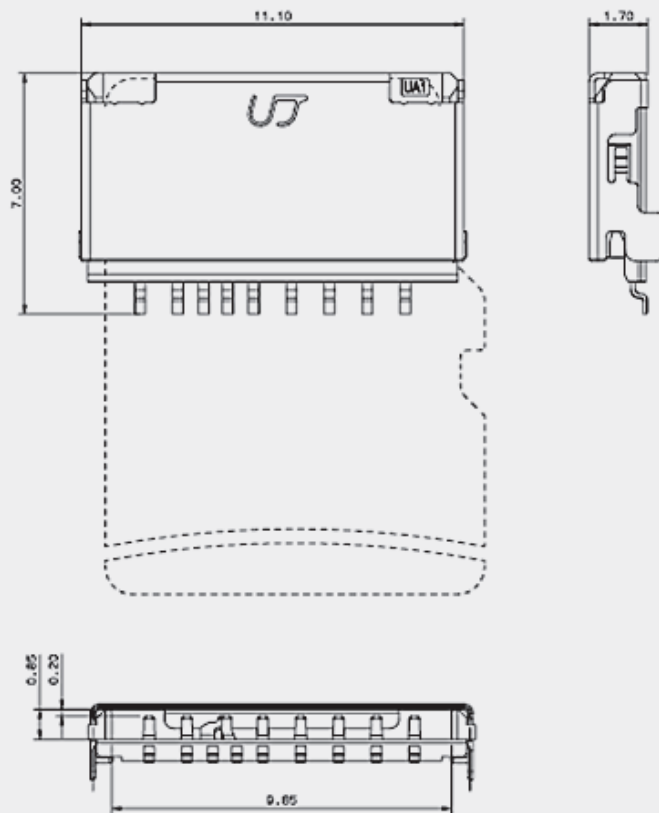
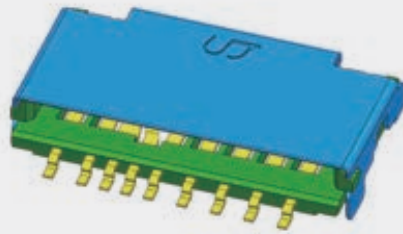
Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Terminal	Copper Alloy	Au-Pd , Ni plated	-
Cover	Stainless Steel	Ni plated	-

SIM and Memory Card Socket Connector

SQ

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Drawing

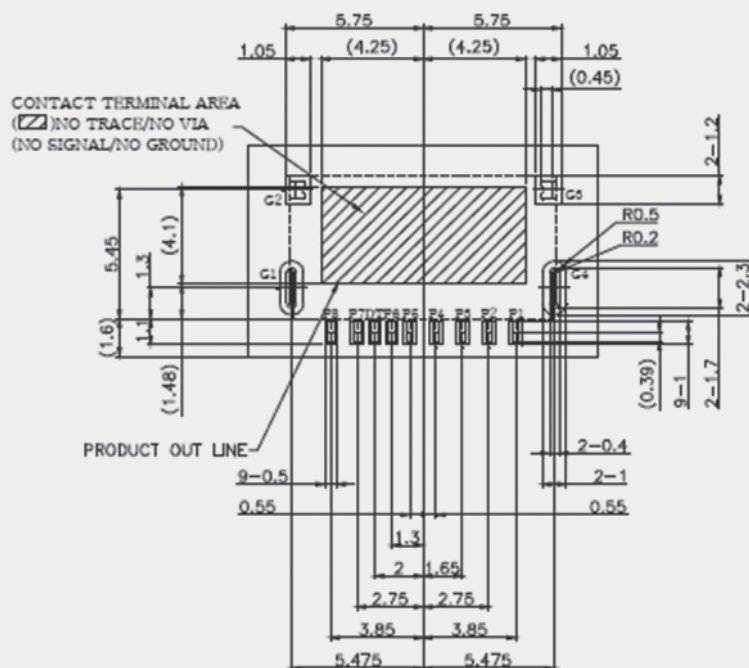


SIM and Memory Card Socket Connector



Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

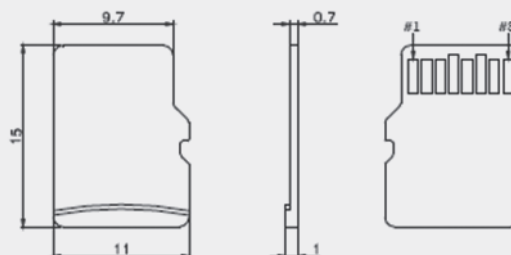
Recommended PCB Dimensions



RECOMMENDED P.C.B LAYOUT (MOUNTING FACE SIDE)
 ALL TOLERANCE NOT DESCRIBED ARE ± 0.05
 (RECOMMEND METAL MASK T=0.10mm)

[more SD CARD PIN-MAP]

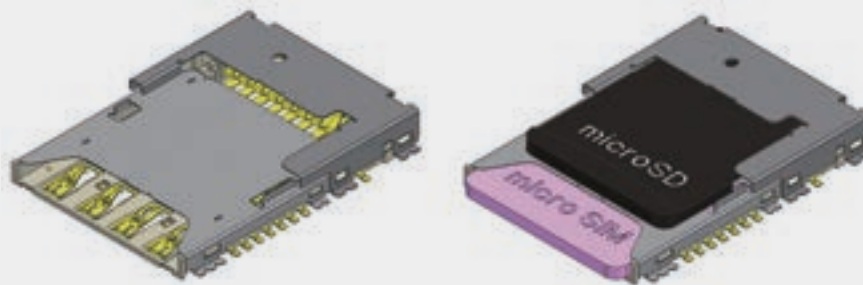
Pin No.	Description
P1	DAT2
P2	CD/DAT8
P3	CMD
P4	Vdd
P5	CLK
P6	V _{cc}
P7	Detect
P8	DAT0
P9	DAT1
G1-G4	GND



SIM and Memory Card Socket Connector

UCS2

Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car



- ▶ Micro-SIM / Micro-SD Combo Socket
- ▶ SD & SIM Terminal deformation prevention structure
- ▶ Switch OFF-ON Structure

Specifications

Current Rating	Contact Resistance	Insulation Resistance	Dielectric Strength	Temperature Range
0.5A/Pin	80mΩ [Max.]	1,000MΩ [Min.]	AC 500V	-40°C ~ 85°C

Mating Size & Product No.

PINS	PITCH	WIDTH	HEIGHT	LENGTH	CODE
17	1.10	18.27	2.28	14.10	DS110-C17B-C23-A

SIM and Memory Card Socket Connector



Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

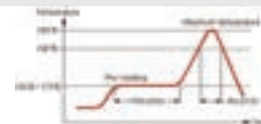
Product Specification

Ratings	Rated current	0.5A/Pin	Operating temperature range	-40°C to +85°C 1	Storage temperature range	-5°C to +40 °C (With packing)
	Rated voltage	Max 10V AC(RMS) or DC	Operating humidity range	10% to 80% RH 2	Storage humidity range	65%RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	1) Micro-SD : 80mΩ [Max.] 2) Micro-SIM : 80mΩ [Max.] 3) Switch : 160mΩ [Max.]	- Open circuit voltage: 20mV. - Test current: 10mA.
2. Insulation resistance	1,000MΩ [Min.]	- Test voltage: 500V d.c. - Test time: 1 minute ± 5 seconds.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 500V for 1minute
4. Card insert & Withdrawal force	1) Insertion Force : 1.0kgf [Max.] 2) Withdrawal Force: 1.0kgf [Max.]	Insert the tray at a rate of 25±3 mm/min. (actual card used)
5. Terminal Retention force (Vertical direction)	0.12kgf [Min.] / Pin	Apply perpendicular pull out force at the speed rate if 25±3 mm/min.
6. Durability	- No defect such as remarkable abrasion, breakage or crack on the component. - MAX. Change from Initial contact resistance 40mΩ MAX.	Repeat insert and withdrawal Card with 4~10 cycles/min speed 1) micro-SIM : 5,000 cycles 2) micro-SD : 10,000 cycles
7. Vibration	Discontinuity : 1.0 microsec. MAX.	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz / Approx 1min. - Duration : 2h each (6h in total)
8. Shock resistance	Discontinuity : 1.0 microsec. MAX.	- Acceleration : 50G (490%) - Duration : 11ms - Number of shocks : 3 both axial directions, 3 times each, 18 times in total - Test voltage : 5V d.c. - Test current : 1mA d.c.
9. Humidity	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
10. Temperature cycle	- MAX. Change from Initial contact resistance 40mΩ MAX. - Insulation resistance : 100MΩ Min	- 55±3(°C) : 30 minutes → - 85±2(°C) : 30 minutes, 5 cycles
11. Solder heat resistance	- No have something wrong of push functions. - No have deformation and fall off. - No have something wrong outward appearance and structure.	Reflow condition. (Refer to Reflow)



Materials / Finish

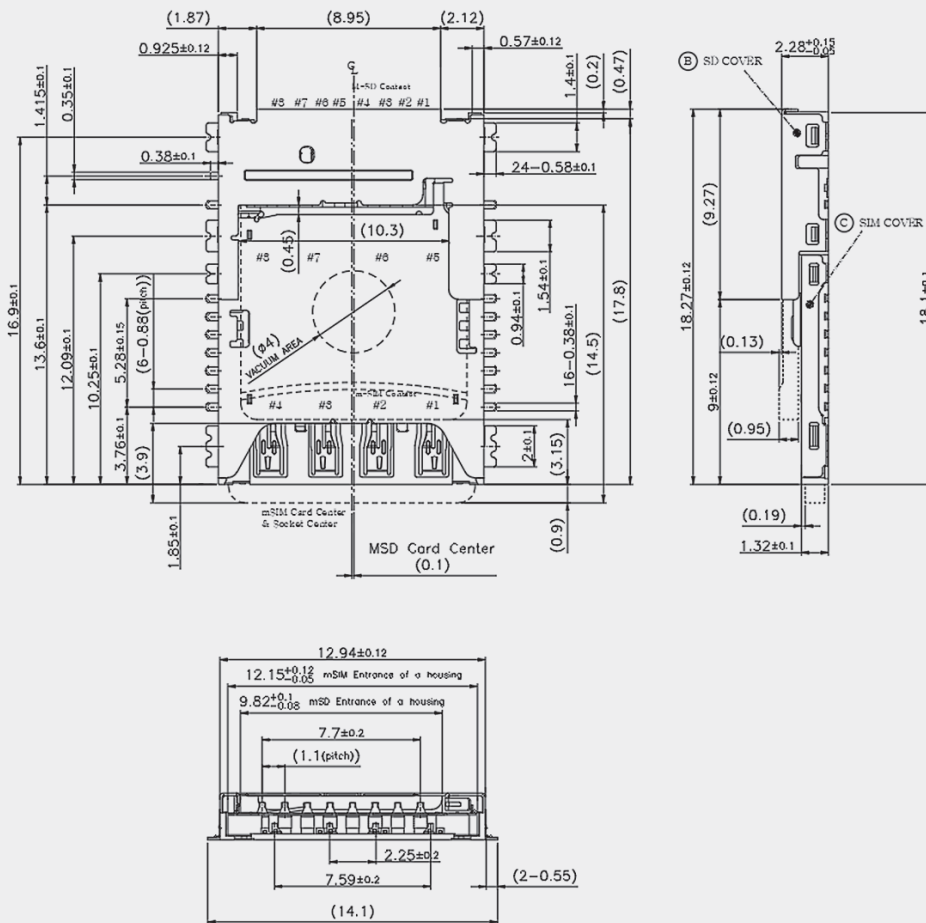
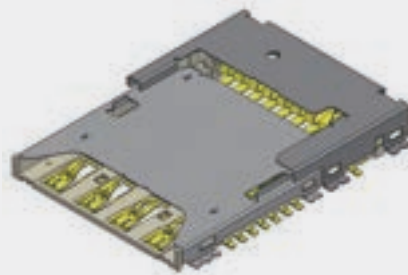
Part	Materials	Finish	UL Regulation
Base	LCP	Natural	UL94V-0
SIM Cover	Stainless Steel	All Ni plated	-
SD Cover	Stainless Steel	All Ni plated	-
Contact Terminal	Copper Alloy	Au - Ni plated	-
Switch Terminal	Phosphor Bronze	Au - Ni plated	-

SIM and Memory Card Socket Connector



Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Product Drawing

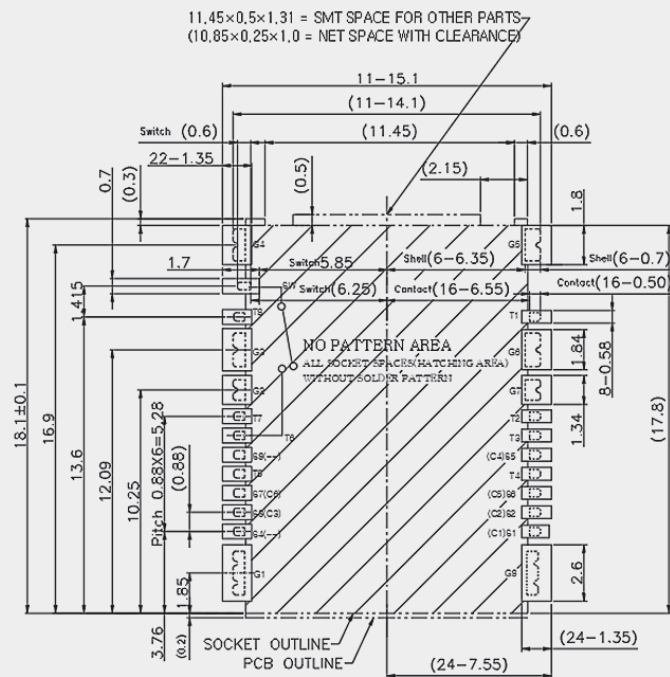


SIM and Memory Card Socket Connector



Applications | Mobile phone, Computer, Laptop, Medical equipment, Video recorder, Smart Car

Recommended PCB Dimensions



RECOMMENDED PCB LAYOUT [FRONT VIEW]
(TOLERANCE : ±0.05)
(RECOMMEND METAL MASK T=0.10mm)

[micro SIM CARD PIN-MAP]

8P	6P	DESCRIPTION
S1	C1	VCC(Supply v)
S2	C2	RST(Reset)
S3	C3	CLK(Clock)
S4	--	Reserved
S5	C4	GND
S6	C5	Vpp(Program)
S7	C6	Vpp(Program)
S8	--	Reserved
G1-G8		GND

[micro SD CARD PIN-MAP]

PIN NO.	DESCRIPTION
T1	DAT 2
T2	CD/DAT 3
T3	CMD
T4	VDD
T5	CLK
T6	VSS (GND)
T7	DAT 0
T8	DAT 1
S/W	CARD DETECTOR

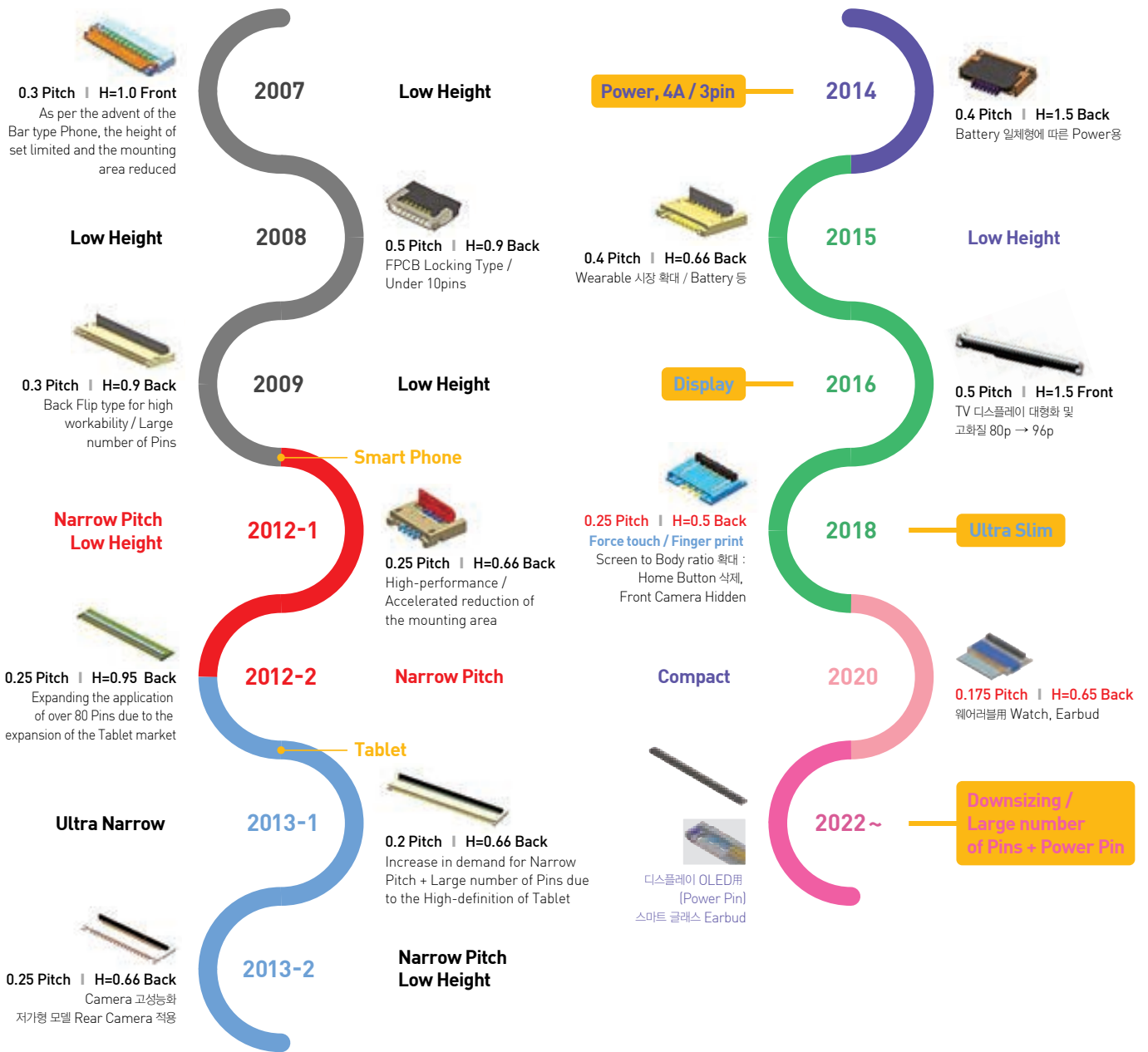
[Circuit diagram for Detection Switch of micro-SD card]

Card insertion condition	Card detect switch	Circuit mSD #6pin Switch terminal
Without Card	Open	
Card insertion	Close	

FPC/FFC Connectors

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Road Map



Downsizing (Lower height, Narrower pitch) until 2014



Replaced with BtoB due to changes in assembly structure of Smartphone

FPC/FFC Connectors

(Mobile)

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Mating Size / Unit : (mm) / Please click images to see detail

Item	Pitch (mm)	PINS	Width (mm)	Height (mm)	Current	Page
 FJ	0.18	17	3.20	0.65	Signal 0.2A [Max.] Power 1.0A [Max.]	122 page
 NAMU	0.25	8, 12, 14, 35	3.80	0.66	Signal 0.2A Max.	128 page
 2580S	0.25	80	4.25	1.06	0.2A Max.	133 page
 KARA	0.30	21	3.45	0.95	0.2A Max.	138 page
 0.3 F/F Short	0.30	13, 25, 31, 39, 45, 61	3.20	1.00	0.2A Max	143 page
 0.3 F/F Long	0.30	13, 31, 61	3.45	1.00	0.2A Max.	148 page
 0.3 B/F Series	0.30	31, 45	4.93	0.90	0.2A Max	153 page
 FK	0.40	110	5.50	1.50	Signal 0.4A [Max.] Power 13A [Max.]	157 page
 0.4 B/F Series	0.40	9	3.00	0.90	0.5A Max.	161 page
 007A	0.50	7	5.30	1.50	1.0A Max.	166 page
 Narrow Type	0.50	30, 40, 60	5.00	2.10	0.5A Max.	171 page
 0.5 B/F Series	0.50	4, 6	3.70	0.90	0.4A Max.	175 page

Product Number Structure

P F 050 - B 07 B - C 15 - B

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① **Product : Board To Board**

② **Part**

- F : Female(Receptacle)
- M : Male(Plug)

③ **Pitch**

- ex) 030 : 0.30mm
- 035 : 0.35mm

④ **Base Assembled**

- I : Insert Injection
- V : Manual Assembled

⑤ **Contact Pins**

- ex) 60 : 60pins
- 78 : 78pins

⑥ **Mounting Type**

- B : SMT
- D : SMD

⑦ **Housing Design**

- C : Robust
- N : Non

⑧ **Height**

- ex) 06 : 0.6mm
- 08 : 0.8mm

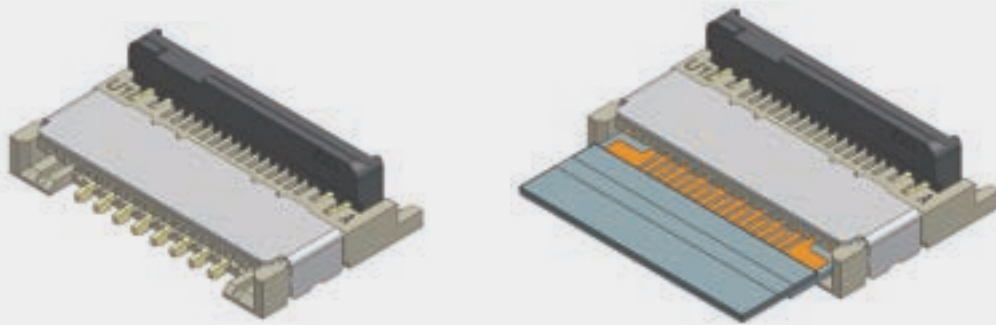
⑨ **Version**

FPC/FFC Connectors

(Mobile)



Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC



- ▶ 0.175mm Pitch, 0.65mm Height, Ultra narrow and compact design
- ▶ Easy to Insert FPC and operate Actuator Back-lock system
- ▶ High FPC Retention force with both Locking Terminal
- ▶ Capable of High Current up to 1A with Both Power Terminal
- ▶ Enhanced strength of damage by applying the shell cover
- ▶ Applicable for FPC thickness is 0.12±0.02mm

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF018-C17B-N07	0.175	17	3.20	0.65	4.66	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
Signal 0.2A [Max.] Power 1.0A [Max.]	200mΩ Max.	200V AC(RMS)	-35°C ~ 85°C

FPC/FFC Connectors (Mobile)



Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

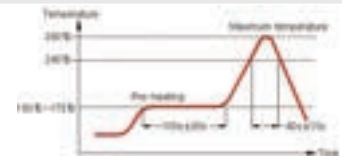
Product Specification

Ratings	Rated current	0.2A Max. (Signal) 1.0A Max (Power)	Operating temperature range	-35°C to +85°C	Storage temperature range	+15°C to +35 °C
	Rated voltage	50V r.m.s	Operating humidity range	85% RH 2	Storage humidity range	65% RH

- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC Specification T=0.12±0.02mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	200mΩ Max. / contact	Closed circuit Current : 500mA Open circuit voltage : 20mV Max.
2. Insulation resistance	50MΩ Min.	Test voltage : 250V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 200V for 1minute
4. Actuator operation forces	0.8kgf Max.	Push the Actuator Open/ Close direction at a speed of 25mm/min and measured Actuator operation force.
5. FPC retention force	0.5kgf Min.	Pull the FPC from a connector at a speed of 25mm/min and measured extraction force.
6. Durability	No damage or mechanical defect Contact resistance : 200mΩ Max. / contact	Number of cycles : 10 cycles.
7. Vibration	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out Contact resistance : 200mΩ Max. / contact	Amplitude: 1.5mm Acceleration: 15m/s² Frequency: 10~55~10Hz Duration : X,Y,Z axis each 30minutes.
8. Shock	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out	On concrete : 1.8m Height, six axis 3 times, 150g total weight On tile : 0.1m Height, XYZ axis 3,500 times, 150g total weight
9. Humidity	No damage or mechanical defect Contact resistance : 200mΩ Max. / contact Insulation Resistance : 50MΩ Min.	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
10. Temperature cycle	No damage or mechanical defect Contact resistance : 200mΩ Max. / contact Insulation Resistance : 50MΩ Min.	Temperature : 25~65~25~65~25~-10~25°C Humidity : 90% ~ 95% 5 cycles
11. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirement 3.s of each drawings.	Reflow condition. (Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Base	LCP	Natural Color	UL94V-0
Actuator	PA	Black	UL94V-0
Contact Terminal A	Phosphor Bronze	Au over Nickel	-
Contact Terminal B	Phosphor Bronze	Au over Nickel	-
Power Terminal	Copper Alloy	Au over Nickel	-
Locking Terminal	Phosphor Bronze	Au over Nickel	-
Shell Cover	Phosphor Bronze	Au over Nickel	-

FPC/FFC Connectors (Mobile)

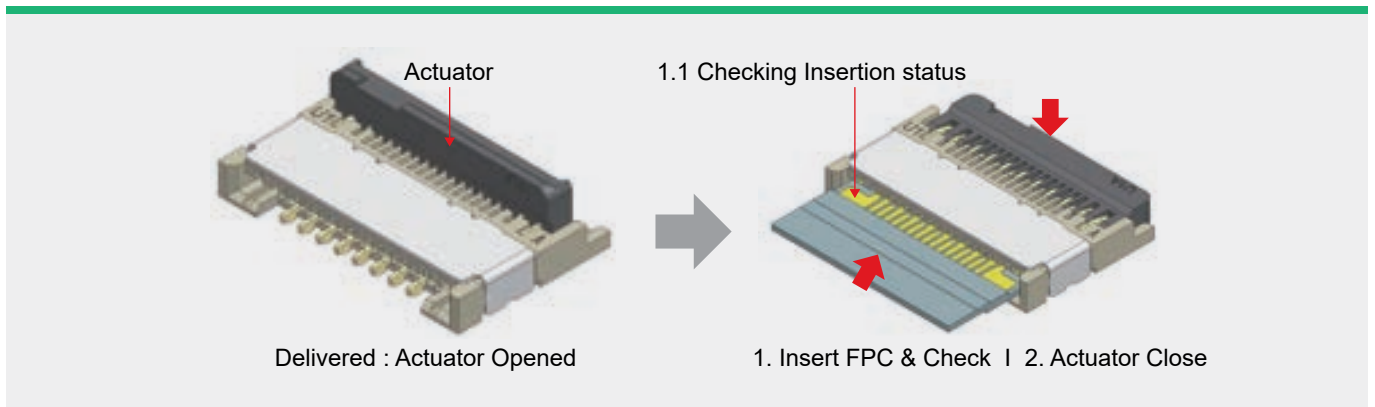


Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

FEATURES AND ADVANTAGES

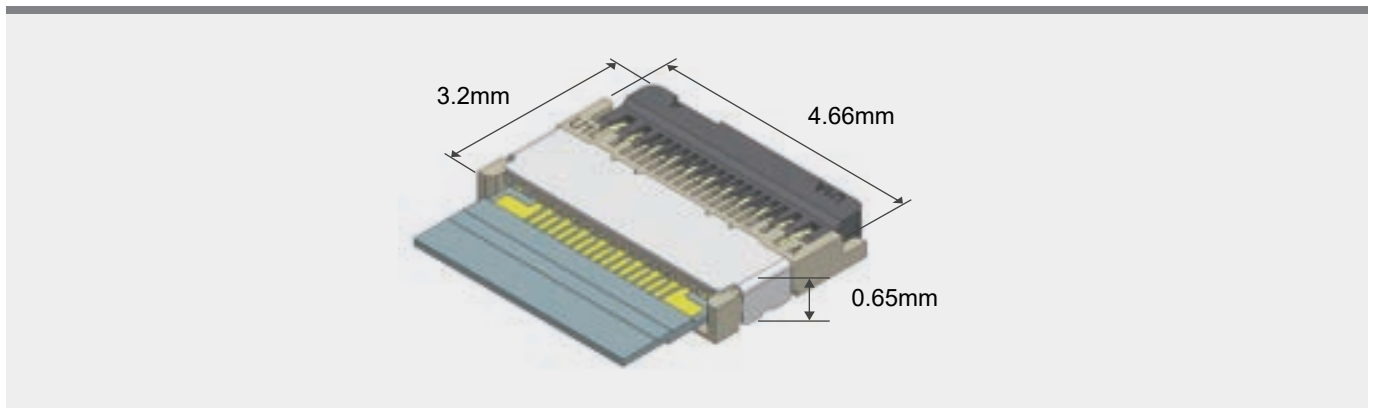
► **Easy to Insert FPC and operate Actuator close**

Upper contact, Back Lock System



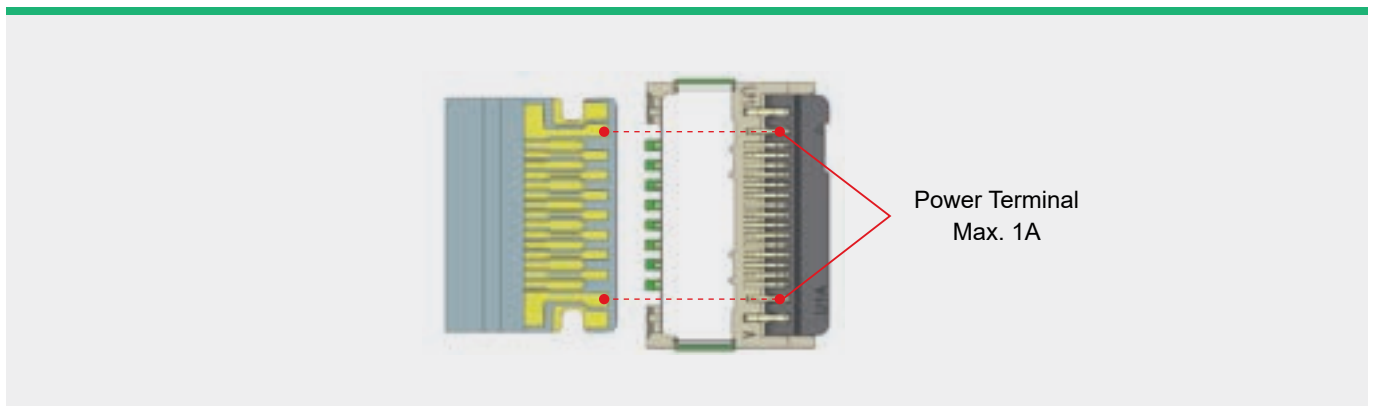
► **Ultra-low profile & Space-saving**

0.175 mm Pitch, 0.65mm Height



► **Capable of High Current**

Both Power Terminals can allow current to 1A



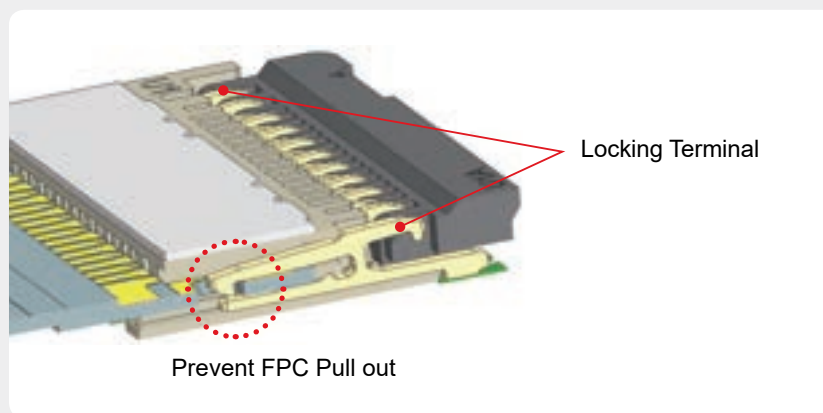
FPC/FFC Connectors (Mobile)



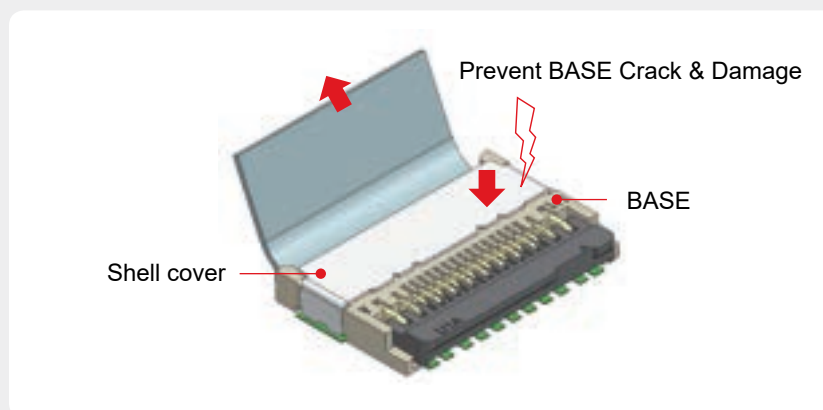
Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

FEATURES AND ADVANTAGES

- ▶ **High FPC Retention Force**
Both Locking Terminal is holding FPC



- ▶ **Design to strengthen against damage**
Reinforced Shell Cover Prevents the Base is Damaged

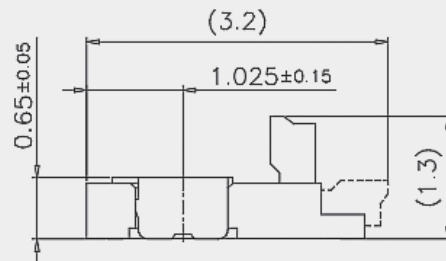
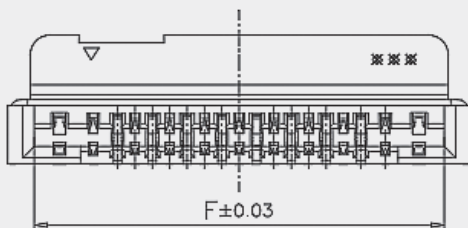
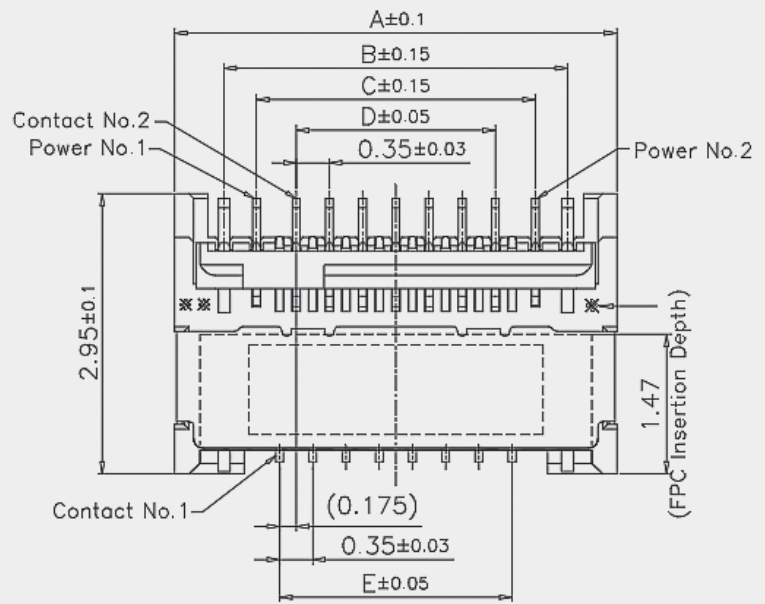
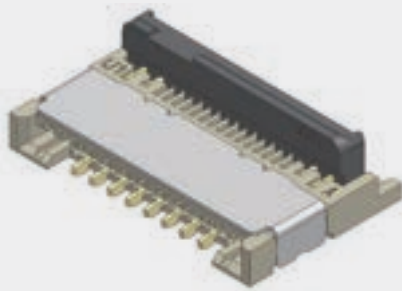


FPC/FFC Connectors (Mobile)



Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Drawing



Mating Size / Unit : (mm)

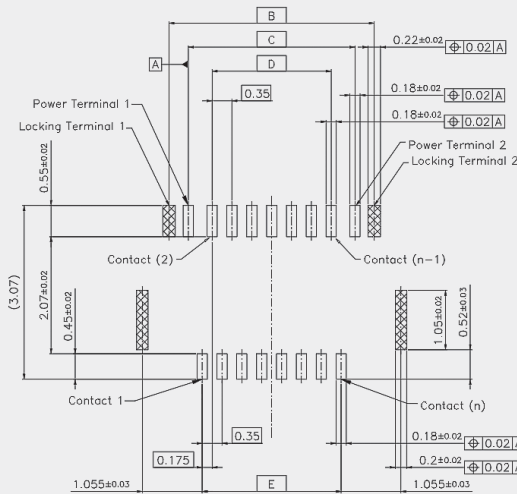
Product No.	No. of Contacts	A	B	C	D	E	F
PF018-C17B-N07	17	4.66	3.62	2.94	2.10	2.45	4.13

FPC/FFC Connectors (Mobile)

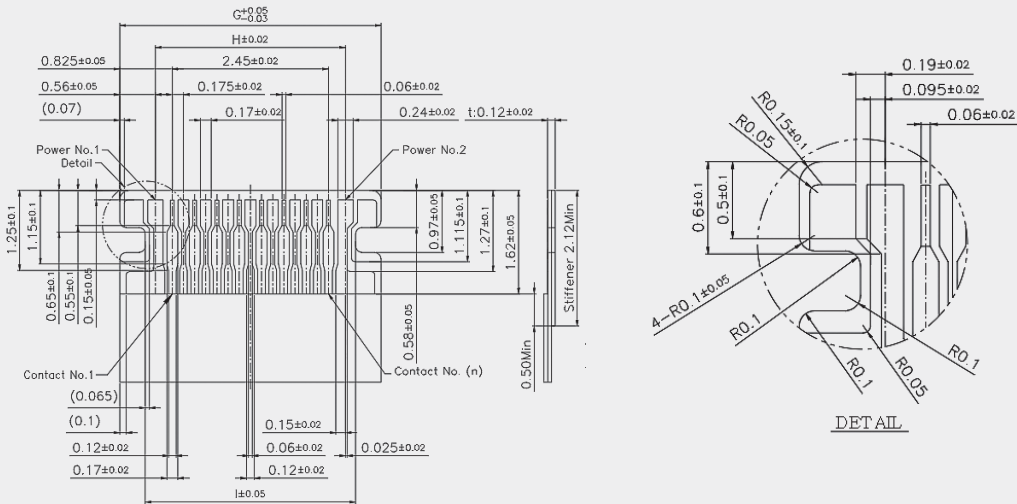


Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Recommended PCB , Metal Mask Layout



Recommended FPC Dimensions



Mating Size / Unit : (mm)

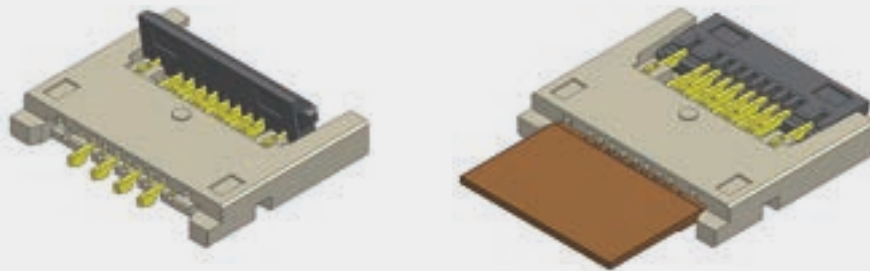
Product No.	No. of Contacts	B	C	D	E	G	H	I
PF018-C17B-N07	17	3.62	2.94	2.10	2.45	4.10	2.98	3.30

FPC/FFC Connectors

(Mobile)



Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC



- ▶ 0.25mm Pitch, 0.66mm Height, Ultra narrow and compact design
- ▶ Easy to Insert FPC and operate Actuator Back-lock system
- ▶ High FPC Retention force with both Locking Terminal
- ▶ Applicable for FPC thickness is 0.12±0.015mm

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF025-B08B-N07	0.25	8	3.8	0.66	4.25	-
PF025-B12B-N07	0.25	12	3.8	0.66	5.25	-
PF025-B14B-N07	0.25	14	3.8	0.66	5.75	-
PF025-B35B-N07	0.25	35	3.8	0.66	11.0	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
Signal 0.2A Max.	80mΩ Max.	200V AC(RMS)	-35°C ~ 85°C

FPC/FFC Connectors (Mobile)



Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Specification

Ratings	Rated current	0.2A Max	Operating temperature range	-35°C to +85°C	Storage temperature range	+15°C to +35 °C
	Rated voltage	50V r.m.s	Operating humidity range	85% RH 2	Storage humidity range	65% RH

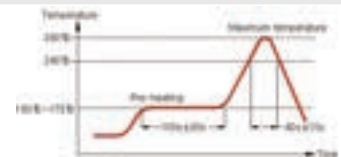
- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC Specification T=0.12±0.015mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	80mΩ Max. / contact	Closed circuit Current : 500mA Open circuit voltage : 20mV Max.
2. Insulation resistance	50MΩ Min.	Test voltage : 250V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 200V for 1minute
4. Actuator operation forces	(0.15 x contacts) kgf Max.	Push the Actuator Open/ Close direction at a speed of 25mm/min and measured Actuator operation force.
5. FPC retention force	Number of contact ≤ 20pins : 0.40kgf Min. Number of contact ≥ 21pins : 0.51kgf Min.	Pull the FPC from a connector at a speed of 25mm/min and measured extraction force.
6. Durability	No damage or mechanical defect Contact resistance : 200mΩ Max. / contact	Number of cycles : 10 cycles.
7. Vibration	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out Contact resistance : 200mΩ Max. / contact	Amplitude: 1.5mm Acceleration: 15% Frequency: 10~55~10Hz Duration : X,Y,Z axis each 30minutes.
8. Shock	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out	On concrete : 1.8m Height, six axis 3 times, 150g total weight On tile : 0.1m Height, XYZ axis 3,500 times, 150g total weight
9. Humidity	No damage or mechanical defect Contact resistance : 80mΩ Max. / contact Insulation Resistance : 50MΩ Min.	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
10. Temperature cycle	No damage or mechanical defect Contact resistance : 80mΩ Max. / contact Insulation Resistance : 50MΩ Min.	Temperature : 25~65~25~65~25~-10~25°C Humidity : 90% ~ 95% 5 cycles

11. Solder heat resistance
- Visual inspection : Connector shall meet the design and dimensional requirement 3.s of each drawings.

Reflow condition.
(Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Base	LCP	Natural Color	UL94V-0
Actuator	PPS	Black	UL94V-0
Contact Terminal A	Phosphor Bronze	Au over Nickel	-
Contact Terminal B	Phosphor Bronze	Au over Nickel	-
Locking Terminal	Phosphor Bronze	Au over Nickel	-

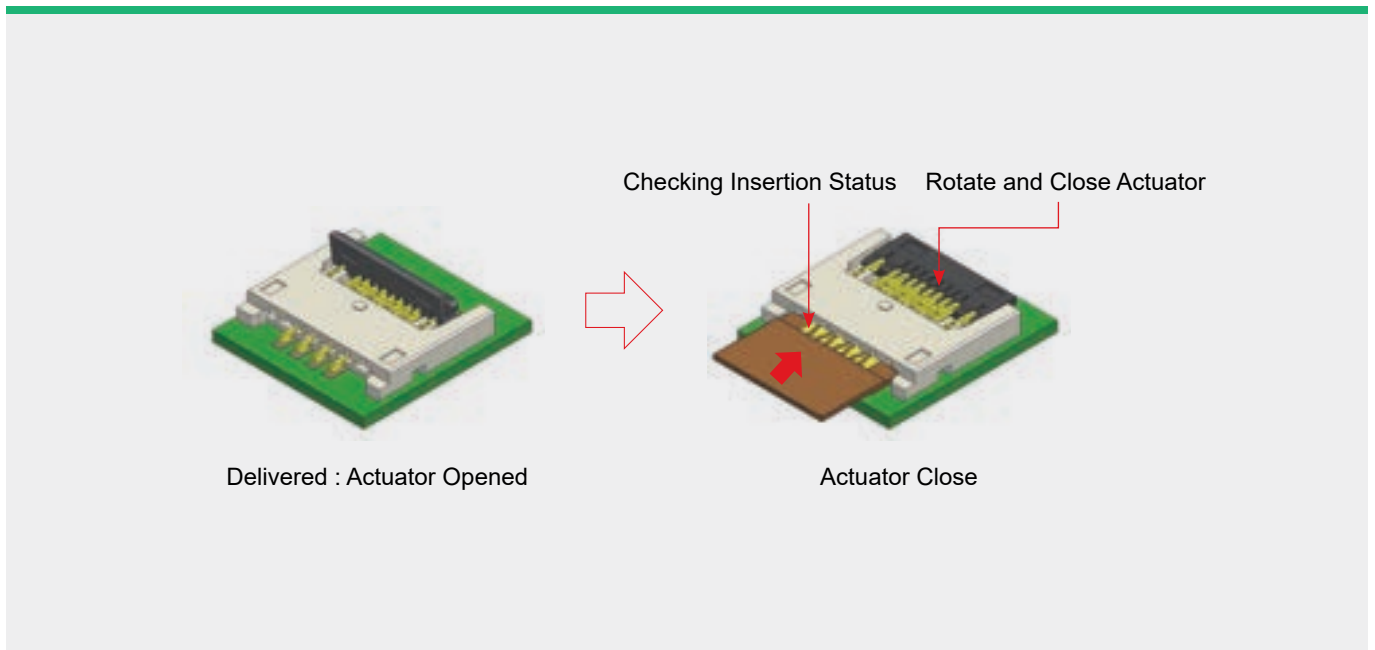
FPC/FFC Connectors (Mobile)



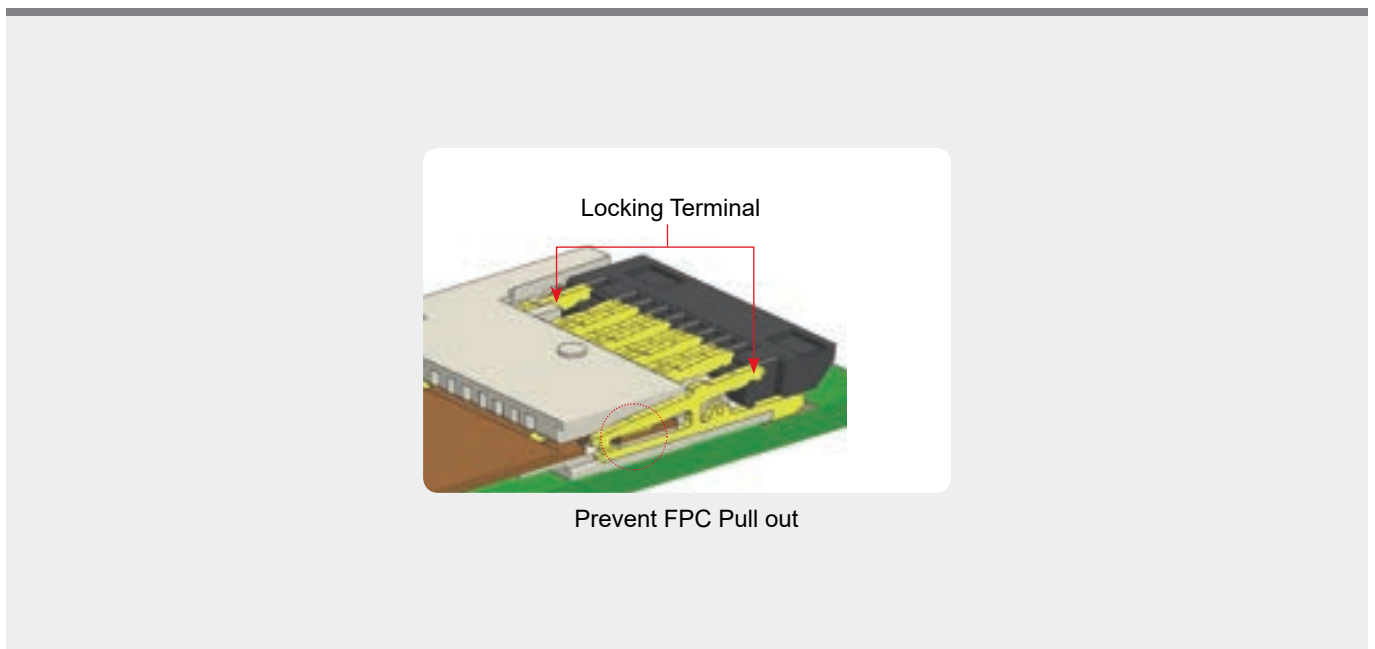
Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

FEATURES AND ADVANTAGES

- ▶ **Easy to Insert FPC and operate Actuator close**
Both Upper and Lower contact, Back Lock System



- ▶ **High FPC Retention Force**
Both Locking Terminal is holding FPC

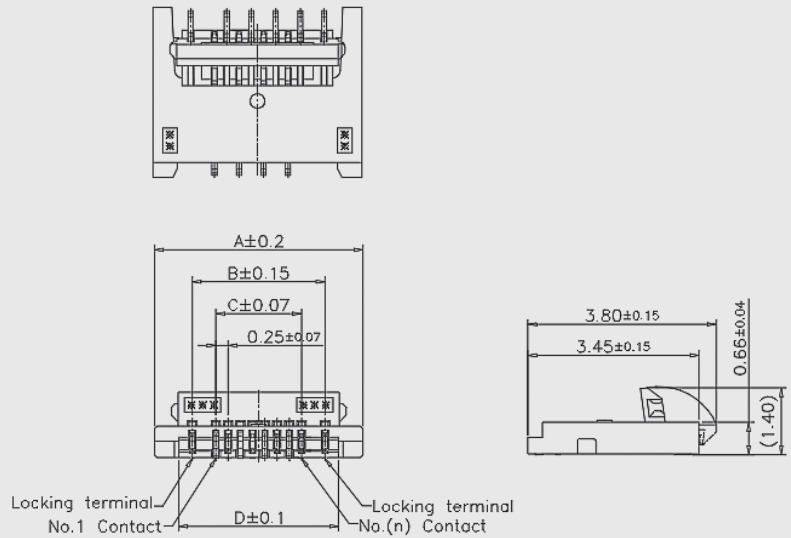
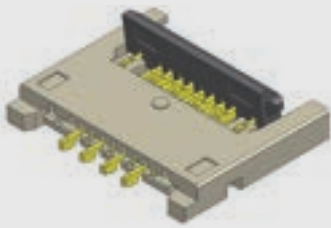




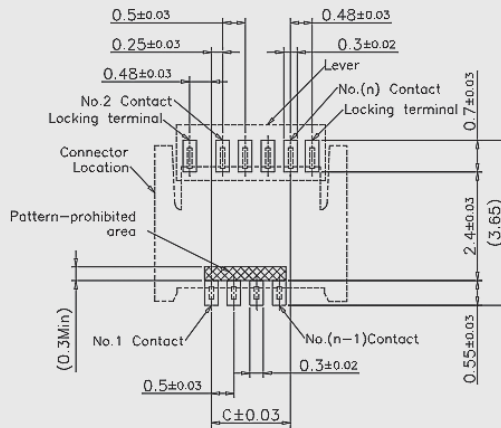
FPC/FFC Connectors (Mobile)

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Drawing



Recommended PCB , Metal Mask Layout



Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
PF025-B08B-N07	8	4.25	2.71	1.75	3.26
PF025-B12B-N07	12	5.25	3.71	2.75	4.26
PF025-B14B-N07	14	5.75	4.21	3.25	4.76
PF025-B35B-N07	35	11.00	9.46	8.50	10.01

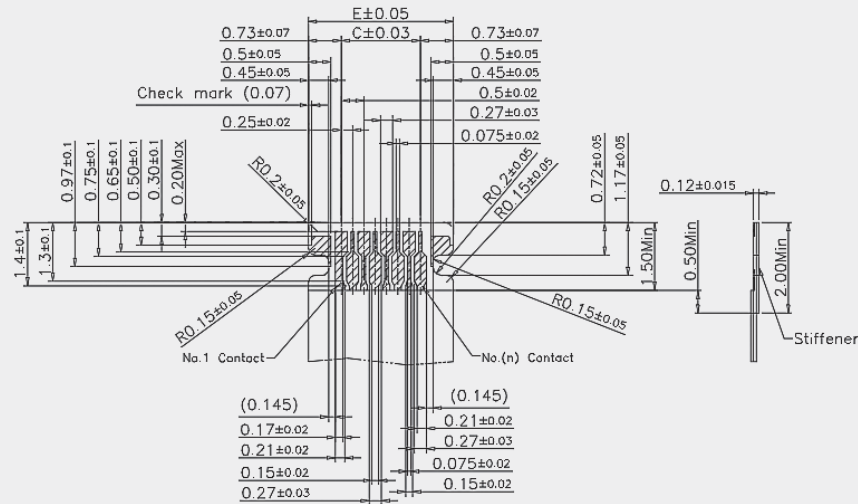
FPC/FFC Connectors

(Mobile)

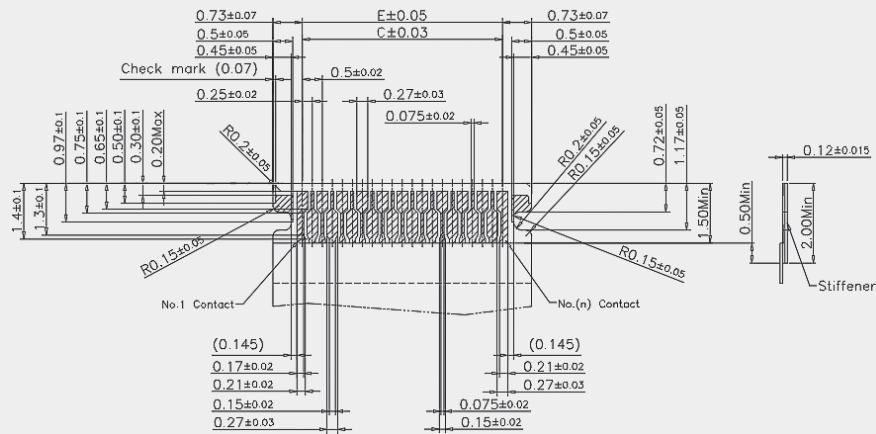


Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Recommended FPC Dimensions



[Applicable for the Even number contacts]



[Applicable for the Even number contacts]

Mating Size / Unit : (mm)

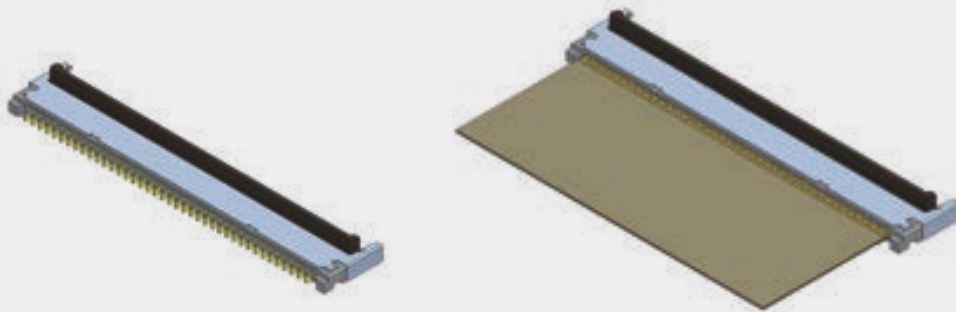
Product No.	No. of Contacts	C	E
PF025-B08B-N07	8	1.75	3.21
PF025-B12B-N07	12	2.75	4.21
PF025-B14B-N07	14	3.25	4.71
PF025-B35B-N07	35	8.5	9.96

FPC/FFC Connectors

(Mobile)

2580S

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC



- ▶ 0.25mm Pitch, 1.06mm Height, Low and upper both contact
- ▶ Easy to Insert FPC and operate Actuator Back-lock system
- ▶ Both upper and lower contacts design accepts any FPC insertion directions.
- ▶ Improved robustness by attaching a metal shell.

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF025-B80B-C11	0.25	80	4.25	1.06	22.15	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
0.2A Max.	50mΩ Max.	200V AC(RMS)	-35°C ~ 85°C

FPC/FFC Connectors (Mobile)

2580S

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Specification

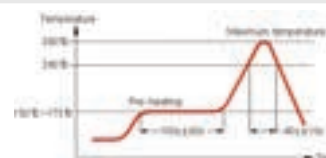
Ratings	Rated current	0.2A Max	Operating temperature range	-35°C to +85°C	Storage temperature range	+15°C to +35 °C
	Rated voltage	50V r.m.s	Operating humidity range	85% RH 2	Storage humidity range	65% RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC Specification T=0.14±0.02mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	50mΩ Max. / contact	Closed circuit Current : 0.5mA. Open circuit voltage : 20mV Max.
2. Insulation resistance	50MΩ Min. / contact	Test voltage : 250V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 200V for 1minute
4. Actuator operation forces	2.4kgf Max.	Push the Actuator Open/ Close direction at a speed of 25mm/min and measured Actuator operation force.
5. FPC retention force	1.2kgf Min.	Pull the FPC from a connector at a speed of 25mm/min and measured extraction force.
6. Durability	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact	Number of cycles : 10 cycles.
7. Vibration	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out Contact resistance : 50mΩ Max. / contact	Amplitude: 1.5mm Acceleration: 15% Frequency: 10~55Hz Duration : X,Y,Z axis each 30minutes.
8. Humidity	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact Insulation Resistance : 50MΩ Min.	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	No loose contacts no deformation.	Reflow condition. (Refer to Reflow)



Materials / Finish

Part	Materials	Finish	UL Regulation
Base	PA	Black	UL94V-0
Actuator	PPS	Black	UL94V-0
Contact Terminal	Phosphor Bronze	Au over Nickel	-
Cover	Phosphor Bronze	Au over Nickel	-

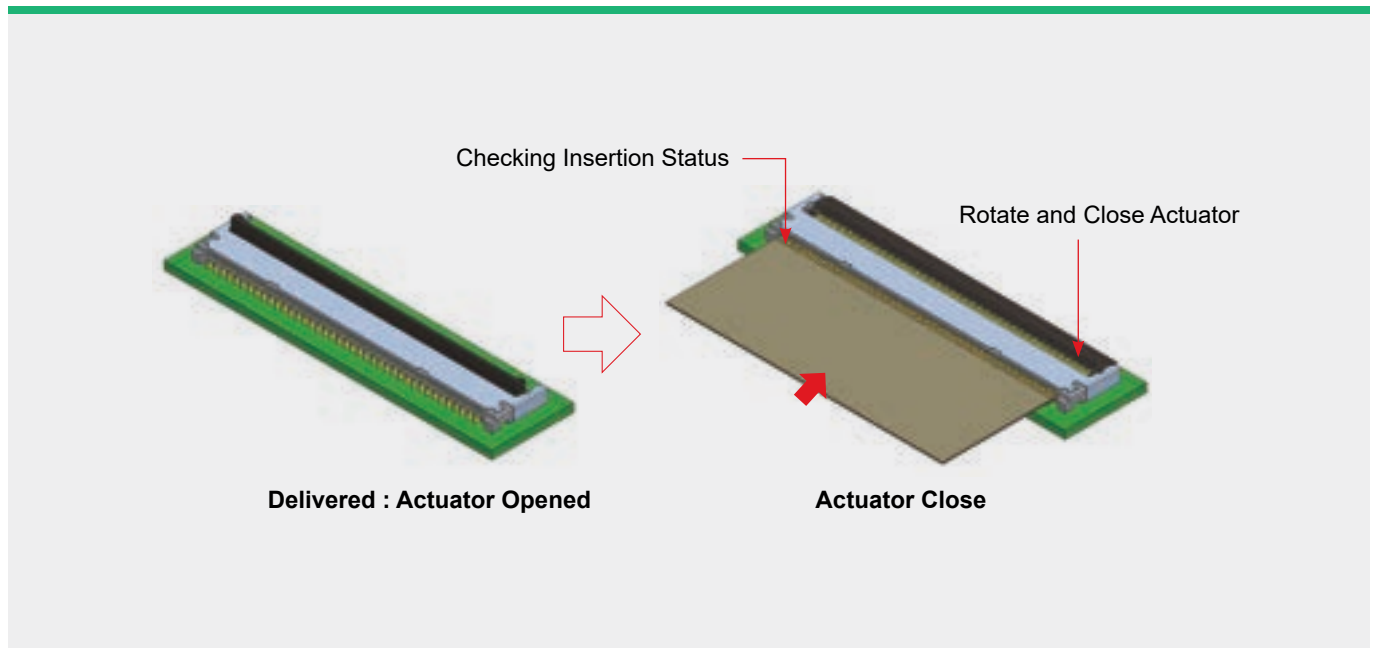
FPC/FFC Connectors (Mobile)

2580S

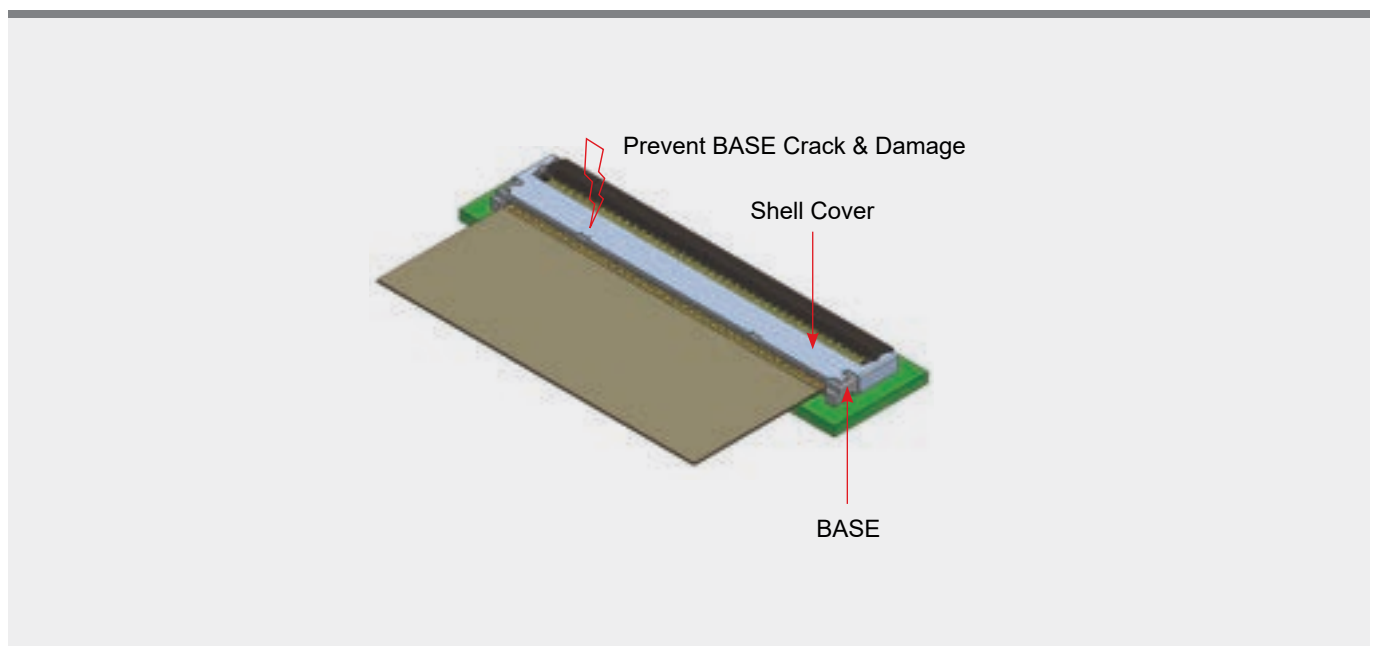
Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

FEATURES AND ADVANTAGES

- ▶ **Easy to Insert FPC and operate Actuator close**
Both Upper and Lower contact, Back Lock System



- ▶ **Design to strengthen against damage**
Reinforced Shell Cover Prevents the Base is Damaged

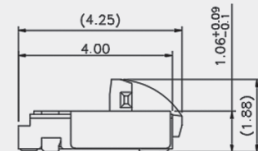
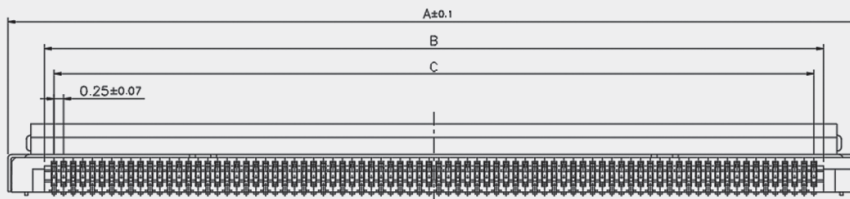
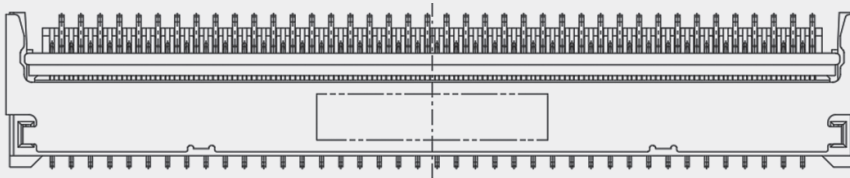
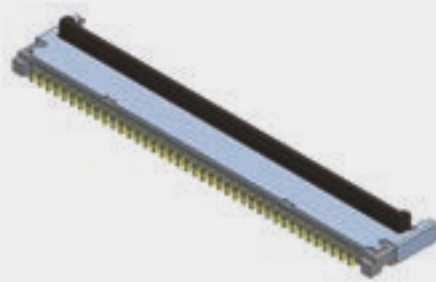


FPC/FFC Connectors (Mobile)

2580S

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Drawing



Mating Size / Unit : (mm)

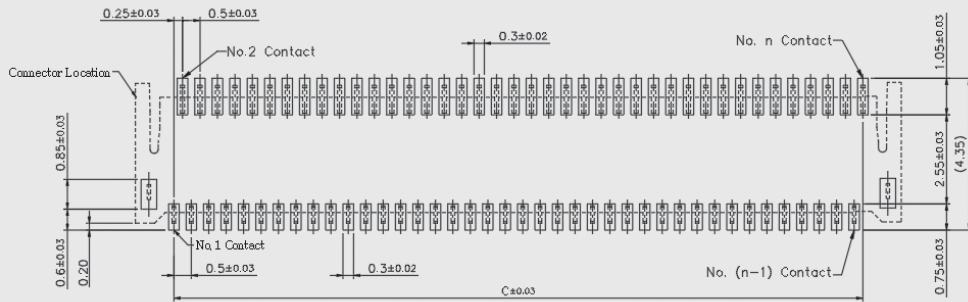
Product No.	No. of Contacts	A	B	C
PF025-B80B-C11	80	22.15	20.25	19.75

FPC/FFC Connectors (Mobile)

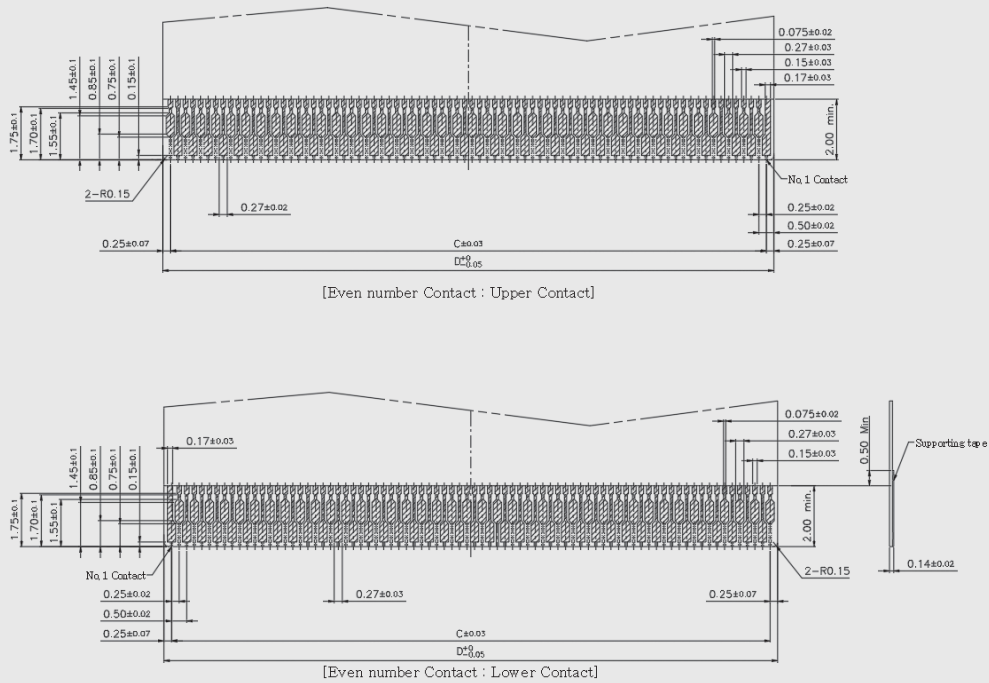
2580S

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Recommended PCB Layout, Metal Mask dimensions



Recommended PCB Layout, Metal Mask dimensions



Mating Size / Unit : (mm)

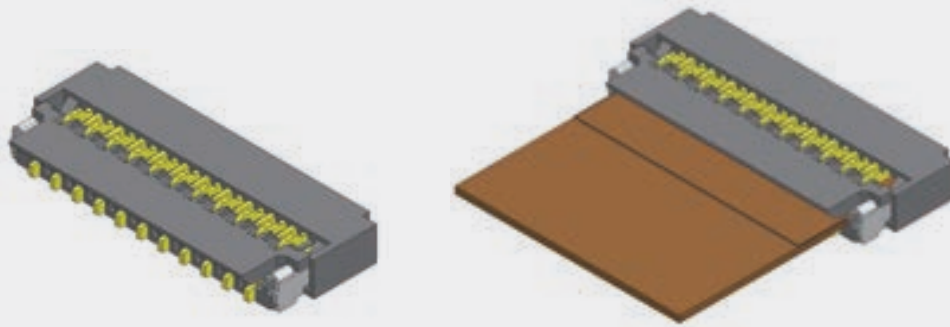
Product No.	No. of Contacts	C	D
PF025-B80B-C11	80	19.75	20.25

FPC/FFC Connectors

(Mobile)

KARA

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC



- ▶ 0.3mm Pitch, 0.95mm Height, Low-contact, Right Angle Type
- ▶ Easy FPC Insertion (ZIF)
- ▶ Applicable for FPC thickness is 0.20±0.03mm

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF030-O21B-C09-A	0.30	21	3.45	0.95	7.80	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
0.2A Max.	50mΩ Max.	200V AC(RMS)	-35°C ~ 85°C

FPC/FFC Connectors (Mobile)

KARA

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

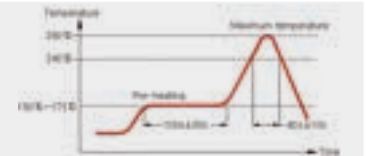
Product Specification

Ratings	Rated current	0.2A Max	Operating temperature range	-35°C to +85°C	Storage temperature range	+15°C to +35°C
	Rated voltage	30V r.m.s	Operating humidity range	85% RH 2	Storage humidity range	65% RH

- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC Specification T=0.20±0.03mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	100mΩ Max. / contact	Closed circuit Current : 1mA. Open circuit voltage : 20mV Max.
2. Insulation resistance	50MΩ Min. / contact	Test voltage : 500V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 200V for 1minute
4. Actuator operation forces	0.063kgf Min.	Push the Actuator Open/ Close direction at a speed of 25mm/min and measured Actuator operation force.
5. FPC retention force	0.42kgf Min.	Pull the FPC from a connector at a speed of 25mm/min and measured extraction force.
6. Durability	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact	Number of cycles : 10 cycles.
7. Vibration	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out Contact resistance : 100mΩ Max. / contact	Amplitude: 1.5mm Frequency: 10~500Hz Duration : X,Y,Z axis each 30minutes.
8. Shock	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out Contact resistance : 100mΩ Max. / contact	Acceleration : 50G (490%) Duration : 11ms Number of shocks : 3 times per each direction Test current : 100mA
9. Humidity	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact Insulation Resistance : 500MΩ Min.	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
10. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.	Reflow : Refer to the recommended reflow condition.



Materials / Finish

Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Actuator	PPS	Black	UL94V-0
Contact Terminal	Phosphor Bronze	Au over Nickel	-
Fitting Nail	Phosphor Bronze	Sn	-

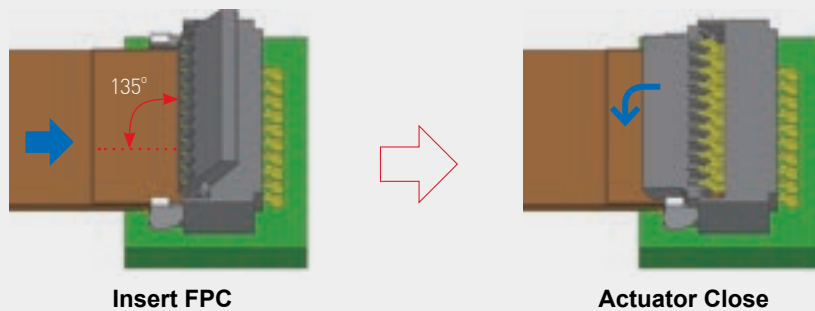
FPC/FFC Connectors (Mobile)

KARA

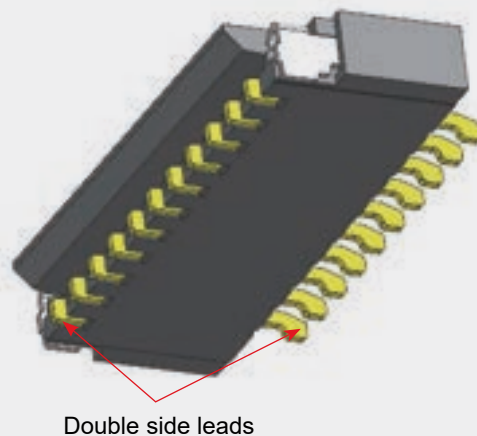
Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

FEATURES AND ADVANTAGES

- ▶ **Superior Operability with Flip Lock and ZIF mechanism**
Easy to insert FPC and confirm tactile click clearly



- ▶ **Double side leads enhances Solder peeling Strength**

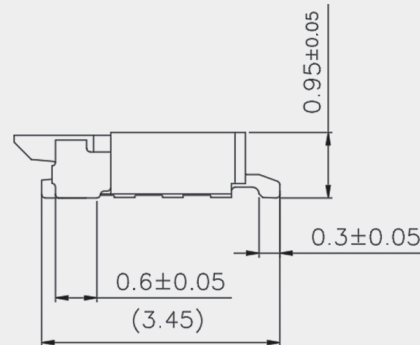
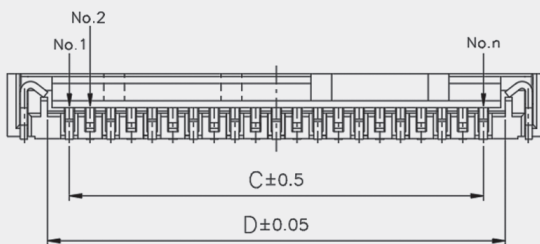
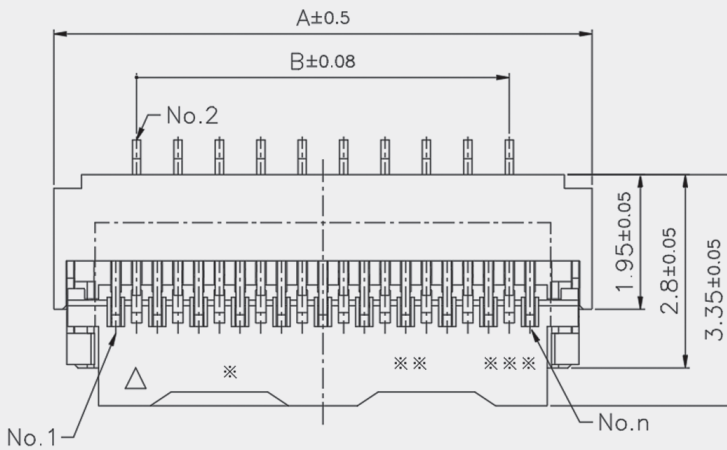
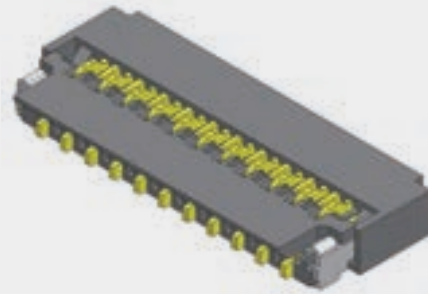


FPC/FFC Connectors (Mobile)



Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Drawing



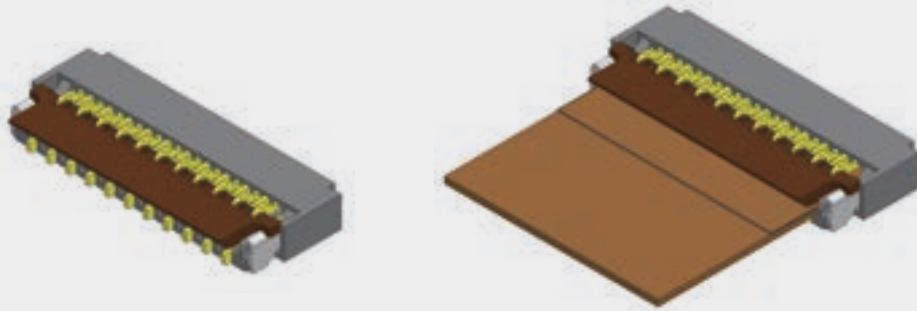
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
PF030-O21B-C09-A	21	7.80	5.40	6.00	6.63

FPC/FFC Connectors (Mobile)

0.3 F/F Short

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC



- ▶ 0.3mm Pitch, 1.0mm Height, Low-contact, Right Angle Type
- ▶ Easy FPC Insertion (ZIF)
- ▶ Applicable for FPC thickness is 0.20±0.03mm

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF030-O13B-C10-H	0.30	13	3.20	1.00	5.40	-
PF030-O25B-C10-H	0.30	25	3.20	1.00	9.00	-
PF030-O31B-C10-H	0.30	31	3.20	1.00	10.80	-
PF030-O39B-C10-H	0.30	39	3.20	1.00	13.20	-
PF030-O45B-C10-H	0.30	45	3.20	1.00	15.00	-
PF030-O61B-C10-H	0.30	61	3.20	1.00	19.80	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
0.2A MAX	100mΩ Max.	200V AC(RMS)	-35°C ~ 85°C

FPC/FFC Connectors (Mobile)

0.3 F/F Short

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

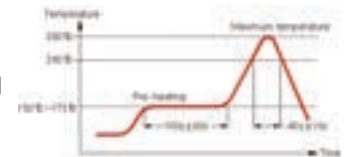
Product Specification

Ratings	Rated current	0.2A Max	Operating temperature range	-35°C to +85°C	Storage temperature range	+15°C to +35 °C
	Rated voltage	30V r.m.s	Operating humidity range	85% RH 2	Storage humidity range	65% RH

- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC Specification T=0.20±0.03mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	100mΩ Max. / contact	Closed circuit Current : 1mA. Open circuit voltage : 20mV Max.
2. Insulation resistance	50MΩ Min. / contact	Test voltage : 500V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 200V for 1minute
4. Actuator operation forces	0.003kgf x (N) Min. (N)=pins	Push the Actuator Open/ Close direction at a speed of 25mm/min and measured Actuator operation force.
5. FPC retention force	0.02kgf x (N) Min. (N)=pins	Pull the FPC from a connector at a speed of 25mm/min and measured extraction force.
6. Durability	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact	Number of cycles : 10 cycles.
7. Vibration	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out Contact resistance : 100mΩ Max. / contact	Amplitude: 1.5mm Frequency: 10~500Hz Duration : X,Y,Z axis each 30minutes.
8. Humidity	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact Insulation Resistance : 50MΩ Min.	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.	Reflow : Refer to the recommended reflow condition.



Materials / Finish

Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Actuator	PA	Brown	UL94HB
Contact Terminal	Phosphor Bronze	Au over Nickel	-
Fitting Nail	Phosphor Bronze	Sn	-

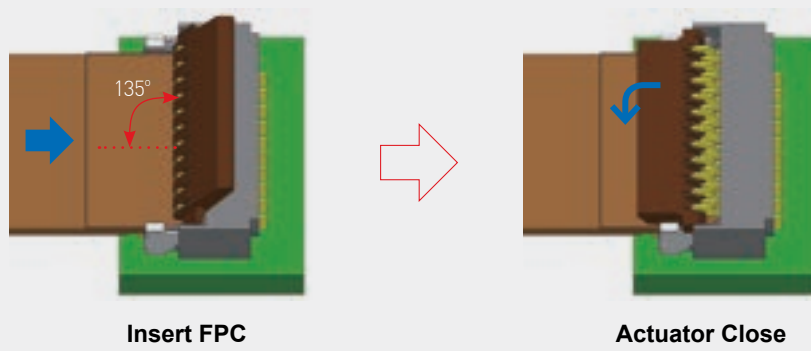
FPC/FFC Connectors (Mobile)

0.3 F/F Short

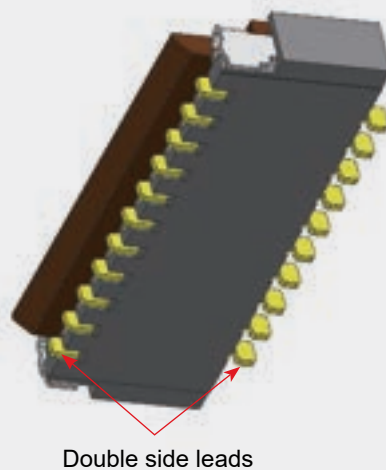
Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

FEATURES AND ADVANTAGES

- ▶ **Superior Operability with Flip Lock and ZIF mechanism**
Both Upper and Lower contact, Back Lock System



- ▶ **Double side leads enhances Solder peeling Strength**

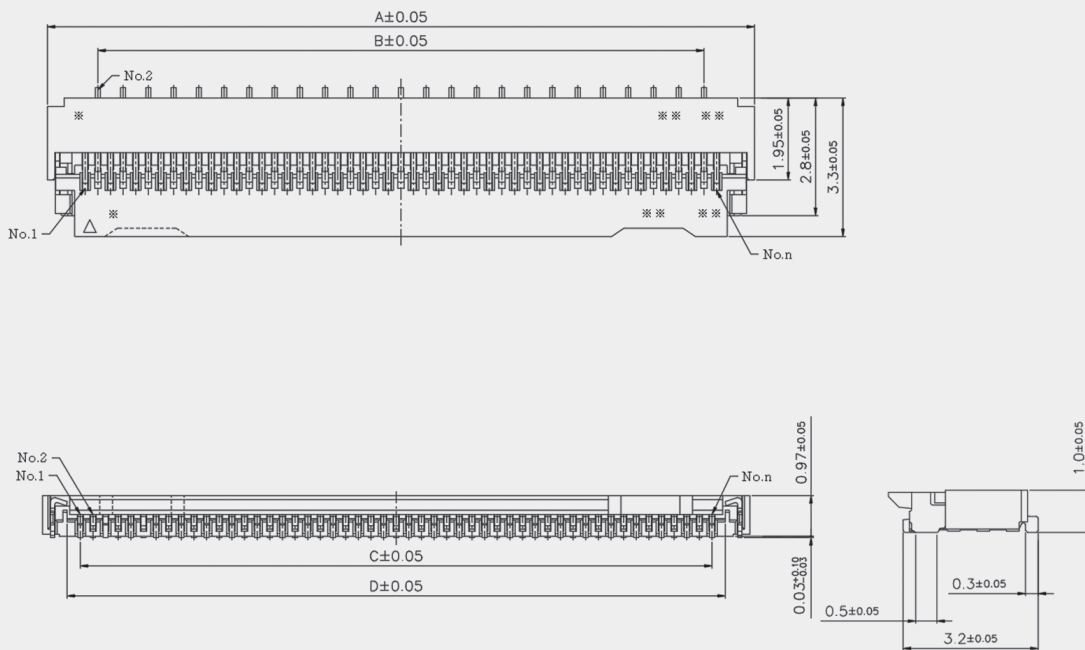
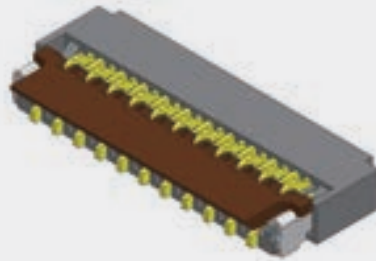


FPC/FFC Connectors (Mobile)

0.3 F/F Short

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Drawing



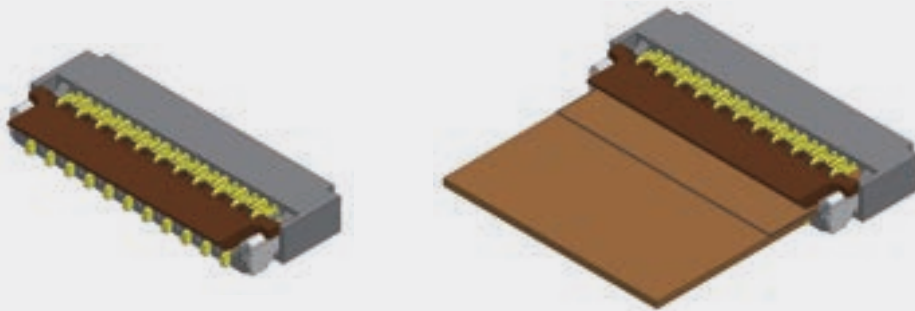
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
PF030-O13B-C10-H	13	5.40	3.00	3.60	4.23
PF030-O25B-C10-H	25	9.00	6.60	7.20	7.83
PF030-O31B-C10-H	31	10.80	8.40	9.00	9.63
PF030-O39B-C10-H	39	13.20	10.80	11.40	12.03
PF030-O45B-C10-H	45	15.00	12.60	13.20	13.83
PF030-O61B-C10-H	61	19.80	17.40	18.00	18.63

FPC/FFC Connectors (Mobile)

0.3 F/F Long

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC



- ▶ 0.3mm Pitch, 1.0mm Height, Low-contact, Right Angle Type
- ▶ Easy FPC Insertion (ZIF)
- ▶ Applicable for FPC thickness is 0.20±0.03mm

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF030-O13B-C09-H	0.30	13	3.45	1.00	5.40	-
PF030-O31B-C09-H	0.30	31	3.45	1.00	10.80	-
PF030-O61B-C09-H	0.30	61	3.45	1.00	19.80	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
0.2A Max.	100mΩ Max.	200V AC(RMS)	-35°C ~ 85°C

FPC/FFC Connectors (Mobile)

0.3 F/F Long

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

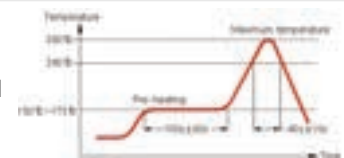
Product Specification

Ratings	Rated current	0.2A Max	Operating temperature range	-35°C to +85°C	Storage temperature range	+15°C to +35 °C
	Rated voltage	30V r.m.s	Operating humidity range	85% RH 2	Storage humidity range	65% RH

- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC Specification T=0.20±0.03mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	100mΩ Max. / contact	Closed circuit Current : 1mA. Open circuit voltage : 20mV Max.
2. Insulation resistance	50MΩ Min. / contact	Test voltage : 500V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 200V for 1minute
4. Actuator operation forces	0.003kgf x (N) Min. (N)=pins	Push the Actuator Open/ Close direction at a speed of 25mm/min and measured Actuator operation force.
5. FPC retention force	0.02kgf x (N) Min. (N)=pins	Pull the FPC from a connector at a speed of 25mm/min and measured extraction force.
6. Durability	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact	Number of cycles : 10 cycles.
7. Vibration	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out Contact resistance : 100mΩ Max. / contact	Amplitude: 1.5mm Frequency: 10~500Hz Duration : X,Y,Z axis each 30minutes.
8. Humidity	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact Insulation Resistance : 50MΩ Min.	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.	Reflow : Refer to the recommended reflow condition.



Materials / Finish

Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Actuator	PA	Brown	UL94HB
Contact Terminal	Phosphor Bronze	Au over Nickel	-
Fitting Nail	Phosphor Bronze	Sn	-

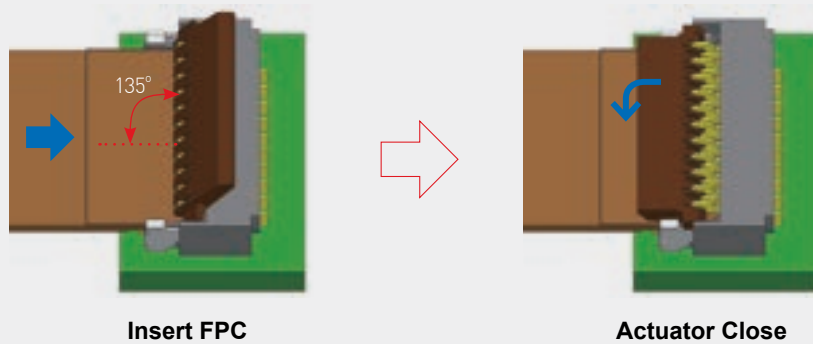
FPC/FFC Connectors (Mobile)

0.3 F/F Long

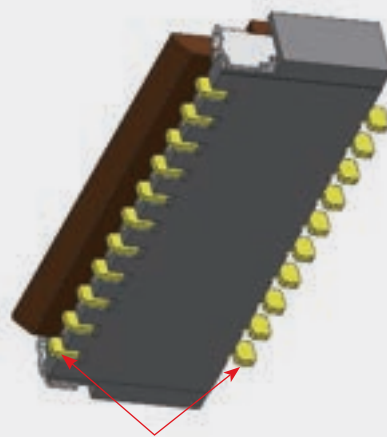
Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

FEATURES AND ADVANTAGES

- ▶ **Superior Operability with Flip Lock and ZIF mechanism**
Both Upper and Lower contact, Back Lock System



- ▶ **Double side leads enhances Solder peeling Strength**

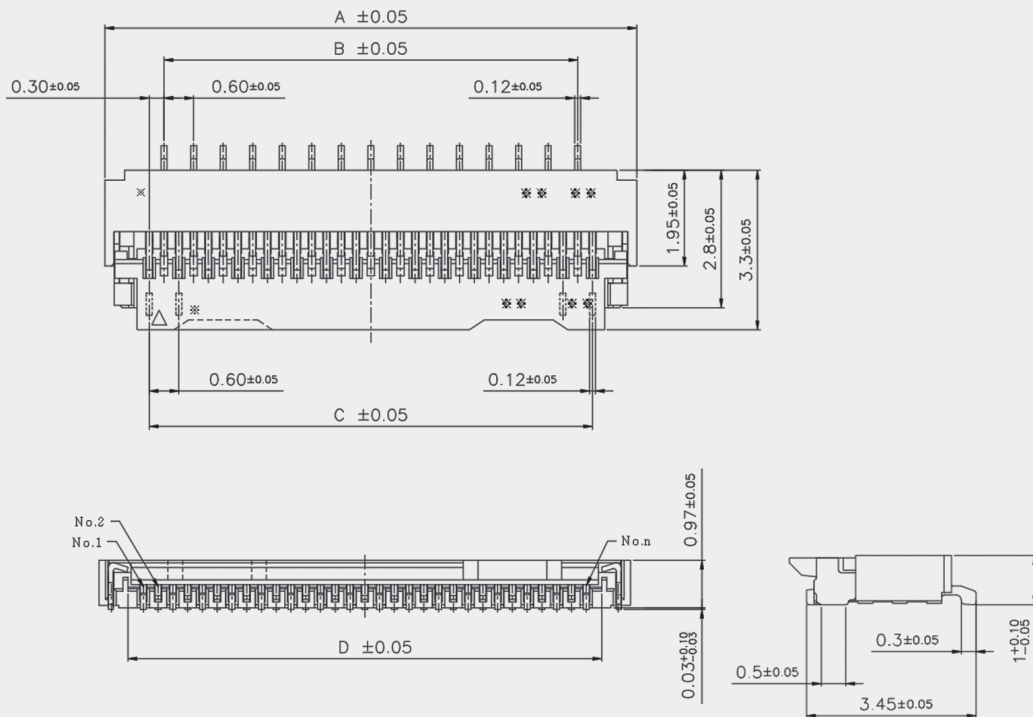
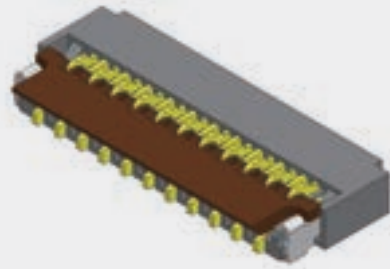


FPC/FFC Connectors (Mobile)

0.3 F/F Long

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Drawing



Mating Size / Unit : (mm)

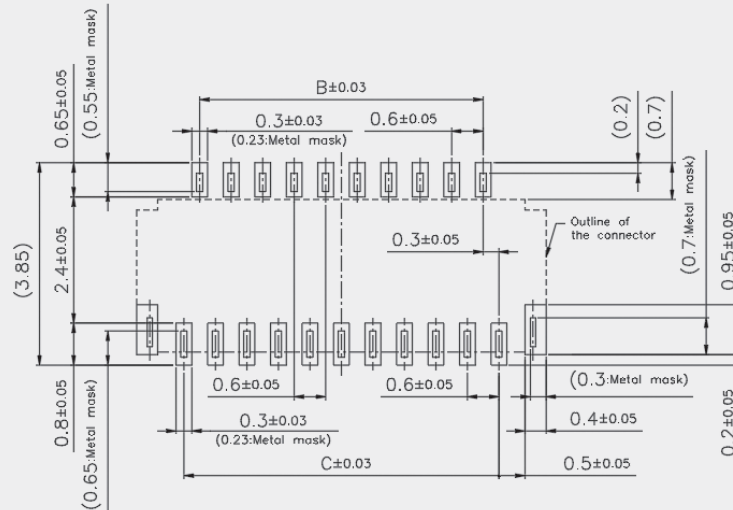
Product No.	No. of Contacts	A	B	C	D
PF030-O13B-C09-H	13	5.40	3.00	3.60	4.23
PF030-O31B-C09-H	31	10.80	8.40	9.00	9.63
PF030-O61B-C09-H	61	19.80	17.40	18.00	18.63

FPC/FFC Connectors (Mobile)

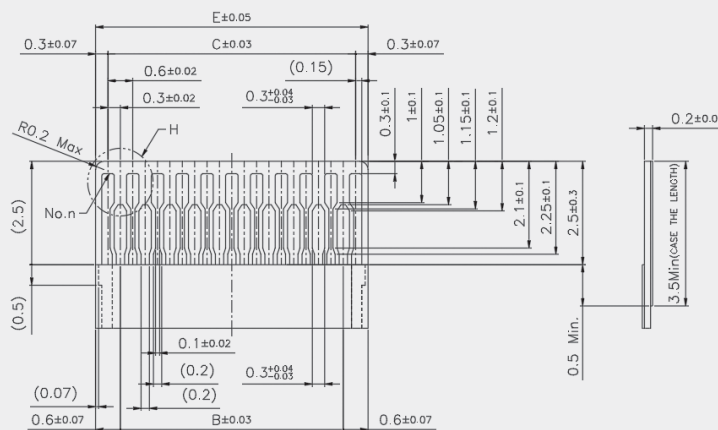
0.3 F/F Long

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Recommended PCB Layout, Metal Mask dimensions



Recommended FPC Dimensions



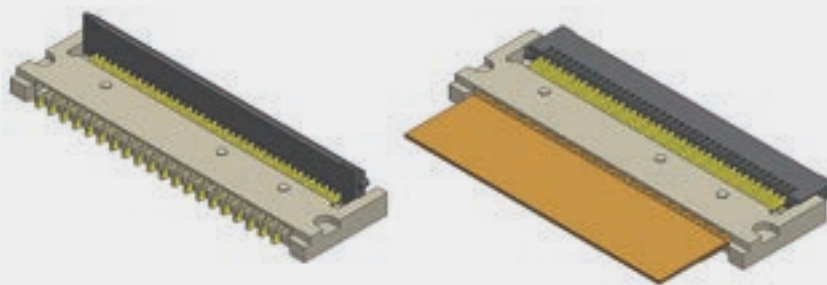
Mating Size / Unit : (mm)

Product No.	No. of Contacts	B	C	E
PF030-O13B-C09-H	13	5.40	3.00	4.20
PF030-O31B-C09-H	31	10.80	8.40	9.60
PF030-O61B-C09-H	61	19.80	17.40	18.60

FPC/FFC Connectors (Mobile)

0.3 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC



- ▶ 0.30mm Pitch, 0.90mm Height, Low and upper both contact
- ▶ Easy to Insert FPC and operate Actuator Back-lock system
- ▶ Both upper and lower contacts design accepts any FPC insertion directions.

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF030-B31B-N09	0.30	31	4.93	0.90	11.50	-
PF030-B45B-N09	0.30	45	4.93	0.90	15.70	-

Rated Current	Contact Resistance	Dielectric Strength	Temperature Range
0.2A MAX	50mΩ [Max.]	AC 200V	-35°C ~ 85°C

FPC/FFC Connectors (Mobile)

0.3 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

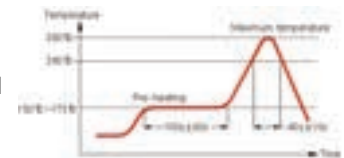
Product Specification

Ratings	Rated current	0.2A Max	Operating temperature range	-35°C to +85°C	Storage temperature range	+15°C to +35 °C
	Rated voltage	50V r.m.s	Operating humidity range	85% RH 2	Storage humidity range	65% RH

- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC Specification T=0.15±0.03mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	50MΩ Max. / contact	Closed circuit Current : 0.5mA. Open circuit voltage : 20mV Max.
2. Insulation resistance	50MΩ Min. / contact	Test voltage : 250V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 200V for 1minute
4. Actuator operation forces	0.15kgf x Pins Max.	Push the Actuator Open/ Close direction at a speed of 25mm/min and measured Actuator operation force.
5. FPC retention force	0.015kgf x Pins Min.	Pull the FPC from a connector at a speed of 25mm/min and measured extraction force.
6. Durability	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact Actuator operation force : 0.15kgf x Pins Max. FPC Retention force : 0.015kgf x Pins Max.	Number of cycles : 10 cycles.
7. Vibration	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out Contact resistance : 50mΩ Max. / contact	Amplitude: 1.5mm Acceleration: 15% Frequency: 10~55Hz Duration : X,Y,Z axis each 30minutes.
8. Humidity	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact Insulation Resistance : 50MΩ Min.	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.	Reflow : Refer to the recommended reflow condition.



Materials / Finish

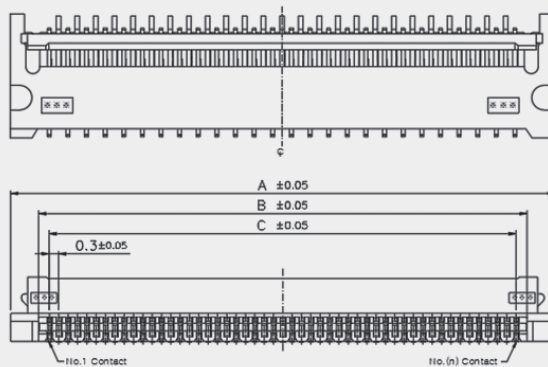
Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Actuator	PPS	Black	UL94V-0
Contact Terminal	Phosphor Bronze	Au over Nickel	-

FPC/FFC Connectors (Mobile)

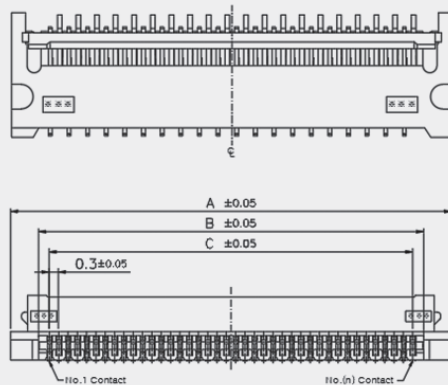
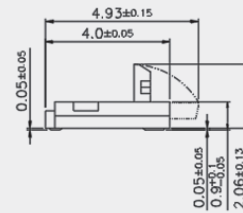
0.3 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

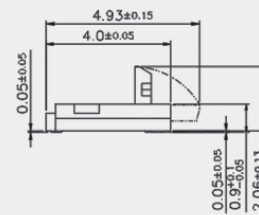
Product Drawing



[Applicable for the odd number contacts]



[Applicable for the even number contacts]



Mating Size / Unit : (mm)

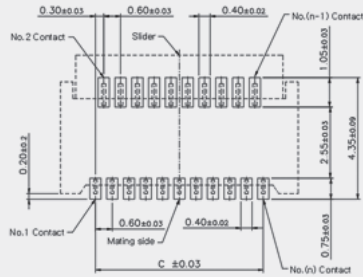
Product No.	No. of Contacts	A	B	C
PF030-B31B-N09	31	11.50	9.70	9.00
PF030-B45B-N09	45	15.70	13.90	13.20

FPC/FFC Connectors (Mobile)

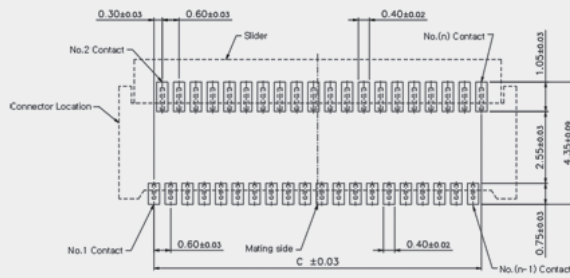
0.3 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Recommended PCB Layout, Metal Mask dimensions

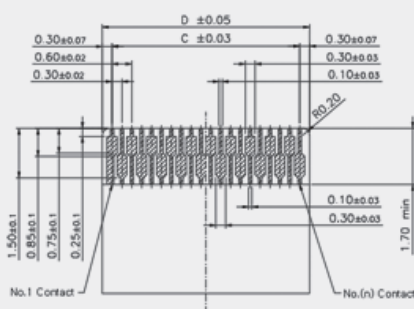


[Applicable for the odd number contacts]

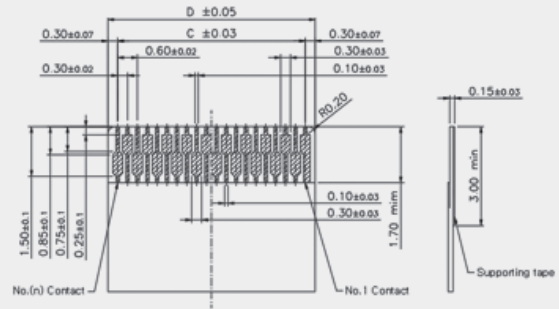


[Applicable for the even number contacts]

Recommended FPC Dimensions



[Applicable for the upper contacts]



[Applicable for the lower contacts]

Mating Size / Unit : (mm)

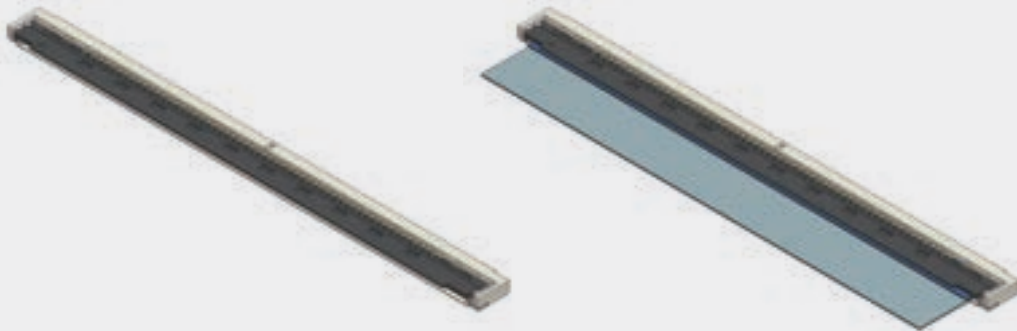
Product No.	No. of Contacts	C	D
PF030-B31B-N09	31	9.00	9.60
PF030-B45B-N09	45	13.20	13.80

FPC/FFC Connectors

(Mobile)



Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC



- ▶ Suitable for high current and Space-saving design
: Power Terminal allowable up to 13A, 0.4mm Pitch Signal Contact
- ▶ Reliable 2-point Signal contact design
- ▶ Applicable for FPC/FFC thickness is 0.30±0.03mm

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF040-O110B-C15	0.40	110	5.50	1.50	59.62	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
Signal 0.4A [Max.] Power 13A [Max.]	100mΩ Max.	AC 120V	-35°C ~ 85°C

FPC/FFC Connectors (Mobile)



Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Specification

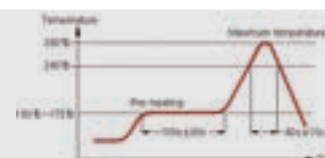
Ratings	Rated current	0.4A Max. (Signal) 13.0A Max (Power)	Operating temperature range	-35°C to +85°C	Storage temperature range	+15°C to +35 °C
	Rated voltage	40V r.m.s	Operating humidity range	85% RH 2	Storage humidity range	65% RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC Specification T=0.30±0.03mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	200mΩ Max. / contact	Closed circuit Current : 500μA Open circuit voltage : 20mV Max.
2. Insulation resistance	50MΩ Min.	Test voltage : 100V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 120V for 1minute
4. FPC(FFC) retention force	3.0kgf Min.	Push the Actuator Open/ Close direction at a speed of 25mm/min and measured Actuator operation force.
5. Durability	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact	Number of cycles : 10 cycles.
6. Vibration	No damage or mechanical defect No interruption over 1μ sec. Contact resistance : 100mΩ Max. / contact	Amplitude: 1.5mm Test current : DC 100mA Frequency: 10~55~10Hz Duration : X,Y,Z axis each 2 hours.
7. Shock	No damage or mechanical defect No interruption over 1μ sec.	Peak acceleration : 490%g Half sine wave : (Duration : 11ms) Direction : 3direction (X,Y,Z) Number : 3times per each direction
8. Humidity	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact Insulation Resistance : 500MΩ Min.	Temperature : 40oC±2oC Humidity : 90% ~ 95% Duration : 96hr
9. Thermal shock	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact Insulation Resistance : 500MΩ Min.	Temperature : -55~25~85~25oC 5 cycles
10. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirement3.s of each drawings.	Reflow condition. (Refer to Reflow)



Materials / Finish

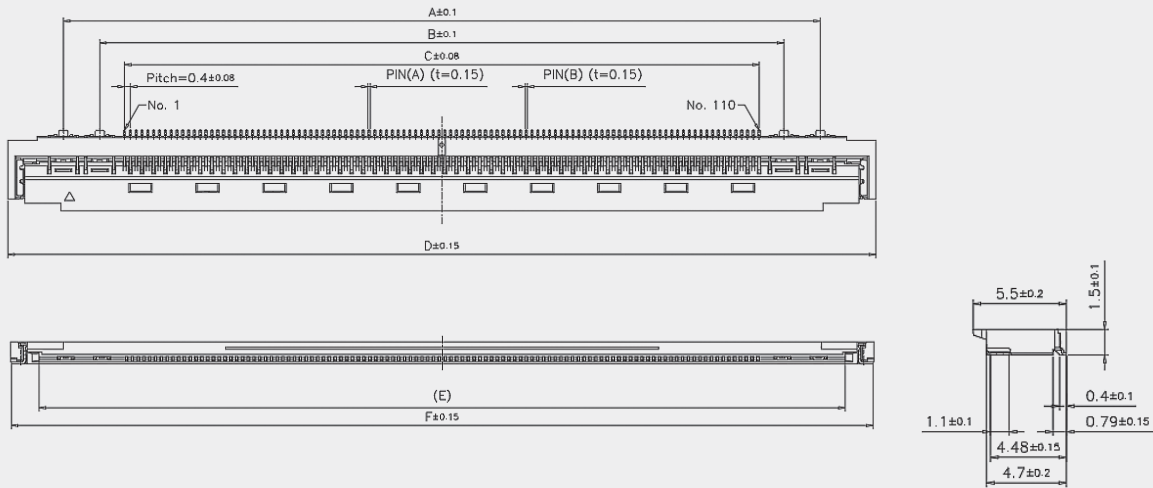
Part	Materials	Finish	UL Regulation
Base	LCP	Natural	UL94V-0
Actuator	PA	Black	UL94V-0
Contact Terminal A	Phosphor Bronze	Au over Nickel	-
Contact Terminal B	Phosphor Bronze	Au over Nickel	-
Power Terminal	Copper Alloy	Au over Nickel	-
Fitting Nail	Phosphor Bronze	Sn over Nickel	-



FPC/FFC Connectors (Mobile)

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Drawing



Mating Size / Unit : (mm)

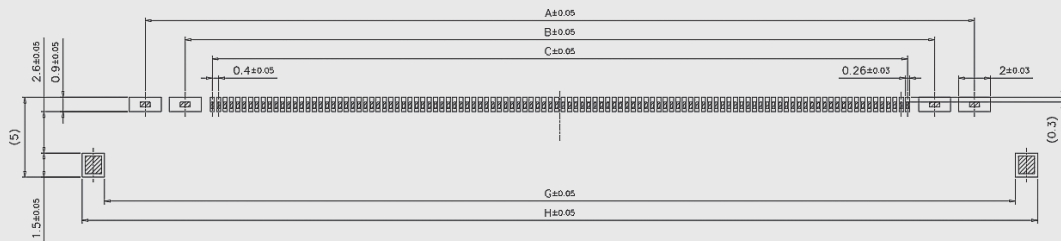
Product No.	No. of Contacts	A	B	C	D	E	F
PF040-O110B-C15	110	52.00	47.00	43.66	59.62	55.66	59.52

FPC/FFC Connectors (Mobile)

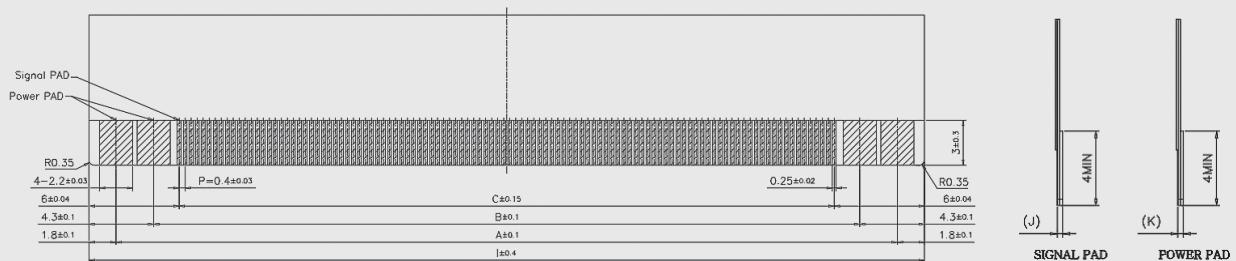


Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Recommended PCB Layout, Metal Mask dimensions



Recommended FFC/FPC Dimensions



	Signal Pad		Power Pad		Remark
	Copper Foil	Thickness (J)	Copper Foil	Thickness (J)	
FFC	2oz	0.3±0.03	2oz	0.3±0.03	FFC Type1
	1oz	0.3±0.03	2oz	0.335±0.03	FFC Type2
FPC	2oz	0.3±0.03	2oz	0.3±0.03	

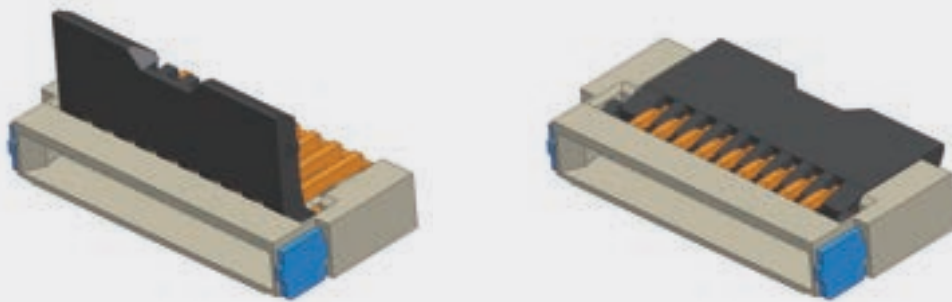
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	G	H	I
PF040-O110B-C15	110	52.00	47.00	43.60	57.12	59.92	55.6

FPC/FFC Connectors (Mobile)

0.4 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC



- ▶ 0.40mm Pitch, 0.90mm Height, compact design
- ▶ Easy to Insert FPC and operate Actuator Back-lock system
- ▶ High FPC Retention force with Actuator locking boss
- ▶ Applicable for FPC thickness is $0.2\pm 0.03\text{mm}$

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF040-B09B-C09	0.40	9	3.00	0.90	5.40	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
0.5A Max.	100mΩ Max.	150V AC(RMS)	-35°C ~ 85°C

FPC/FFC Connectors (Mobile)

0.4 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Specification

Ratings	Rated current	0.5A Max	Operating temperature range	-35°C to +85°C	Storage temperature range	+15°C to +35 °C
	Rated voltage	50V AC(RMS)/DC	Operating humidity range	70% RH 2	Storage humidity range	65% RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

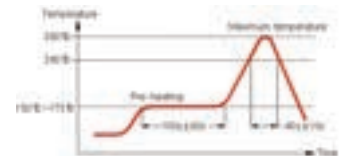
Applicable FPC Specification T=0.20±0.03mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	100mΩ Max. / contact	Closed circuit Current : 1mA. Open circuit voltage : 20mV Max.
2. Insulation resistance	50MΩ Min. / contact	Test voltage : 100V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 150V for 1minute
4. Withdrawal Force	0.13kgf Min.	A connector shall be soldered on a board. An applicable FPC/FFC shall be pulled from a connector at a speed of 25mm/min and measured extraction force
5. Durability	Contact resistance : 100mΩ Max.	Repeated insertion and separation cycles of Max. 20 times
6. Vibration	1) Contact resistance : 100mΩ Max. 2) No damage, loose part nor crack	- Peak acceleration : 490m/s ² (50G) - Half sine wave : (Duration : 11ms) - Direction : 3direction (X,Y,Z) - Number : 3times per each direction - Test current : 100mA
7. Shock	1) Discontinuity : 1μs Max. 2) No mechanical defect	- Peak acceleration : 490m/s ² (50G) - Half sine wave : (Duration : 11ms) - Direction : 3direction (X,Y,Z) - Number : 3times per each direction - Test current : 100mA
8. Humidity	1) Contact resistance : 100mΩ Max. 2) No damage, loose part nor Crack 3) Insulation Resistance : 50MΩ Min.	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr

9. Solder heat resistance

Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.

Reflow : Refer to the recommended reflow condition.



Materials / Finish

Part	Materials	Finish	UL Regulation
Base	LCP	Natural	UL94V-0
Actuator	LCP	Black	UL94V-0
Contact Terminal	Phosphor Bronze	Au over Nickel	-
Fitting Nail	Phosphor Bronze	Pre-plating Sn	-

FPC/FFC Connectors (Mobile)

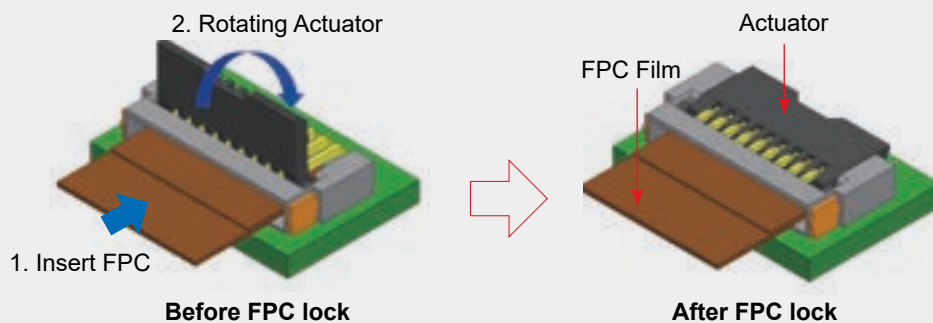
0.4 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

FEATURES AND ADVANTAGES

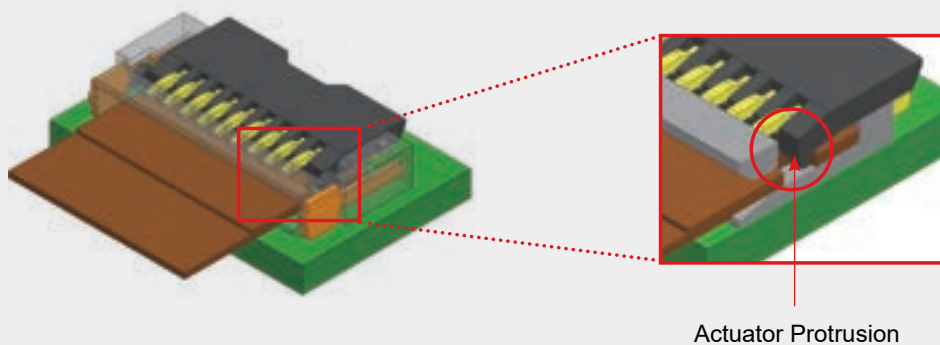
► **Easy to Insert FPC and operate to Actuator back lock.**

Actuator rotating opposite direction against FPC insertion. (Back flip)



► **FPC side Locking structure design**

When forcibly taking out FPC, Protrusion Locker help Increasing retention of FPC

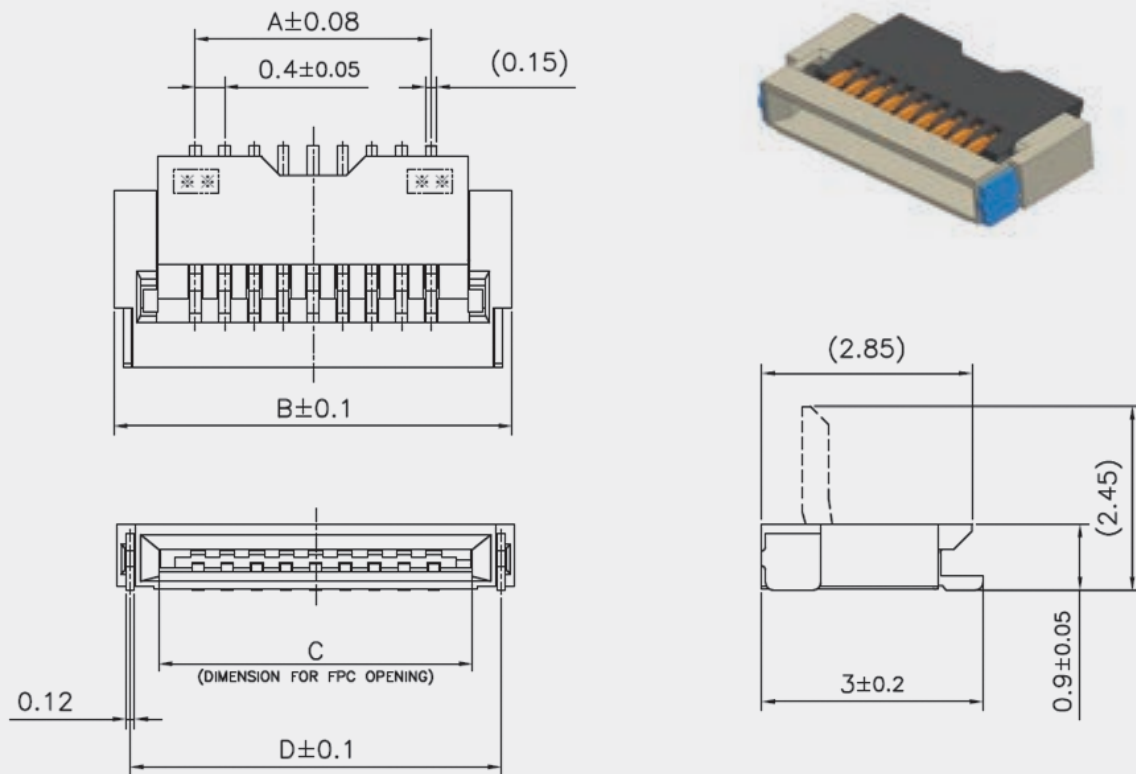


FPC/FFC Connectors (Mobile)

0.4 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Drawing



Mating Size / Unit : (mm)

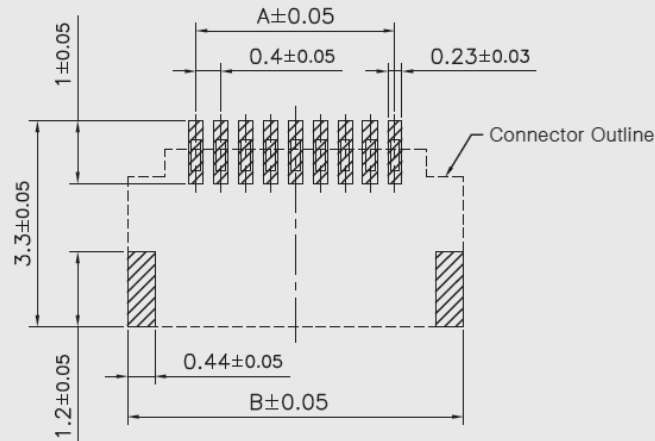
Product No.	No. of Contacts	A	B	C	D
PF040-B09B-C09	9	3.20	5.40	4.25	5.03

FPC/FFC Connectors (Mobile)

0.4 B/F Series

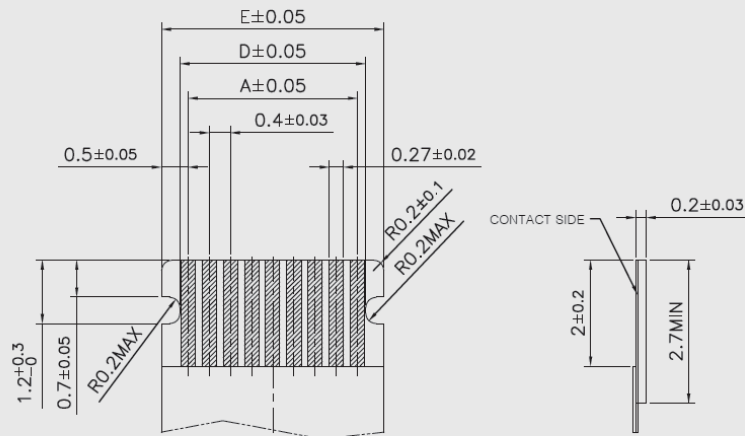
Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Recommended PCB Layout, Metal Mask dimensions



RECOMMENDED LAND PATTERN, METAL MASK (FREE)
RECOMMENDED METAL MASK THICKNESS : $t \pm 0.10$

Recommended FPC Dimensions



RECOMMENED FPC

Mating Size / Unit : (mm)

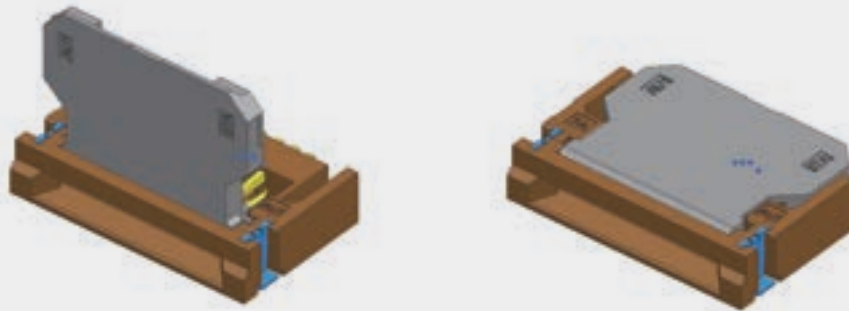
Product No.	No. of Contacts	A	B	C	D	E
PF040-B09B-C09	9	3.20	5.40	4.25	3.50	4.20

FPC/FFC Connectors

(Mobile)

007A

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC



- ▶ 0.50mm Pitch, 1.50mm Height, compact design
- ▶ Easy to Insert FPC and operate Actuator Back-lock system
- ▶ High FPC Retention force with Actuator locking boss
- ▶ Capable of High Current up to 1A with Contact Terminal
- ▶ Applicable for FPC thickness is 0.3±0.03mm

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF050-B07B-C15-B	0.50	7	5.30	1.50	7.30	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
1.0A Max.	50mΩ Max.	200V AC(RMS)	-35°C ~ 85°C

FPC/FFC Connectors (Mobile)

007A

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

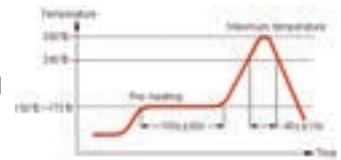
Product Specification

Ratings	Rated current	1.0A Max	Operating temperature range	-35°C to +85°C	Storage temperature range	+15°C to +35 °C
	Rated voltage	50V AC(RMS)/DC	Operating humidity range	70% RH 2	Storage humidity range	65% RH

- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC Specification T=0.30±0.03mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	50mΩ Max.	Closed circuit Current : 1mA. Open circuit voltage : 20mV Max.
2. Insulation resistance	1,000MΩ Min.	Test voltage : 500V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	200V AC for 1minute
4. FPC retention force	0.5kgf Min.	Pull the FPC from a connector at a speed of 25mm/min and measured extraction force.
5. Durability	Contact resistance : 100mΩ Max.	Repeated insertion and separation cycles of Max. 30 times
6. Vibration	1) Discontinuity : 1μs Max. 2) No damage, loose part nor crack 3) Contact resistance : 100mΩ Max	- Frequency : 10-55-10Hz/Min. - Peak amplitude : 1.5mm - Test current : DC 100mA - Test direction : 3 axial (X,Y,Z) - Duration : 2h each (6h in total)
7. Shock	1) Discontinuity : 1μs Max. 2) No damage, loose part nor crack	- Peak acceleration : 490m/s ² (50G) - Half sine wave : (Duration : 11ms) - Direction : 3direction (X,Y,Z) - Number : 3times per each direction - Test current : 100mA
8. Humidity	1) Contact resistance : 100mΩ Max. 2) No damage, loose part nor Crack 3) Insulation Resistance : 100MΩ Min.	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.	Reflow : Refer to the recommended reflow condition.



Materials / Finish

Part	Materials	Finish	UL Regulation
Base	LCP	Natural	UL94V-0
Actuator	LCP	Black	UL94V-0
Contact Terminal	Copper Alloy	Au over Nickel	-
Signal Pin	Copper Alloy	Au over Nickel	-
Fitting Nail	Brass	Sn over Nickel	-

FPC/FFC Connectors (Mobile)

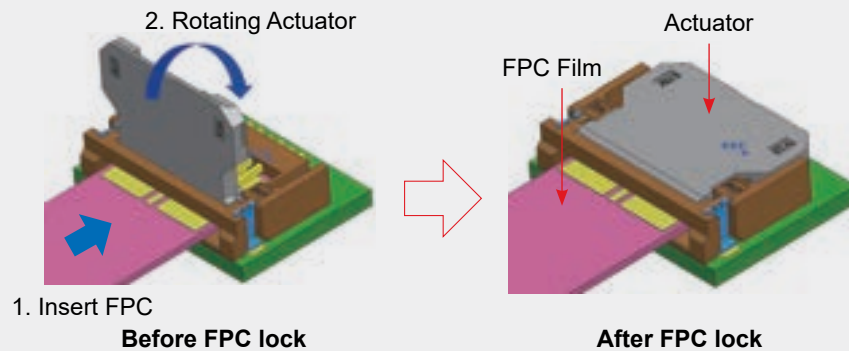
007A

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

FEATURES AND ADVANTAGES

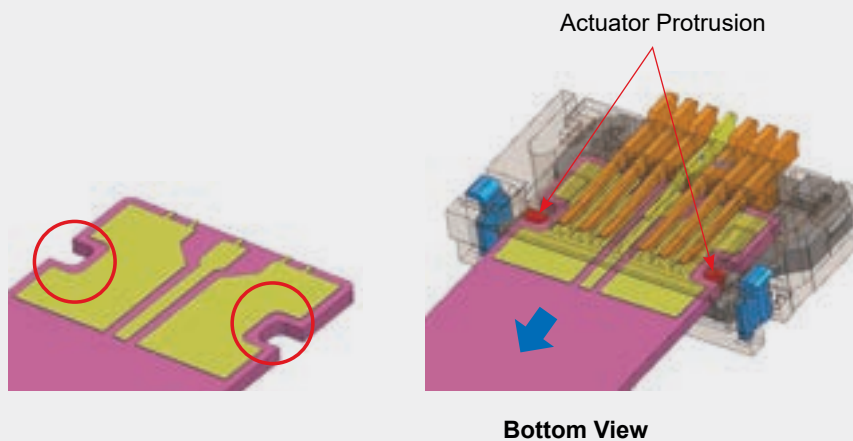
- **Easy to Insert FPC and operate to Actuator back lock.**

Actuator rotating opposite direction against FPC insertion. (Back flip)



- **FPC side Locking structure design**

When forcibly taking out FPC, Protrusion Locker help Increasing retention of FPC

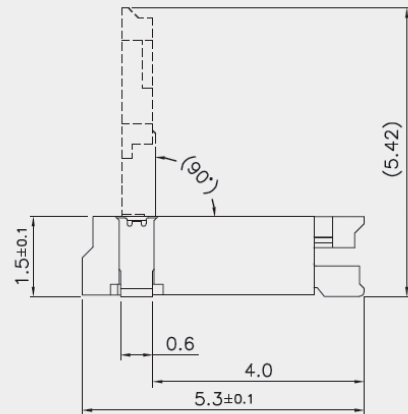
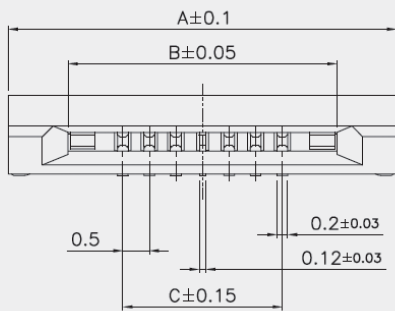
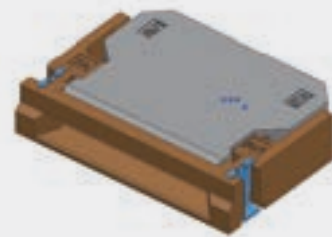
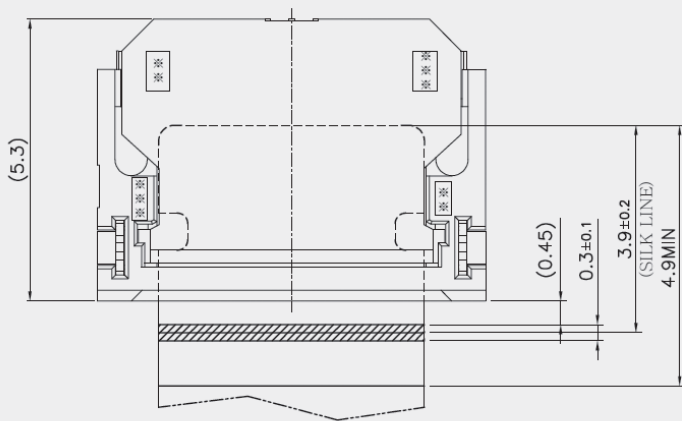


FPC/FFC Connectors (Mobile)

007A

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Drawing



Mating Size / Unit : (mm)

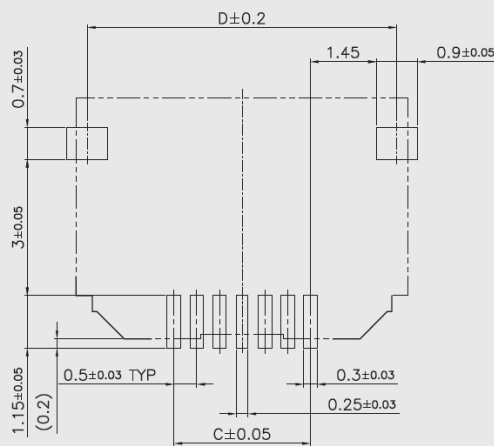
Product No.	No. of Contacts	A	B	C
PF050-B07B-C15-B	7	7.30	5.06	3.00

FPC/FFC Connectors (Mobile)

007A

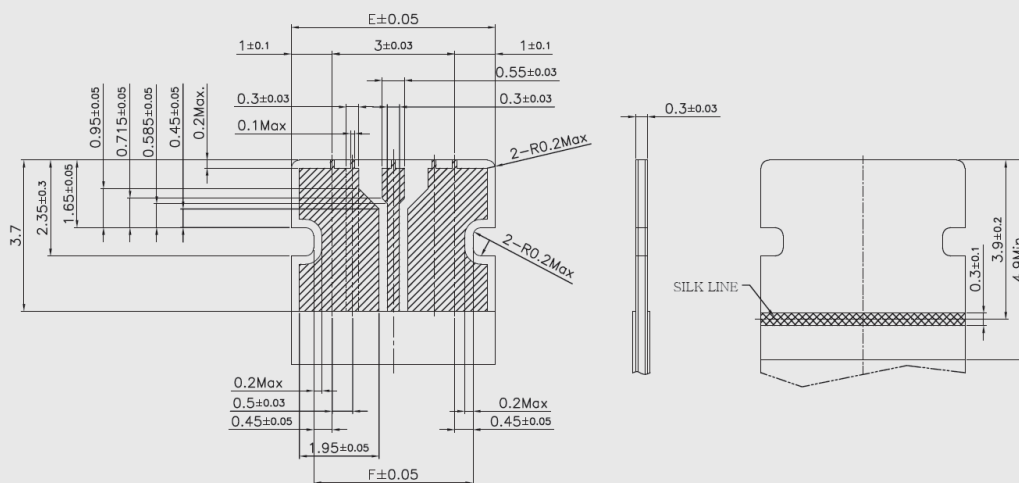
Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Recommended PCB Layout, Metal Mask dimensions



Recommended P.C.B DIMENSION
【MASK (Thickness : 0.10mm)】

Recommended FPC Dimensions



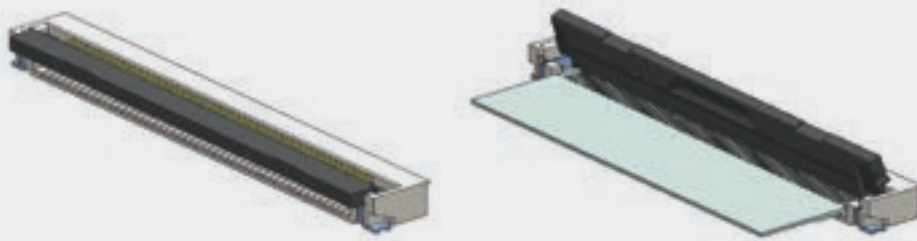
Mating Size / Unit : (mm)

Product No.	No. of Contacts	C	D	E	F
PF050-B07B-C15-B	7	3.00	6.80	5.00	3.90

FPC/FFC Connectors (Mobile)

Narrow Type

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC



- ▶ 0.50mm Pitch, 2.1mm Height, narrow and compact design
- ▶ Easy to Insert FPC and operate Actuator Front-lock system
- ▶ Applicable for FFC thickness is $0.30\pm 0.03\text{mm}$

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF050-L30B-C21	0.50	30	5.00	2.10	19.88	-
PF050-L40B-C21	0.50	40	5.00	2.10	24.88	-
PF050-L60B-C21	0.50	60	5.00	2.10	34.88	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
0.5A Max.	50mΩ Max.	AC 250V	-35°C ~ 85°C

FPC/FFC Connectors (Mobile)

Narrow Type

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Specification

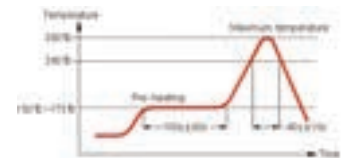
Ratings	Rated current	0.5A Max. / contact	Operating temperature range	-35°C to +85°C	Storage temperature range	+15°C to +35 °C
	Rated voltage	50V AC, DC	Operating humidity range	80% RH 2	Storage humidity range	65% RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC Specification T=0.30±0.03mm

Items	Specifications	Conditions
1. Contact resistance	50mΩ Max. / contact	Closed circuit Current : 1mA. Open circuit voltage : 20mV
2. Insulation resistance	500MΩ Min.	Test voltage : 500V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 250V for 1minute
4. Durability	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact	Number of cycles : 20 cycles.
5. Vibration	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out Contact resistance : 50mΩ Max. / contact	Amplitude: 1.5mm Test current: DC 100mA Frequency: 10-55-10Hz/Min Duration : XYZ axis 2h each (6h in total)
6. Shock	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out	Acceleration : 490m/s ² (50G) Half sine wave: (Duration : 11ms) XYZ axis 3times per each direction Test current: DC 100mA
7. Humidity	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact Insulation Resistance : 100MΩ Min.	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
8. Temperature cycle	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact Insulation Resistance : 100MΩ Min.	Temperature : 25~65~25~65~25~-10~25°C Humidity : 90% ~ 95% 5 cycles
9. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.	Reflow : Refer to the recommended reflow condition.



Materials / Finish

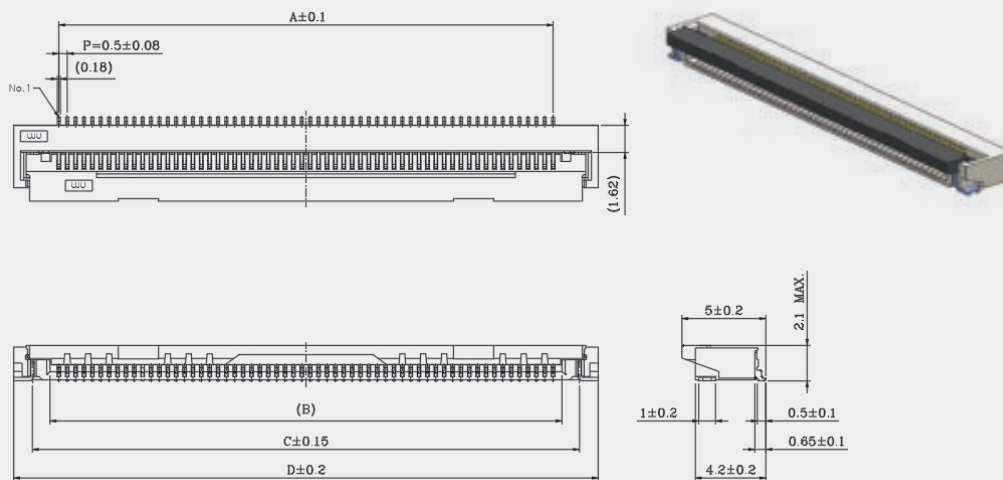
Part	Materials	Finish	UL Regulation
Base Insulation	LCP	Natural	UL94V-0
Actuator	PA	Black	UL94V-0
Contact Terminal	Phosphor Bronze	Au over Nickel	-
Fitting Nail	Phosphor Bronze	Sn over Nickel	-

FPC/FFC Connectors (Mobile)

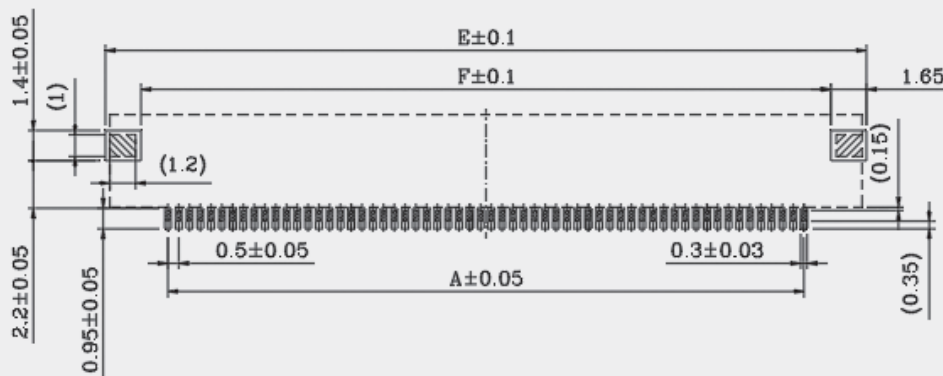
Narrow Type

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Drawing



Recommended PCB , Metal Mask Layout



Mating Size / Unit : (mm)

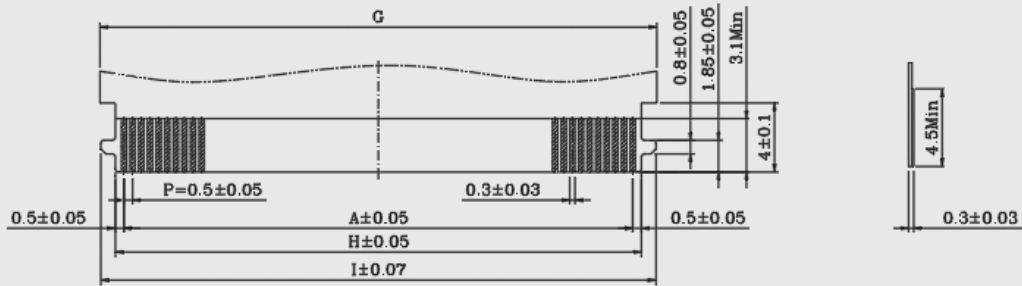
Product No.	No. of Contacts	A	B	C	D	E	F
PF050-L30B-C21	30	14.50	15.55	17.66	19.88	20.30	17.00
PF050-L40B-C21	40	19.50	20.55	22.66	24.88	25.30	22.00
PF050-L60B-C21	60	29.50	30.55	32.66	34.88	35.30	32.00

FPC/FFC Connectors (Mobile)

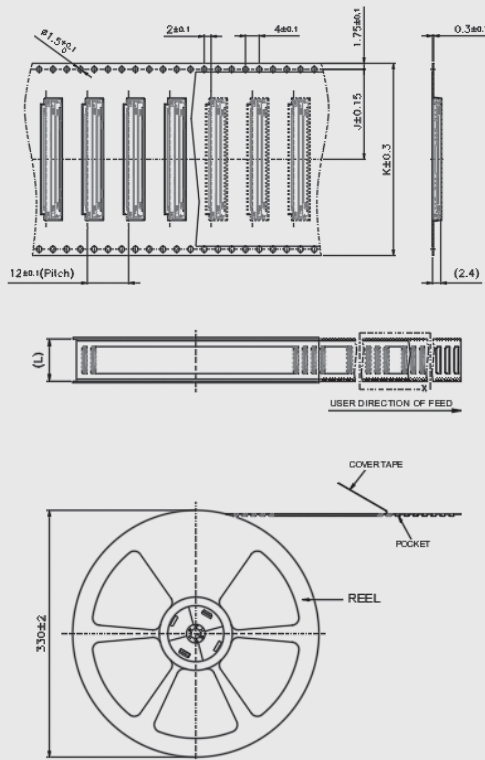
Narrow Type

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Recommended FPC Dimensions



Packing Drawing



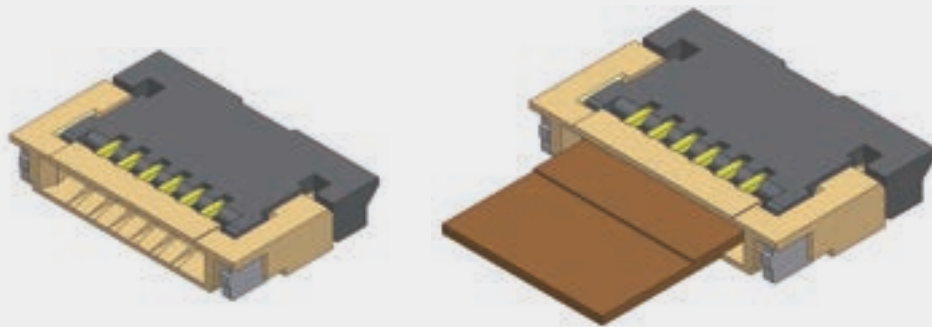
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	G	H	I	J	K	L
PF050-L30B-C21	30	14.50	17.30	15.50	17.20	14.20	32.00	33.40
PF050-L40B-C21	40	19.50	22.30	20.50	22.20	20.20	44.00	45.40
PF050-L60B-C21	60	29.50	32.30	30.50	32.20	20.20	44.00	45.40

FPC/FFC Connectors (Mobile)

0.5 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC



- ▶ 0.5mm Pitch, 0.9mm Height, Low-contact, Right Angle Type, ZIF
- ▶ Easy to Insert FPC and operate Actuator Back-lock system
- ▶ High FPC Retention force with Cable Lock System
- ▶ Applicable for FPC thickness is 0.20±0.03mm

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF050-B04B-C09-A	0.50	4	3.70	0.90	4.40	-
PF050-B06B-C09-A	0.50	6	3.70	0.90	5.40	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
0.4A Max.	50mΩ Max.	200V AC[RMS]	-35°C ~ 85°C

FPC/FFC Connectors (Mobile)

0.5 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

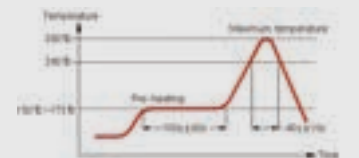
Product Specification

Ratings	Rated current	0.4A Max.	Operating temperature range	-35°C to +85°C	Storage temperature range	+15°C to +35 °C
	Rated voltage	50V AC, DC	Operating humidity range	85% RH 2	Storage humidity range	65% RH

- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC Specification T=0.20±0.03mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	50mΩ Max. / contact	Closed circuit Current : 1mA. Open circuit voltage : 20mV Max.
2. Insulation resistance	100MΩ Min. / contact	Test voltage : 500V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 200V for 1minute
4. Actuator operation forces	Actuator Close : 0.5kgf Max. Actuator Open : 0.03~0.5kgf	Push the Actuator Open/ Close direction at a speed of 25mm/min and measured Actuator operation force.
5. FPC retention force	0.5kgf Min.	Pull the FPC from a connector at a speed of 25mm/min and measured extraction force.
6. Durability	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact	Number of cycles : 10 cycles.
7. Vibration	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out Contact resistance : 100mΩ Max. / contact	Amplitude: 1.5mm Frequency: 10~500Hz Duration : X,Y,Z axis each 30minutes.
8. Humidity	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact Insulation Resistance : 100MΩ Min.	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
9. Temperature cycle	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact	Temperature : -55~25~85~25°C Time : 30~5~30~5 Min.
10. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.	Reflow : Refer to the recommended reflow condition.



Materials / Finish

Part	Materials	Finish	UL Regulation
Base	PA	Brown	UL94HB
Actuator	PA	Black	UL94HB
Contact Terminal	Phosphor Bronze	Au over Nickel	-
Fitting Nail	Brass	Sn	-

FPC/FFC Connectors (Mobile)

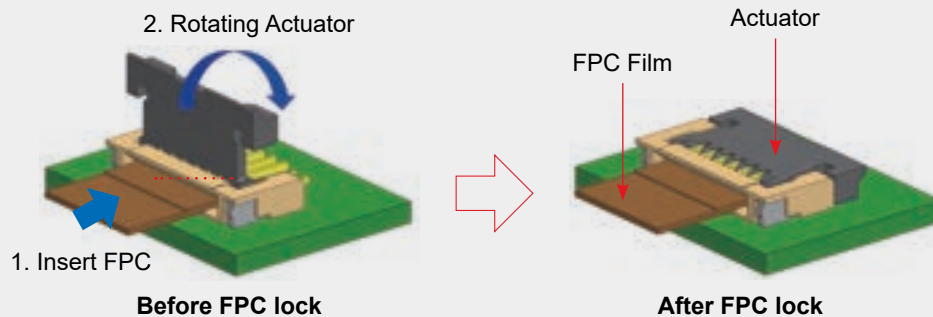
0.5 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

FEATURES AND ADVANTAGES

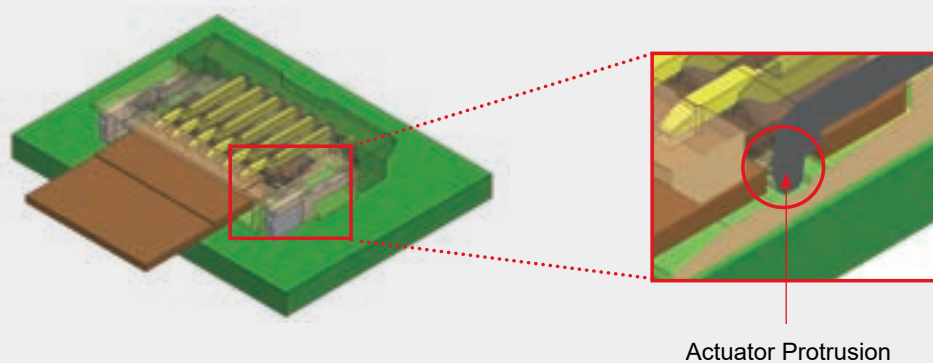
- **Easy to Insert FPC and operate to Actuator back lock.**

Actuator rotating opposite direction against FPC insertion. (Back flip)



- **FPC side Locking structure design**

When forcibly taking out FPC, Protrusion Locker help Increasing retention of FPC

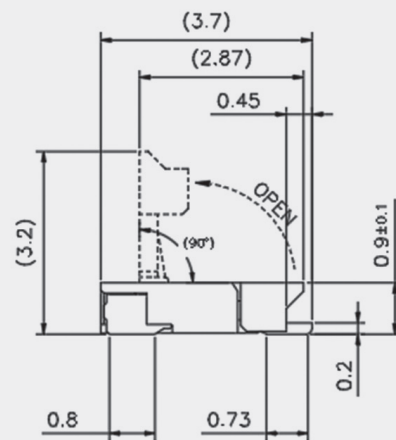
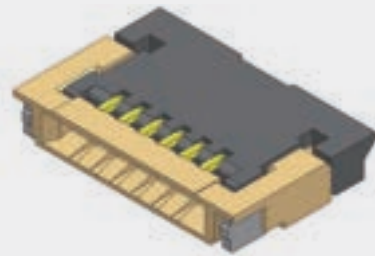
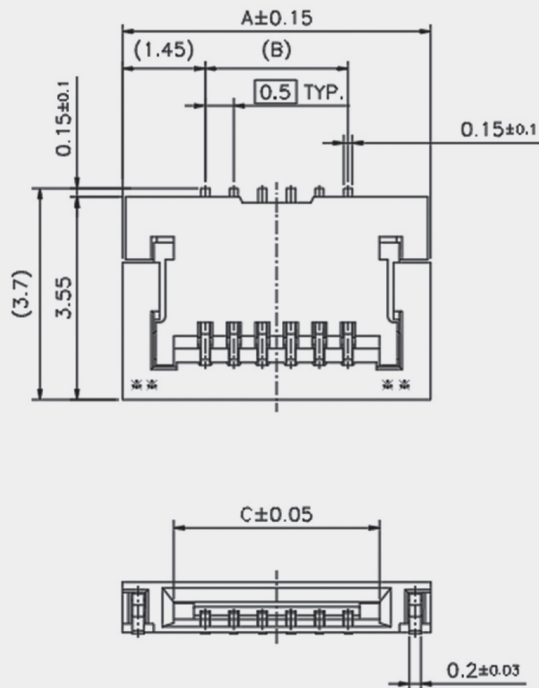


FPC/FFC Connectors (Mobile)

0.5 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Product Drawing



Mating Size / Unit : (mm)

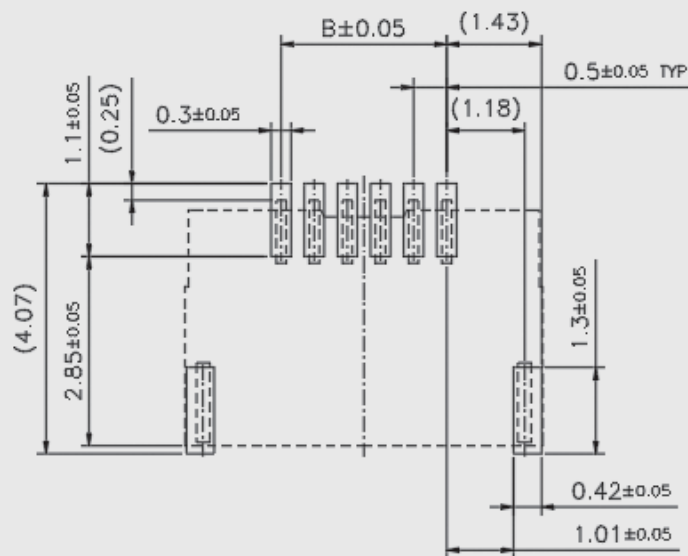
Product No.	No. of Contacts	A	B	C
PF050-B04B-C09-A	4	4.40	1.50	2.60
PF050-B06B-C09-A	6	5.40	2.50	3.60

FPC/FFC Connectors (Mobile)

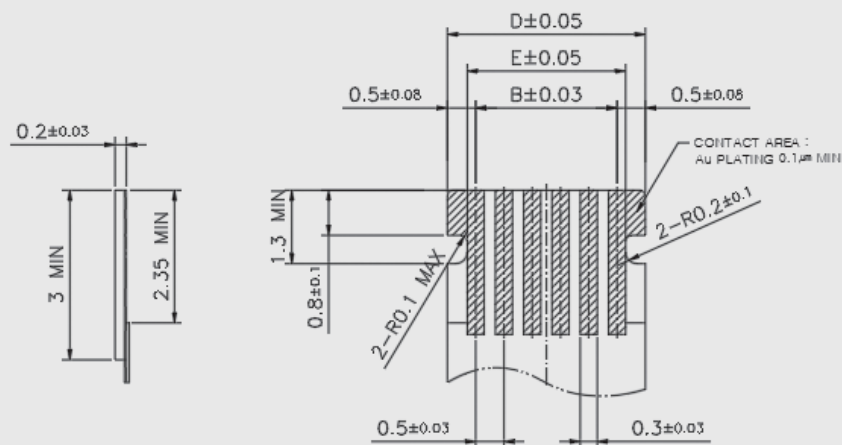
0.5 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

Recommended PCB Layout, Metal Mask Dimensions



Recommended FPC Dimensions












Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	D
PF050-B04B-C09-A	4	1.50	2.50	1.80
PF050-B06B-C09-A	6	2.50	3.50	2.80

FPC/FFC Connectors (Display)

Applications | Mobile device, Display, PC

Mating Size / Unit : (mm) / Please click images to see detail

Item	Pitch (mm)	PINS	Width (mm)	Height (mm)	Current	Page
 VENUS	0.50	41, 51	3.75	3.85	AWG #30, #32, #36 0.8A/Pin	181 page
 User 30P	0.50	30	3.75	3.85	See below the table	184 page
 FB	0.50	96	5.20	1.50	0.5 A Max.	187 page
 EROS	0.50	51, 68, 80, 96	8.40	2.20	0.5 A Max.	191 page
 HF	0.50	96	8.40	2.20	0.5A/Pin	195 page
 LCD 0.5 Pitch 3.85H	0.50	41, 51	3.75	3.85	AWG #30, #32, #36 0.8A/Pin	199 page
 Power up offset	1.00	30	4.90	2.25	1.0A/Pin (Applicable Wire : AWG #30)	203 page
 Power up on	1.00	30	4.90	2.25	1.0A/Pin (Applicable Wire : AWG #30)	206 page
 Power up Reverse	1.00	30	5.35	2.30	1.1.0A/Pin (Applicable Wire : AWG #30)00	209 page

Product Number Structure

I S 050 - C xx B - C 39 - C

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① **Product : Board To Board**

② **Part**

- F : Female(Receptacle)
- M : Male(Plug)

③ **Pitch**

- ex) 030 : 0.30mm
- 035 : 0.35mm

④ **Base Assembled**

- I : Insert Injection
- V : Manual Assembled

⑤ **Contact Pins**

- ex) 60 : 60pins
- 78 : 78pins

⑥ **Mounting Type**

- B : SMT
- D : SMD

⑦ **Housing Design**

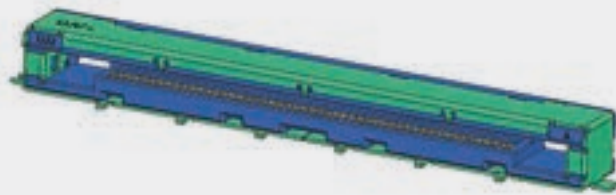
- C : Robust
- N : Non

⑧ **Height**

- ex) 06 : 0.6mm
- 08 : 0.8mm

⑨ **Version**

FPC/FFC Connectors (Display)

VENUS
Applications | Mobile device, Display, PC


- ▶ Low Voltage Differential Signaling(LVDS) connector
- ▶ Terminal deformation prevention structure
- ▶ Reverse insertion prevention structure
- ▶ Damage prevention structure by a cover

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
IS050-C41B-C39-C	0.50	41	3.75	3.85	32.85	-
IS050-C51B-C39-C	0.50	51	3.75	3.85	37.85	-

Current Rating	Contact Resistance	Insulation Resistance	Dielectric Strength	Temperature Range
AWG #30, #32, #36 0.8A/Pin	80mΩ [Max.]	100MΩ [Min.]	AC 500V	-25°C ~ 85°C

FPC/FFC Connectors (Display)

VENUS
Applications | Mobile device, Display, PC

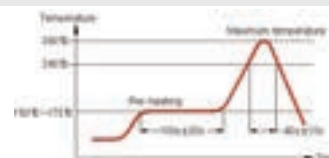
Product Specification

Ratings	Rated current	AWG #30 , #32 , #36 0.8A/Pin	Operating temperature range	-25°C to +85°C 1	Storage temperature range	15°C to 35°C (With packing)
	Rated voltage	AC , DC 200V	Operating humidity range	25% to 95% RH 2)	Storage humidity range	65%RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	80mΩ [Max.]	- Test Current : 10μA - Open voltage : 20mV max.
2. Insulation resistance	100MΩ Min.	Test voltage : DC 100V 1min±5sec (Based upon MIL-STD-202 Method302 condition B)
3. Withstanding voltage	No flashover or dielectric breakdown	- Test voltage : AC 500V - Electrification time : 1 min/5 sec (Based upon MIL-STD-202 Method 301)
4. Insertion Force	10.2kgf [Max.]	Insert the wafer at a rate of 25±3 mm/min.
5. Withdrawal Force	After 10 test , 0.52kgf [Min.]	Withdraw the wafer at a rate of 25±3 mm/min.
6. Durability	Contact resistance : 80mΩ Max	30 cycle of total insertion and withdrawal operation.
7. Vibration	Contact resistance : 80mΩ Max	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz / Approx 1min. - Duration : 2h each (6h in total)
8. Shock resistance	Discontinuity : 1.0 microsec. MAX.	- Acceleration : 50G (490 ^{m/s}) - Duration : 11ms - Number of shocks : 3 both axial directions, 3 times each, 18 times in total
9. Humidity	- Contact resistance : 80mΩ Max - Insulation resistance : 50MΩ Min	- Test current : 100mA - Detection level of text current disconnection : 1μs Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
10. Temperature cycle	- Contact resistance : 80mΩ Max - Insulation resistance : 50MΩ Min	- 40±3(°C) : 30 minutes → +85±2(°C) : 30 minutes, 96 cycles
11. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirement3.s of each drawings.	Reflow condition. (Refer to Reflow)



Materials / Finish

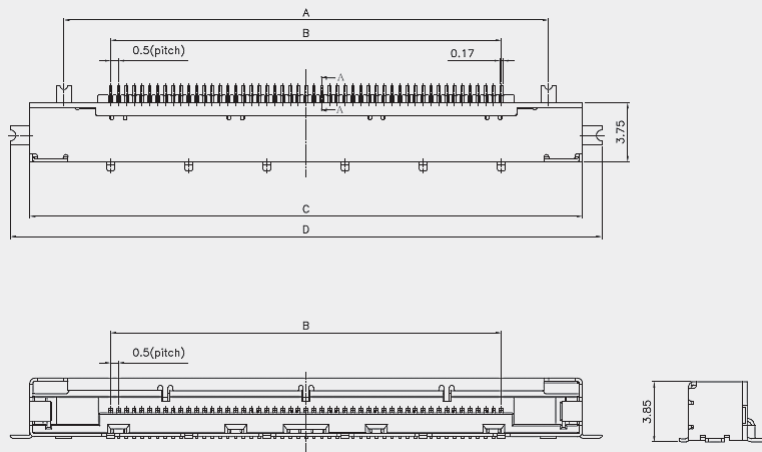
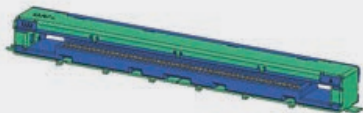
Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Terminal	Phosphor Bronze	Au , Ni plated	-
Cover	Stainless Steel	Sn , Ni plated	-

FPC/FFC Connectors (Display)

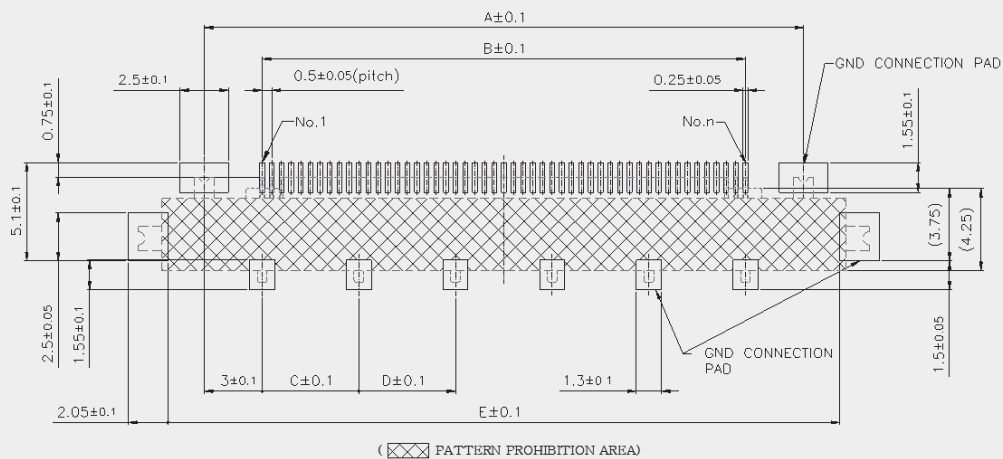


Applications | Mobile device, Display, PC

Product Drawing



Recommended PCB , Metal Mask Layout



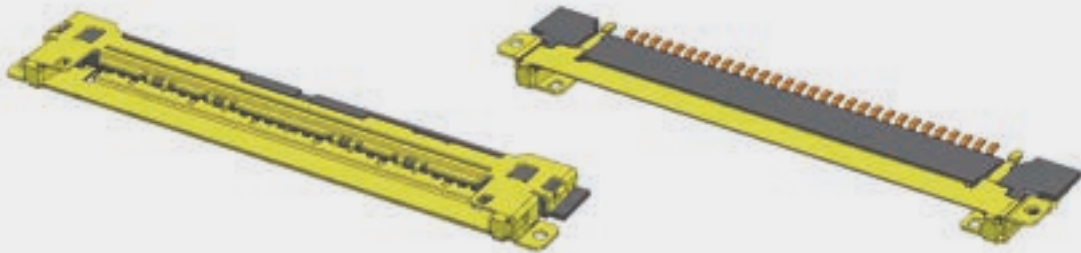
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
IS050-C41B-C39-C	41	26.00	20.0	30.35	32.85
IS050-C51B-C39-C	51	31.00	25.00	35.35	37.85

FPC/FFC Connectors (Display)

User 30P

Applications | Mobile device, Display, PC



- ▶ 0.5mm pitch, 1.0mm slim stacking design for saving space
- ▶ Horizontal type micro-coaxial connector
- ▶ Micro-Coaxial Cable (AWG) : #32, #34, #36, #40, #42, #44
- ▶ High data rate transfer
- ▶ Anti-reverse mating design

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
IS050-L30B-C10	0.50	30	3.75	3.85	37.85	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
See below the table	Contact 60mΩ [Max.] Shell 50mΩ [Max.]	500V AC(RMS)	-35°C ~ 85°C

Applicable Wire (AWG)	#32	#34	#36	#40	#42	#44
Current Rating (per a contact)	1.0A AC/DC	1.0A AC/DC	0.8A AC/DC	0.3A AC/DC	0.24A AC/DC	0.1A AC/DC

FPC/FFC Connectors (Display)

User 30P

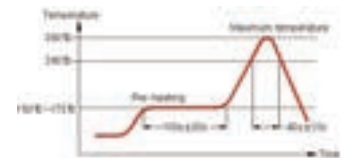
Applications | Mobile device, Display, PC

Product Specification

Ratings	Rated current	See the table	Operating temperature range	-35°C to +85°C	Storage temperature range	15°C to 35°C (With packing)
	Rated voltage	100V AC(RMS)/DC	Operating humidity range	70%RH Max. 2	Storage humidity range	65%RH Max. 2

- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	- Contact : 60mΩ [Max.] - Shell : 50mΩ [Max.]	- Open circuit voltage: 20mV Max.(AC) - Test current: 10mA.
2. Insulation resistance	1,000MΩ [Min.]	500V DC
3. Withstanding voltage	No flashover or dielectric breakdown	500V AC(RMS) for 1minute
4. Insertion Force	1.24kgf [Max.]	Measured force to insert wafer assembly into the housing assembly which has same circuits. (Speed 25mm/Min)
5. Withdrawal Force	0.31kgf [Min]	Measured forces to withdraw wafer assembly from the housing assembly which has same circuits. (Speed 25mm/Min)
6. Durability	Contact resistance - Contact : 100mΩ [Max.] - Shell : 90mΩ [Max.]	Measured after 30 cycle total insertion and withdrawal operation.
7. Vibration	1) Discontinuity : 1.0 microsec. [Max.] 2) Contact resistance - Contact : 100mΩ [Max.] - Shell : 90mΩ [Max.]	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
8. Humidity	1) Contact resistance - Contact : 100mΩ [Max.] - Shell : 90mΩ [Max.] 2) Insulation resistance : 500MΩ [Min.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	No loose contacts no deformation.	Reflow condition. (Refer to Reflow)



Materials / Finish

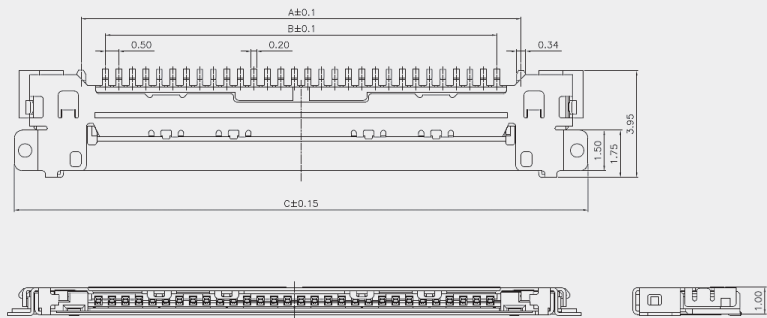
Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Contact Terminal	Phosphor Bronze	Au , Ni plated	-
Shell Cover	Phosphor Bronze	Au , Ni plated	-

FPC/FFC Connectors (Display)

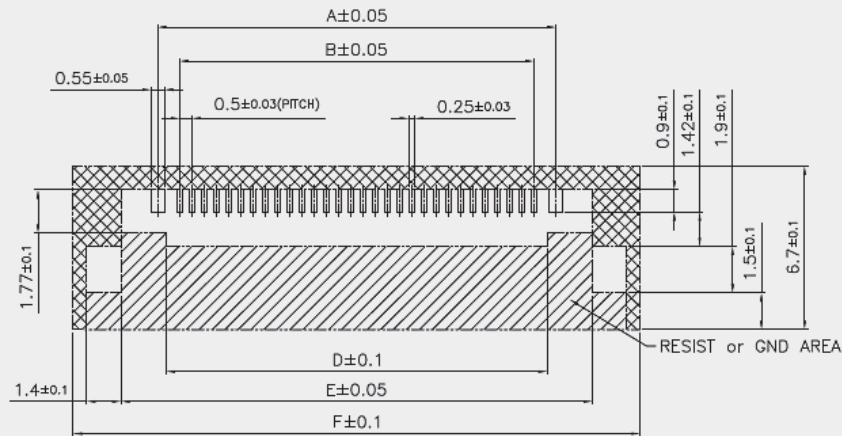
User 30P

Applications | Mobile device, Display, PC

Product Drawing



Recommended PCB , Metal Mask Layout



RECOMMENDED PAD LAYOUT
(Metal Mask 개구부 Size 1:1 t0.12)

Mating Size / Unit : (mm)

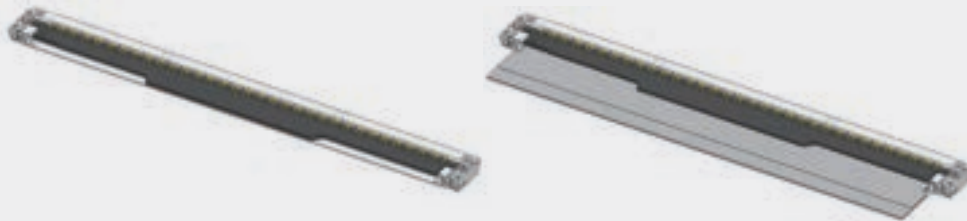
Product No.	No. of Contacts	A	B	C	D	E	F
IS050-L30B-C10	30	16.30	14.50	21.25	15.60	19.30	23.20

FPC/FFC Connectors

(Display)

FB

Applications | Mobile device, Display, PC



- ▶ Suitable for Space-saving design
- ▶ Reliable 2-point Signal contact design
- ▶ Applicable for FPC/FFC thickness is $0.30\pm 0.05\text{mm}$

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
FF050-O96B-C15-A	0.5	96	5.20	1.50	54.10	-

Rated Current	Contact Resistance	Withstanding Voltage	Temperature Range
0.5 A Max.	40mΩ (Max.)	AC 250V	-20°C ~ 85°C

FPC/FFC Connectors (Display)



Applications | Mobile device, Display, PC

Product Specification

Ratings	Rated current	0.5A Max.	Operating temperature range	-20°C to +85°C	Storage temperature range	15°C to 35°C
	Rated voltage	50V r.m.s	Operating humidity range	85%RH Max. 2	Storage humidity range	65%RH

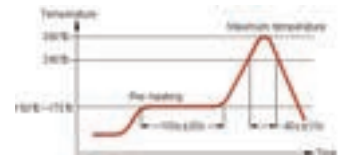
- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC/FFC Specification T=0.30±0.05mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	40mΩ Max.	Open circuit voltage : 20mV Max.
2. Insulation resistance	50MΩ Min.	Test voltage : 100V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 250V for 1minute
4. Durability	No damage or mechanical defect Contact resistance : 60mΩ Max.	Number of cycles : 20 cycles.
5. Vibration	No damage or mechanical defect Contact resistance : 60mΩ Max.	Amplitude : 1.5mm Test current : DC 100mA Frequency : 10~55~10Hz Duration : X,Y,Z axis each 2 hours.
6. High Temperature	No damage or mechanical defect Contact resistance : 60mΩ Max. No flashover or dielectric breakdown	Temperature : 85°C±2°C Duration : 96hr
7. Cold	No damage or mechanical defect Contact resistance : 60mΩ Max. No flashover or dielectric breakdown	Temperature : -40°C±3°C Duration : 48hr
8. Humidity	No damage or mechanical defect Contact resistance : 60mΩ Max. No flashover or dielectric breakdown	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr

9. Solder heat resistance
Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.

Reflow condition.
(Refer to Reflow)



Materials / Finish

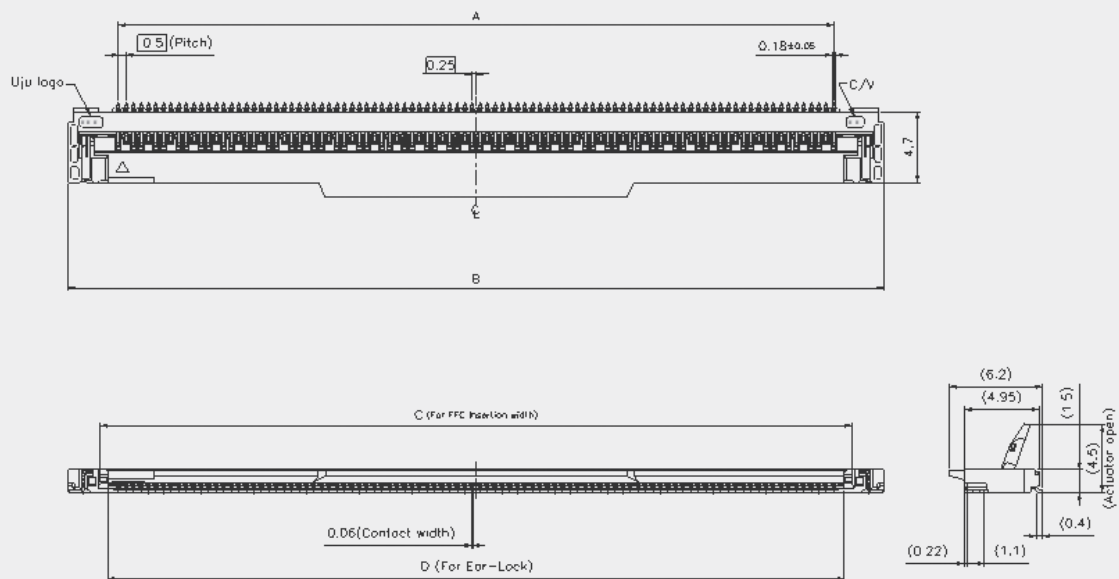
Part	Materials	Finish	UL Regulation
Base	LCP	Natural	UL94V-0
Actuator	PPS	Black	UL94V-0
Contact Terminal A	Phosphor Bronze	Au over Nickel	-
Contact Terminal B	Phosphor Bronze	Au over Nickel	-
Fitting Nail	Phosphor Bronze	Sn over Nickel	-

FPC/FFC Connectors (Display)



Applications | Mobile device, Display, PC

Product Drawing



Mating Size / Unit : (mm)

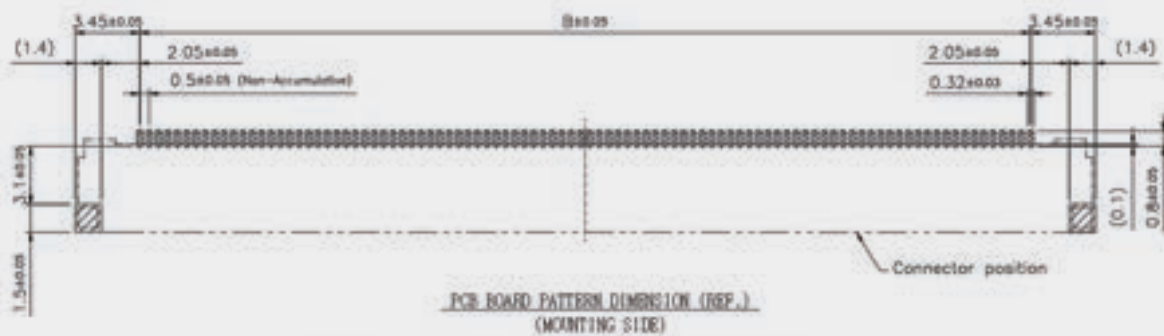
Product No.	No. of Contacts	A	B	C	D
FF050-O96B-C15-A	96	47.50	54.10	49.90	48.90

FPC/FFC Connectors (Display)



Applications | Mobile device, Display, PC

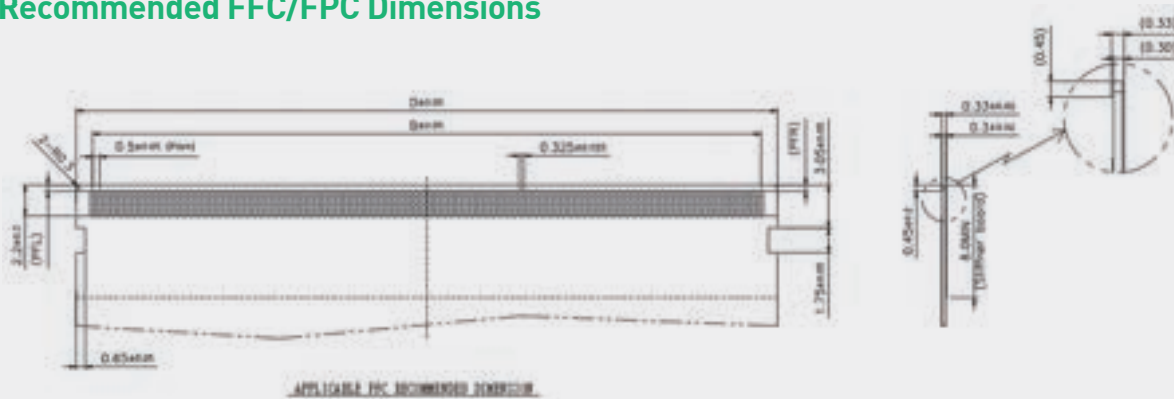
Recommended PCB , Metal Mask Layout



[DIMENSION TABLE]

Product Name	Product Number	No. of Contacts	B	D
FF50	FF050-O96B-C15-A	96	47.5	49.85

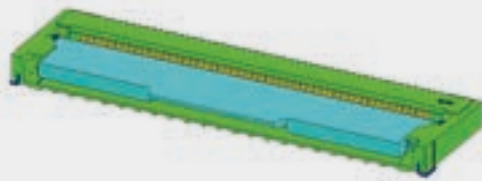
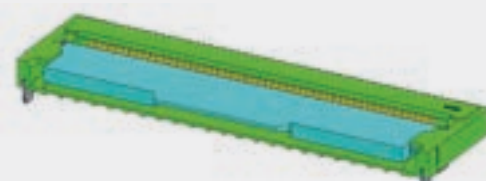
Recommended FFC/FPC Dimensions



Mating Size / Unit : (mm)

Product No.	No. of Contacts	G	J
FF050-O96B-C15-A	96	47.50	49.85

FPC/FFC Connectors (Display)

EROS
Applications | Mobile device, Display, PC

SMD type

DIP type

- ▶ Space-saving design
- ▶ Two SMT Type (SMD , DIP)
- ▶ Reliable 2-point Signal contact design
- ▶ Applicable for FPC/FFC thickness is $0.32\pm 0.03\text{mm}$

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF050-O51B-C20-C	0.50	51	8.40	2.20	30.40	SMD(C)
PF050-O68B-C20-B or C	0.50	68	8.40	2.20	38.90	SMD(C)/DIP(B)
PF050-O80B-C20-B or C	0.50	80	8.40	2.20	44.90	SMD(C)/DIP(B)
PF050-O96B-C20-B	0.50	96	8.40	2.20	52.90	DIP(B)

Rated Current	Contact Resistance	Withstanding Voltage	Temperature Range
0.5 A Max.	30mΩ (Max.)	AC 250V	-45°C ~ 85°C

FPC/FFC Connectors (Display)



Applications | Mobile device, Display, PC

Product Specification

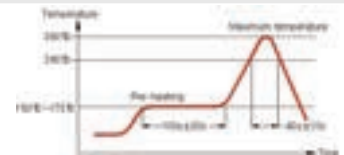
Ratings	Rated current	0.5A Max.	Operating temperature range	-45°C to +85°C 1	Storage temperature range	15°C to 35°C (With packing)
	Rated voltage	50V r.m.s	Operating humidity range	85%RH 2	Storage humidity range	65%RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC/FFC Specification T=0.32±0.03mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	30mΩ Max. / contact	Closed circuit Current : 500μA Open circuit voltage : 20mV Max.
2. Insulation resistance	100MΩ Min.	Test voltage : 100V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 250V for 1minute
4. Actuator Open Force	0.0075kgf × N Min. (N= Pins)	Actuator open test shall be done with film inserted.
5. Withdrawal Force (Horizontal direction)	0.025kgf × N Min. (N= Pins)	An applicable FFC(FPC) shall be pulled from a connector at a speed of 25mm/min and measured extraction force.
6. Vibration	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact	Number of cycles : 20 cycles.
7. Vibration	No damage or mechanical defect No interruption over 1μ sec. Contact resistance : 50mΩ Max. / contact	Amplitude : 1.5mm Test current : DC 100mA Frequency : 10~55~10Hz Duration : X,Y,Z axis each 2 hours.
8. Shock resistance	No damage or mechanical defect No interruption over 1μ sec.	Peak acceleration : 490m/s ² Half sine wave : (Duration : 11ms) Direction : 3direction (X,Y,Z) Number : 3times per each direction
9. Humidity	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact Insulation Resistance : 100MΩ Min.	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
10. Temperature cycle	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact Insulation Resistance : 100MΩ Min.	- 40±3(°C) : 30 minutes → +85±2(°C) : 30 minutes, 96 cycles
11. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.	Reflow condition. (Refer to Reflow)



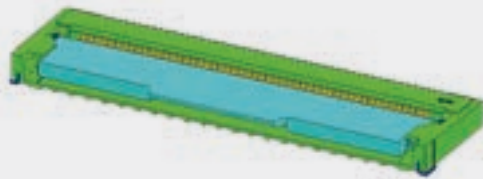
Materials / Finish

Part	Materials	Finish	UL Regulation
Base	LCP	Natural	UL94V-0
Actuator	PA	Black	UL94V-0
Contact Terminal A	Phosphor Bronze	Au over Nickel	-
Fitting Nail	Phosphor Bronze	Sn over Nickel	-

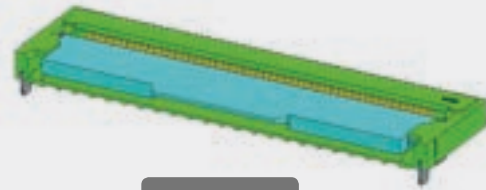
FPC/FFC Connectors (Display)

EROS
Applications | Mobile device, Display, PC

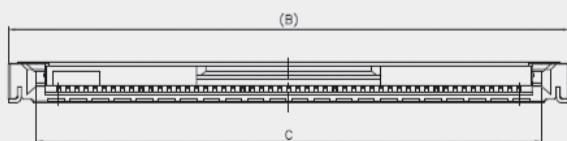
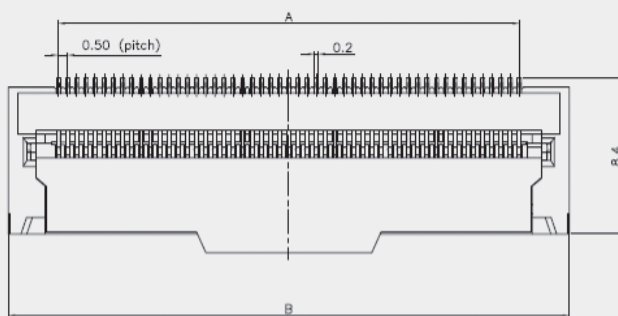
Product Drawing



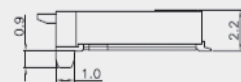
SMD type



DIP type



SMD type



DIP type

Mating Size / Unit : (mm)

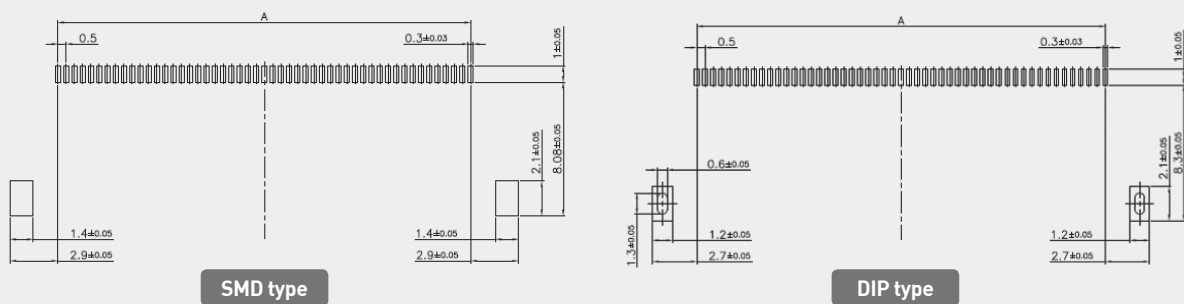
Product No.	No. of Contacts	A	B	C
PF050-O51B-C20-C	51	25.00	30.40	27.40
PF050-O68B-C20-B or C	68	35.00	38.90	35.90
PF050-O80B-C20-B or C	80	39.50	44.90	41.90
PF050-O96B-C20-B	96	47.50	52.90	49.90

FPC/FFC Connectors (Display)

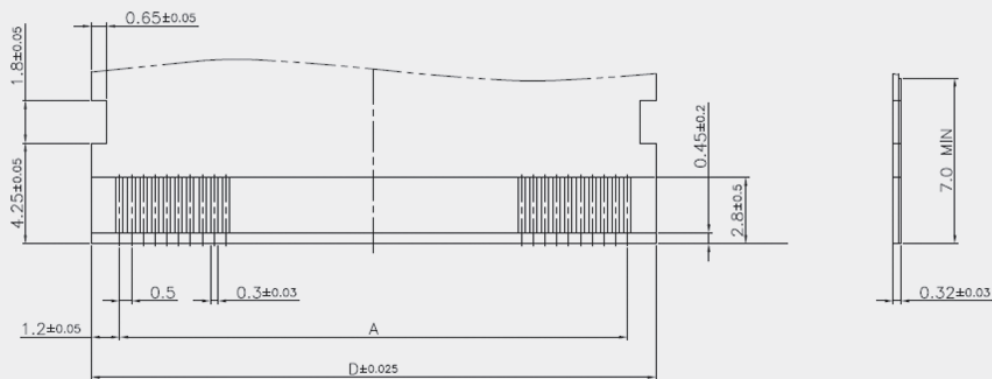


Applications | Mobile device, Display, PC

Recommended PCB , Metal Mask Layout



Recommended FFC/FPC Dimensions



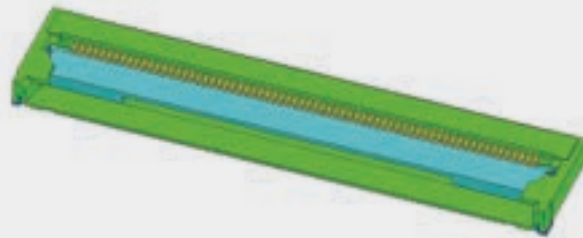
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
PF050-O51B-C20-C	51 SMD	25.00	30.40	27.40	27.375
PF050-O68B-C20-B or C	68 SMD DIP	33.50	38.90	35.90	35.875
PF050-O80B-C20-B or C	80 SMD DIP	39.50	44.90	41.90	41.875
PF050-O96B-C20-B	96 DIP	47.5	52.90	49.90	49.875

FPC/FFC Connectors (Display)

HF

Applications | Mobile device, Display, PC



- ▶ Space-saving design
- ▶ Applicable for FPC/FFC thickness is $0.30\pm 0.05\text{mm}$

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
PF050-O96B-C20-H	0.50	96	8.40	2.20	52.90	-

Rated Current	Contact Resistance	Withstanding Voltage	Temperature Range
0.5A/Pin	30mΩ (Max.)	AC 250V	-45°C ~ 85°C

FPC/FFC Connectors (Display)



Applications | Mobile device, Display, PC

Product Specification

Ratings	Rated current	0.5A Max.	Operating temperature range	-45°C to +85°C 1	Storage temperature range	15°C to 35°C (With packing)
	Rated voltage	50V r.m.s	Operating humidity range	85%RH 2	Storage humidity range	65%RH

1) Including terminal temperature rise.

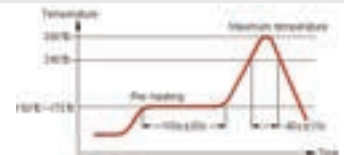
2) Storage area is to be free of corrosive gases and dew formation.

Applicable FPC/FFC Specification T=0.32±0.03mm, Gold Plated

Items	Specifications	Conditions
1. Contact resistance	30mΩ Max. / contact	Closed circuit Current : 500μA Open circuit voltage : 20mV Max.
2. Insulation resistance	100MΩ Min.	Test voltage : 100V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 250V for 1minute
4. Actuator Open Force	0.0075kgf × N Min. (N= Pins)	Actuator open test shall be done with film inserted.
5. Withdrawal Force (Horizontal direction)	0.025kgf × N Min. (N= Pins)	An applicable FFC(FPC) shall be pulled from a connector at a speed of 25mm/min and measured extraction force.
6. Durability	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact	Number of cycles : 20 cycles.
7. Vibration	No damage or mechanical defect No interruption over 1μ sec. Contact resistance : 50mΩ Max. / contact	Amplitude : 1.5mm Test current : DC 100mA Frequency : 10~55~10Hz Duration : X,Y,Z axis each 2 hours.
8. Shock resistance	No damage or mechanical defect No interruption over 1μ sec.	Peak acceleration : 490m/s ² Half sine wave : (Duration : 11ms) Direction : 3direction (X,Y,Z) Number : 3times per each direction
9. Humidity	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact Insulation Resistance : 100MΩ Min.	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
10. Temperature cycle	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact Insulation Resistance : 100MΩ Min.	- 40±3(°C) : 30 minutes → +85±2(°C) : 30 minutes, 96 cycles

11. Solder heat resistance
Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.

Reflow condition.
(Refer to Reflow)



Materials / Finish

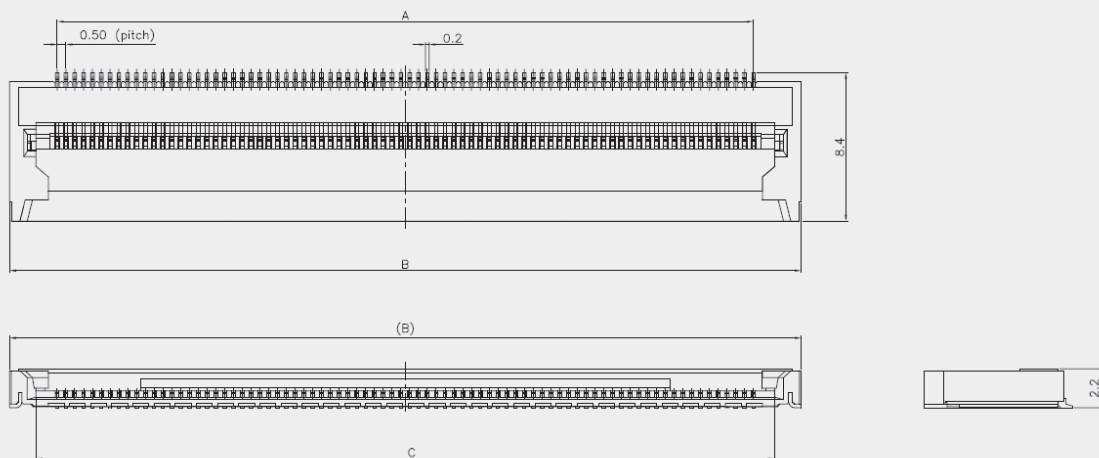
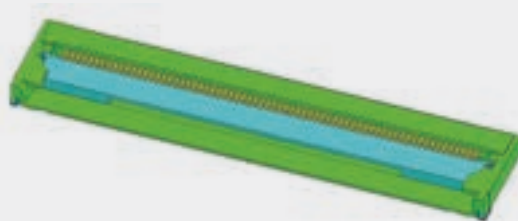
Part	Materials	Finish	UL Regulation
Base	LCP	Natural	UL94V-0
Actuator	PA	Black	UL94V-0
Contact Terminal A	Phosphor Bronze	Au over Nickel	-
Fitting Nail	Phosphor Bronze	Sn over Nickel	-

FPC/FFC Connectors (Display)



Applications | Mobile device, Display, PC

Product Drawing



Mating Size / Unit : (mm)

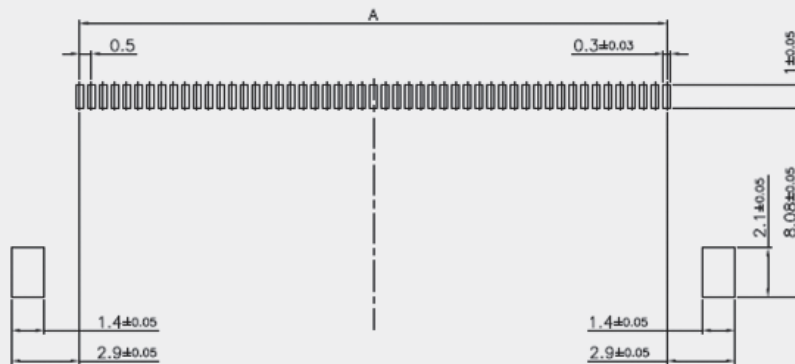
Product No.	No. of Contacts	A	B	C
PF050-OxxB-C20-H	96	47.50	52.90	49.90

FPC/FFC Connectors (Display)

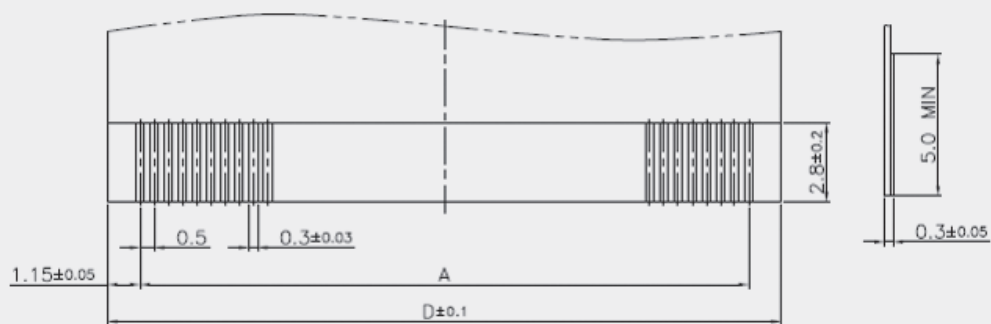


Applications | Mobile device, Display, PC

Recommended PCB , Metal Mask Layout



Recommended FFC/FPC Dimensions



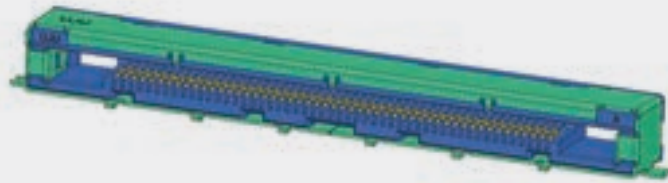
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	B	C
PF050-OxxB-C20-H	96	47.50	52.90	49.90	49.80

FPC/FFC Connectors (Display)

LCD 0.5 Pitch 3.85H

Applications | Mobile device, Display, PC



- ▶ Low Voltage Differential Signaling(LVDS) connector
- ▶ Terminal deformation prevention structure
- ▶ Reverse insertion prevention structure
- ▶ Damage prevention structure by a cover

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
IS050-C41B-C39-S	0.50	41	3.75	3.85	32.85	-
IS050-C51B-C39-S	0.50	51	3.75	3.85	37.85	-

Current Rating	Contact Resistance	Insulation Resistance	Withstanding Voltage	Temperature Range
AWG #30, #32, #36 0.8A/Pin	30mΩ [Max.]	100MΩ [Min.]	AC 250V	-25°C ~ 85°C

FPC/FFC Connectors (Display)

LCD 0.5 Pitch 3.85H

Applications | Mobile device, Display, PC

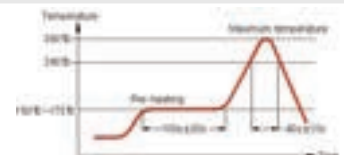
Product Specification

Ratings	Rated current	AWG #30, #32, #36 0.8A/Pin	Operating temperature range	-25°C to +85°C 1	Storage temperature range	15°C to 35°C (With packing)
	Rated voltage	AC, DC 200V	Operating humidity range	25% to 95% RH 2	Storage humidity range	65%RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	30mΩ Max. / contact	- Test current : 10mA. - Open voltage : 20mV max.
2. Insulation resistance	100MΩ Min.	Test voltage : DC 100V 1min±5sec (Based upon MIL-STD-202 Method302 condition B)
3. Withstanding voltage	No flashover or dielectric breakdown	- Test voltage : AC 500V - Electrification time : 1 min/5 sec (Based upon MIL-STD-202 Method 301)
4. Insertion Force	10.2kgf [Max.]	Insert the wafer at a rate of 25±3 mm/min.
5. Withdrawal Force	After 10 test , 0.52kgf [Min.]	Withdraw the wafer at a rate of 25±3 mm/min.
6. Durability	Contact resistance : 80mΩ Max	30 cycle of total insertion and withdrawal operation.
7. Vibration	Contact resistance : 80mΩ Max	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz / Approx 1min. - Duration : 2h each (6h in total)
8. Shock resistance	Discontinuity : 1.0 microsec. MAX.	- Acceleration : 50G (490 $\frac{m}{s^2}$) - Duration : 11ms - Number of shocks : 3 both axial directions, 3 times each, 18 times in total
9. Humidity	- Contact resistance : 80mΩ Max - Insulation resistance : 50MΩ Min	Temperature : 40°C±2°C Humidity : 90% RH to 95% RH Duration : 96hr
10. Temperature cycle	- Contact resistance : 80mΩ Max - Insulation resistance : 50MΩ Min	- 40±3(°C) : 30 minutes → +85±2(°C) : 30 minutes, 96 cycles
11. Solder heat resistance	- No have something wrong of push functions. - No have deformation and fall off. - No have something wrong outward appearance and structure.	Reflow condition. (Refer to Reflow)



Materials / Finish

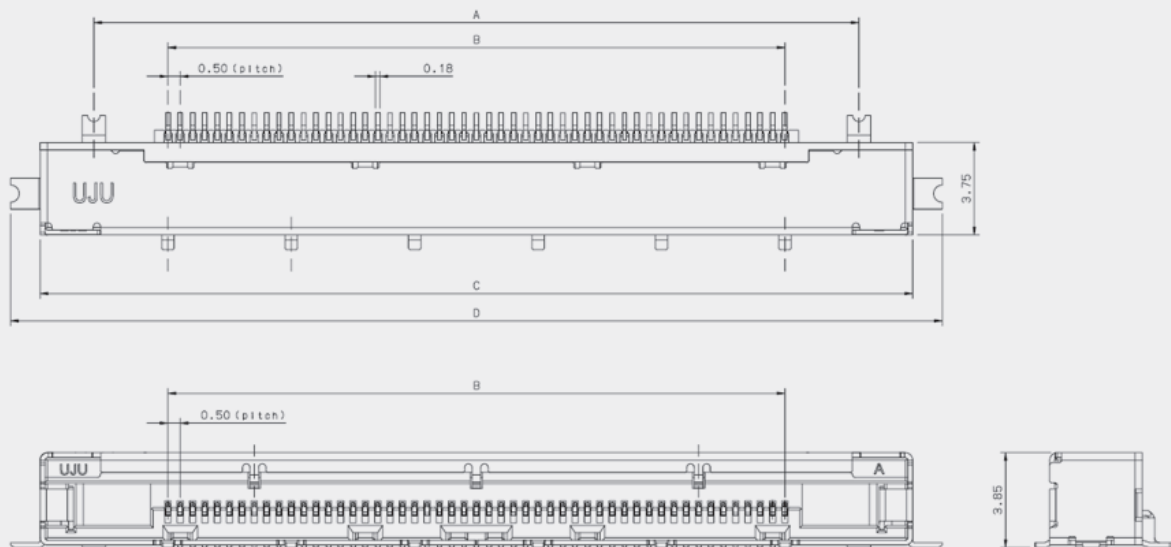
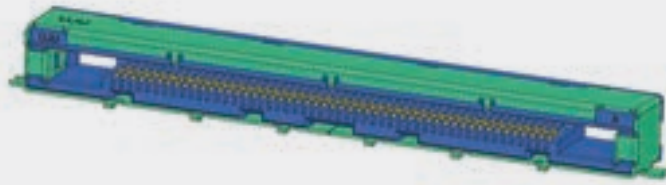
Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Terminal	Phosphor Bronze	Au, Ni plated	-
Cover	Stainless Steel	Sn, Ni plated	-

FPC/FFC Connectors (Display)

LCD 0.5 Pitch 3.85H

Applications | Mobile device, Display, PC

Product Drawing



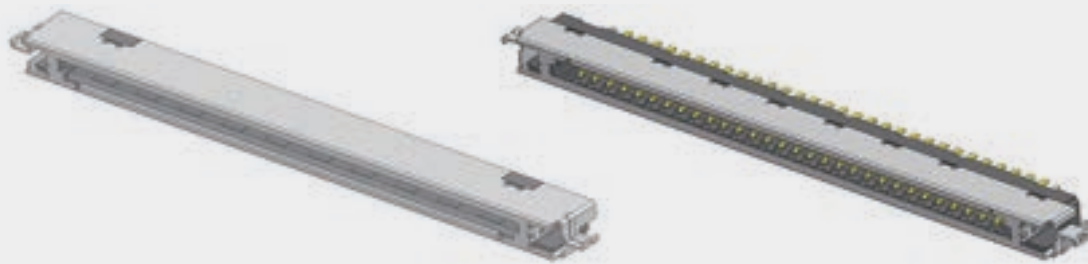
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
IS050-C41B-C39-S	41	26.00	20.00	30.35	32.85
IS050-C51B-C39-S	51	31.00	25.00	35.35	37.85

FPC/FFC Connectors (Display)

Power up offset

Applications | Mobile device, Display, PC



- ▶ 0.5mm pitch, 2.25mm height, Horizontal offset type connector
- ▶ Widely used in a variety of markets including PC, TV etc.
- ▶ Easy mating, 30 cycle durability
- ▶ High data rate transfer
- ▶ Anti-reverse mating design

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
IS100-L300-C23	1.00	30	4.90	2.25	40.00	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
1.0A/Pin (Applicable Wire : AWG #30)	40mΩ (Max.)	500V AC(RMS)	-35°C ~ 85°C

FPC/FFC Connectors (Display)

Power up offset

Applications | Mobile device, Display, PC

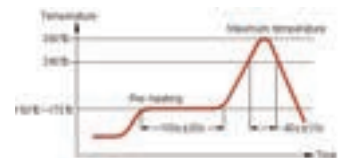
Product Specification

Ratings	Rated current	1.0A/Pin	Operating temperature range	-35°C to +85°C	Storage temperature range	15°C to 35°C (With packing)
	Rated voltage	200V AC(RMS)/DC	Operating humidity range	70%RH Max. 2	Storage humidity range	65%RH Max. 2

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	40mΩ [Max.]	- Open circuit voltage: 20mV Max.(AC) - Test current: 10mA.
2. Insulation resistance	100MΩ [Min.]	100V DC
3. Withstanding voltage	No flashover or dielectric breakdown	500V AC(RMS) for 1minute
4. Insertion Force	6.0kgf [Max.]	Measured force to insert wafer assembly into the housing assembly which has same circuits. (Speed 25mm/Min)
5. Withdrawal Force	0.75kgf [Min]	Measured forces to withdraw wafer assembly from the housing assembly which has same circuits. (Speed 25mm/Min)
6. Durability	Contact resistance - 80mΩ [Max.]	Measured after 30 cycle total insertion and withdrawal operation.
7. Vibration	1) Contact resistance - 80mΩ [Max.] 2) No damage, loose part no crack	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
8. Humidity	1) Contact resistance - 80mΩ [Max.] 2) Insulation resistance : 50MΩ [Min.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	No loose contacts no deformation.	Reflow condition. (Refer to Reflow)



Materials / Finish

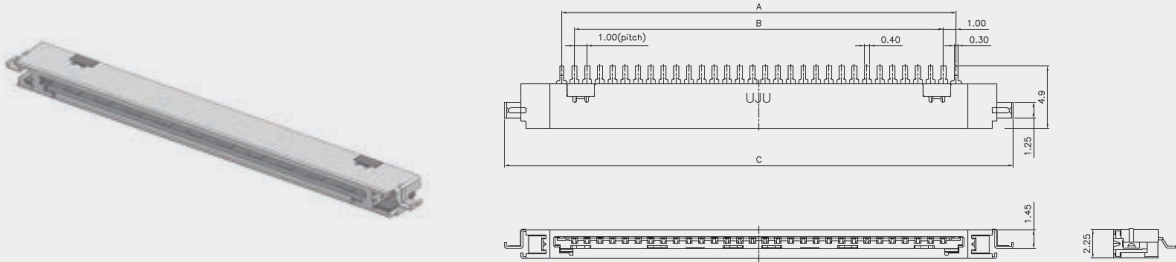
Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Contact Terminal	Phosphor Bronze	Au , Ni plated	-
Guide Terminal	Phosphor Bronze	Sn. Ni plated	-
Cover	Stainless Steel	Pre-plating Sn	-

FPC/FFC Connectors (Display)

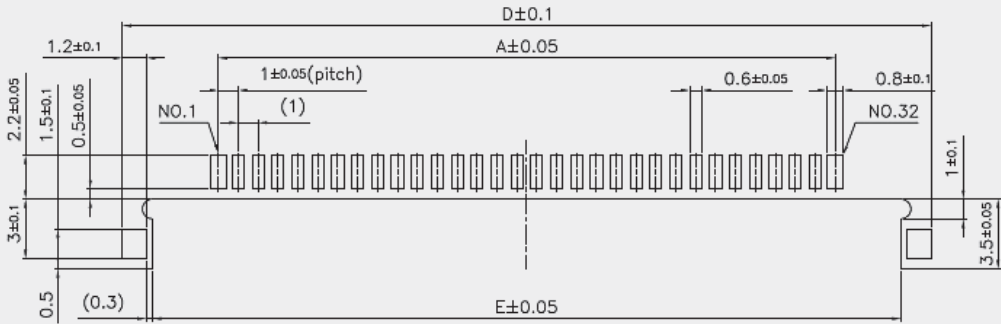
Power up offset

Applications | Mobile device, Display, PC

Product Drawing



Recommended PCB , Metal Mask Layout



RECOMMENDED PAD LAYOUT
(Metal Mask 개구부 Size 1:1 t0.10)

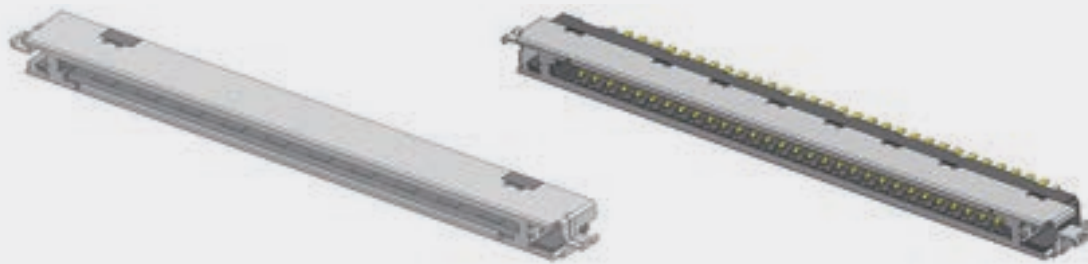
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D	E
IS100-L300-C23	30	31.00	29.00	40.00	40.65	37.65

FPC/FFC Connectors (Display)

Power up on

Applications | Mobile device, Display, PC



- ▶ 0.5mm pitch, 2.25mm height, Horizontal offset type connector
- ▶ Widely used in a variety of markets including PC, TV etc.
- ▶ Easy mating, 30 cycle durability
- ▶ High data rate transfer
- ▶ Anti-reverse mating design

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
IS100-L30B-C23	1.00	30	4.90	2.25	40.00	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
1.0A/Pin (Applicable Wire : AWG #30)	40mΩ (Max.)	500V AC(RMS)	-35°C ~ 85°C

FPC/FFC Connectors (Display)

Power up on

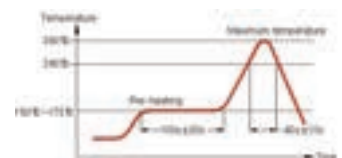
Applications | Mobile device, Display, PC

Product Specification

Ratings	Rated current	1.0A/Pin	Operating temperature range	-35°C to +85°C	Storage temperature range	15°C to 35°C (With packing)
	Rated voltage	200V AC(RMS)/DC	Operating humidity range	70%RH Max. 2	Storage humidity range	65%RH Max. 2

- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	40mΩ [Max.]	- Open circuit voltage: 20mV Max.(AC) - Test current: 10mA.
2. Insulation resistance	100MΩ [Min.]	100V DC
3. Withstanding voltage	No flashover or dielectric breakdown	500V AC(RMS) for 1minute
4. Insertion Force	6.0kgf [Max.]	Measured force to insert wafer assembly into the housing assembly which has same circuits. (Speed 25mm/Min)
5. Withdrawal Force	0.75kgf [Min]	Measured forces to withdraw wafer assembly from the housing assembly which has same circuits. (Speed 25mm/Min)
6. Durability	Contact resistance - 80mΩ [Max.]	Measured after 30 cycle total insertion and withdrawal operation.
7. Vibration	1) Contact resistance - 80mΩ [Max.] 2) No damage, loose part no crack	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
8. Humidity	1) Contact resistance - 80mΩ [Max.] 2) Insulation resistance : 50MΩ [Min.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	No loose contacts no deformation.	Reflow condition. (Refer to Reflow)



Materials / Finish

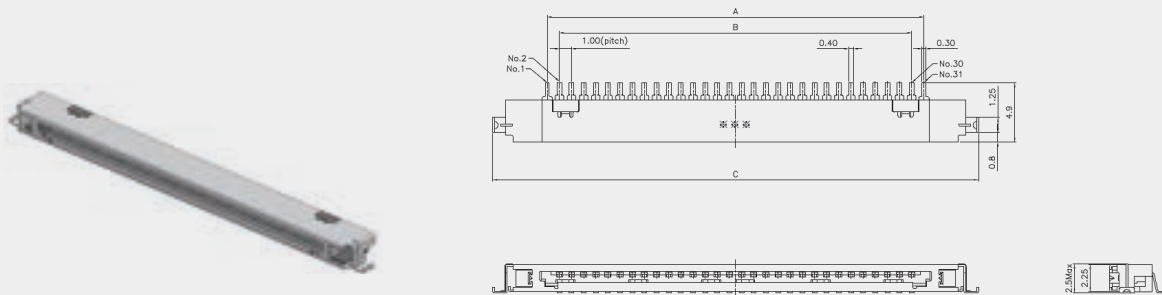
Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Contact Terminal	Phosphor Bronze	Au , Ni plated	-
Guide Terminal	Phosphor Bronze	Sn. Ni plated	-
Cover	Stainless Steel	Pre-plating Sn	-

FPC/FFC Connectors (Display)

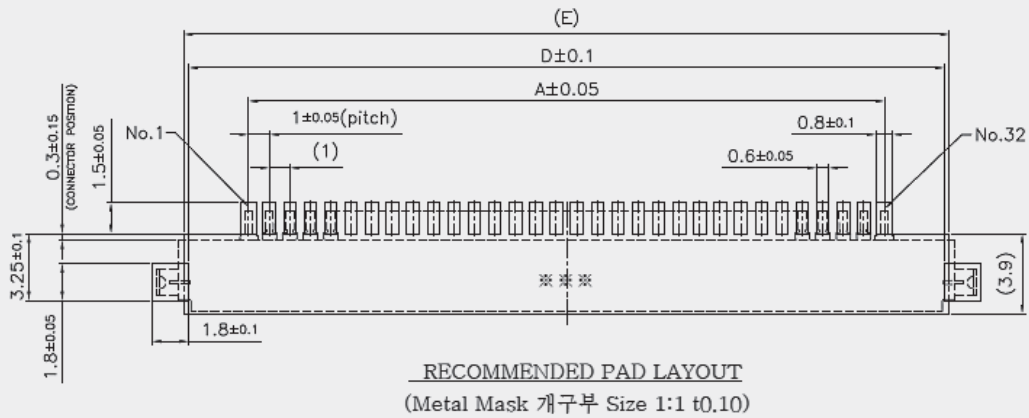
Power up on

Applications | Mobile device, Display, PC

Product Drawing



Recommended PCB , Metal Mask Layout



Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D	E
IS100-L30B-C23	30	31.00	29.00	40.00	36.85	40.35

FPC/FFC Connectors (Display)

Power up Reverse

Applications | Mobile device, Display, PC



- ▶ 0.5mm pitch, 2.30mm(Max.) height, Reverse type connector
- ▶ Widely used in a variety of markets including PC, TV etc.
- ▶ Ease mating, 30 cycle durability
- ▶ High data rate transfer
- ▶ Anti-reverse mating design

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
IS100-L30R-C23	1.00	30	5.35	2.30	40.05	-

Rated Current	Contact Resistance	Withstanding voltage	Temperature Range
1.0A/Pin (Applicable Wire : AWG #30)	40mΩ (Max.)	500V AC(RMS)	-35°C ~ 85°C

FPC/FFC Connectors (Display)

Power up Reverse

Applications | Mobile device, Display, PC

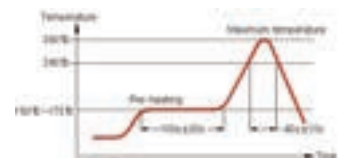
Product Specification

Ratings	Rated current	1.0A/Pin	Operating temperature range	-35°C to +85°C	Storage temperature range	15°C to 35°C (With packing)
	Rated voltage	200V AC(RMS)/DC	Operating humidity range	70%RH Max. 2	Storage humidity range	65%RH Max. 2

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Items	Specifications	Conditions
1. Contact resistance	40mΩ [Max.]	- Open circuit voltage: 20mV Max.(AC) - Test current: 10mA.
2. Insulation resistance	100MΩ [Min.]	100V DC
3. Withstanding voltage	No flashover or dielectric breakdown	500V AC(RMS) for 1minute
4. Insertion Force	6.0kgf [Max.]	Measured force to insert wafer assembly into the housing assembly which has same circuits. (Speed 25mm/Min)
5. Withdrawal Force	0.75kgf [Min]	Measured forces to withdraw wafer assembly from the housing assembly which has same circuits. (Speed 25mm/Min)
6. Durability	Contact resistance - 80mΩ [Max.]	Measured after 30 cycle total insertion and withdrawal operation.
7. Vibration	1) Contact resistance - 80mΩ [Max.] 2) No damage, loose part no crack	- Vibration frequency range : 10~55Hz - Total amplitude : 1.5mm - Sweep ration : 10-55-10Hz/Min - Duration : 2h each (6h in total)
8. Humidity	1) Contact resistance - 80mΩ [Max.] 2) Insulation resistance : 50MΩ [Min.]	- Temperature : 40°C±2°C - Relative humidity : 90% RH to 95% RH - Duration : 96hr
9. Solder heat resistance	No loose contacts no deformation.	Reflow condition. (Refer to Reflow)



Materials / Finish

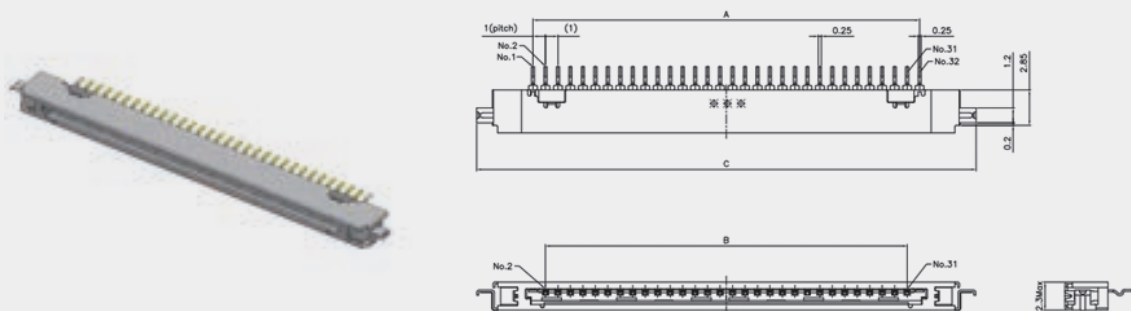
Part	Materials	Finish	UL Regulation
Base	LCP	Black	UL94V-0
Contact Terminal	Phosphor Bronze	Au , Ni plated	-
Cover	Stainless Steel	Pre-plating Sn	-

FPC/FFC Connectors (Display)

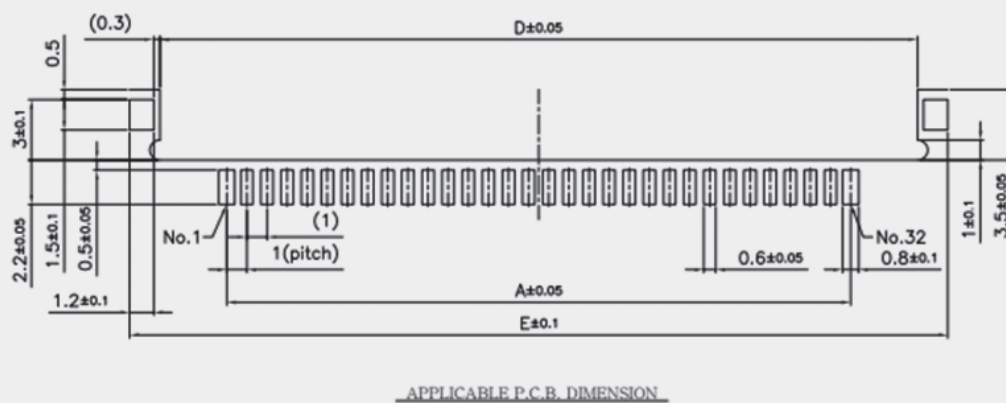
Power up Reverse

Applications | Mobile device, Display, PC

Product Drawing



Recommended PCB, Metal Mask Layout






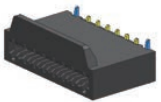
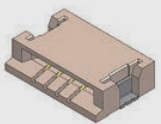
Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D	E
IS100-L30R-C23	30	31.00	29.00	40.65	37.65	40.65

FPC/FFC Connectors (Display, LED Power)

Applications | Mobile device, Display, PC

Mating Size / Unit : (mm) / Please click images to see detail

Item	Pitch (mm)	PINS	Width (mm)	Height (mm)	Current	Page	
	FFC 1.0 Pitch 2.0H	1.00	6	9.30	2.00	1.0A Max.	213 page
	FFC 1.0 Pitch 8PIN 4.6H	1.00	8	10.95	6.20	1.0A Max.	217 page
	FFC 1.0 Pitch 14PIN 4.6H	1.00	14	10.95	6.20	1.0A Max.	222 page
	FFC 1.0 Pitch 8P NON-ZIF	1.00	8	3.45	5.50	1.0A Max.	225 page
	FFC 1.0 4p Angle	1.00	4	6.00	2.00	1.0A Max.	228 page

Product Number Structure

I S 050 - C xx B - C 39 - C

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① **Product : Board To Board**

② **Part**

- F : Female(Receptacle)
- M : Male(Plug)

③ **Pitch**

- ex) 030 : 0.30mm
- 035 : 0.35mm

④ **Base Assembled**

- I : Insert Injection
- V : Manual Assembled

⑤ **Contact Pins**

- ex) 60 : 60pins
- 78 : 78pins

⑥ **Mounting Type**

- B : SMT
- D : SMD

⑦ **Housing Design**

- C : Robust
- N : Non

⑧ **Height**

- ex) 06 : 0.6mm
- 08 : 0.8mm

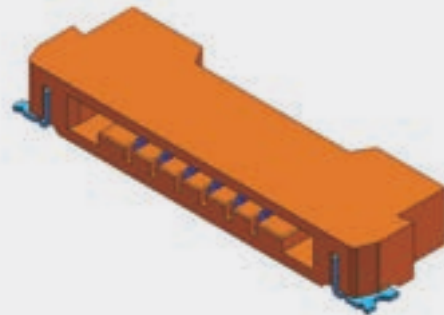
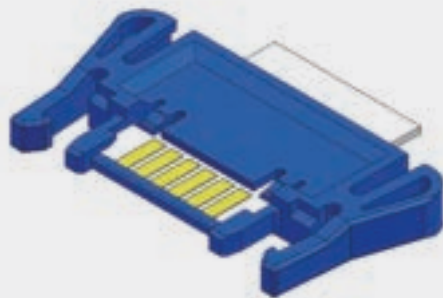
⑨ **Version**

FPC/FFC Connectors

(Display, LED Power)

FFC 1.0 Pitch 2.0H

Applications | Mobile device, Display, PC



- ▶ 1.0mm Pitch, 2.0mm Height, Horizontal type connector
- ▶ Applicable for FFC thickness is 0.40±0.03mm

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
Housing : HS100-L06N-N20	1.00	6	9.30	2.00	18.35	-
Wafer : IS100-L06B-C20	1.00	6	4.00	1.95	37.85	-

Current Rating	Contact Resistance	Withstanding Voltage	Temperature Range
1.0A Max.	100mΩ [Max.]	AC 500V	-35°C ~ 85°C

FPC/FFC Connectors

(Display, LED Power)

FFC 1.0 Pitch 2.0H
Applications | Mobile device, Display, PC

Product Specification

Ratings	Rated current	1.0A Max. / contact	Operating temperature range	-35°C to +85°C	Storage temperature range	15°C to 35°C
	Rated voltage	100V AC, DC	Operating humidity range	85%RH 2	Storage humidity range	65%RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Applicable FFC Specification T=0.4±0.03mm

Items	Specifications	Conditions
1. Contact resistance	100mΩ Max. / contact	Closed circuit Current : 10mA. Opened circuit voltage : 20mV
2. Insulation resistance	50MΩ Min.	Test voltage : 500V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 500V for 1minute
4. Insertion Force	6.0kgf [Max.]	FFC shall be insert at a speed of 25mm/min and measured the insertion force.
5. Durability	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact	Number of cycles : 30 cycles.
6. Vibration	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact	Amplitude: 1.5mm Test current: DC 100mA Frequency: 10-55-10Hz/Min Duration : XYZ axis 2h each (6h in total)
7. Humidity	No damage or mechanical defect Contact resistance : 100mΩ Max. / contact Insulation Resistance : 50MΩ Min.	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
8. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.	Reflow : Refer to the recommended reflow condition.

Materials / Finish

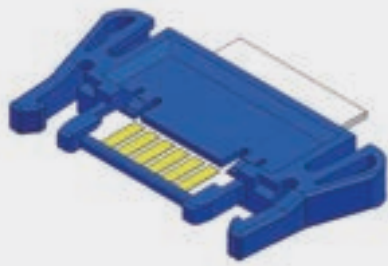
Part	Materials	Finish	UL Regulation
Housing Base	PA66	Natural	UL94V-0
Wafer Base	LCP	Black	UL94V-0
Contact Terminal	Phosphor Bronze	Sn over Nickel	-
Fitting Nail	Phosphor Bronze	Sn over Nickel	-

FPC/FFC Connectors (Display, LED Power)

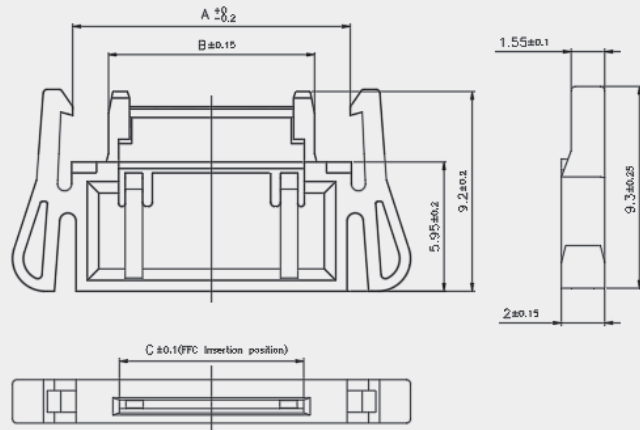
FFC 1.0 Pitch 2.0H

Applications | Mobile device, Display, PC

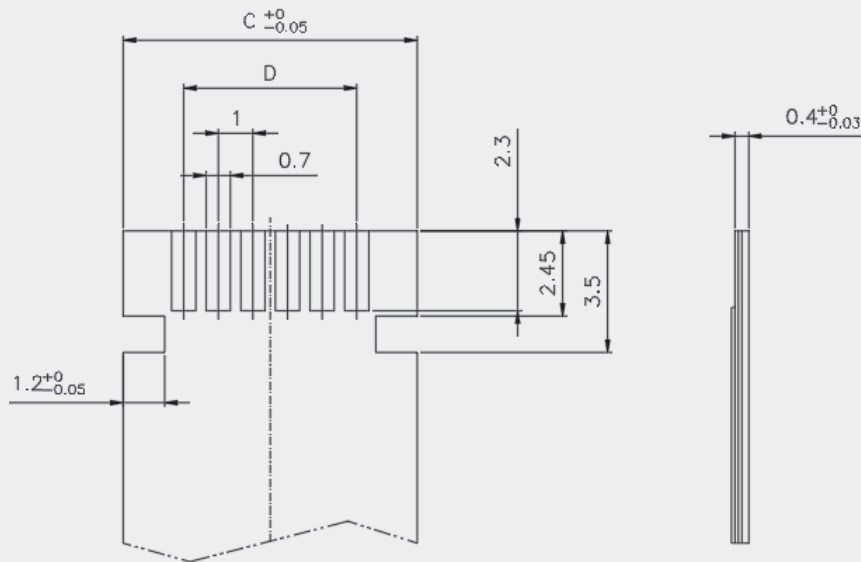
Product Drawing



PLUG/Housing



Recommended FPC Dimensions



Mating Size / Unit : (mm)

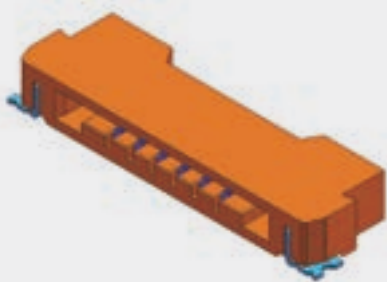
Product No.	No. of Contacts	A	B	C	D
HS100-L06N-N20	6	12.80	9.50	8.50	5.00

FPC/FFC Connectors (Display, LED Power)

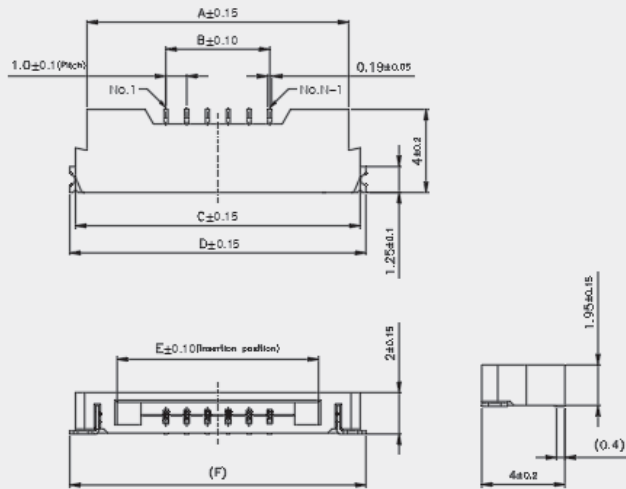
FFC 1.0 Pitch 2.0H

Applications | Mobile device, Display, PC

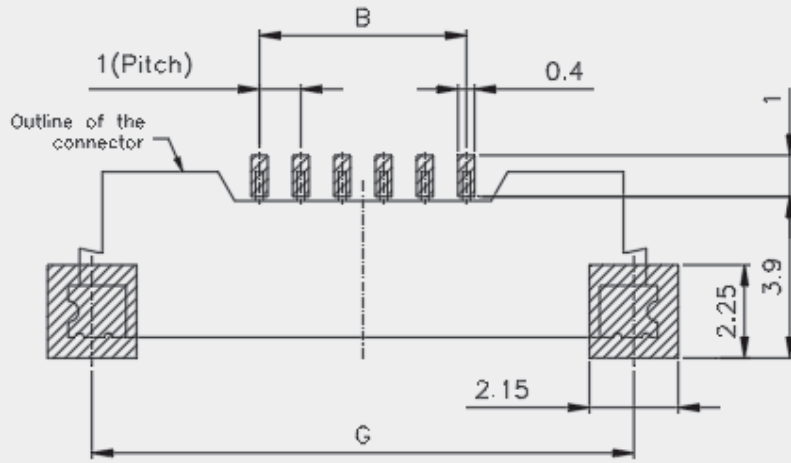
Product Drawing



HDR/Wafer



Recommended PCB , Metal Mask Layout



Recommended PCB Dimensions

Mating Size / Unit : (mm)

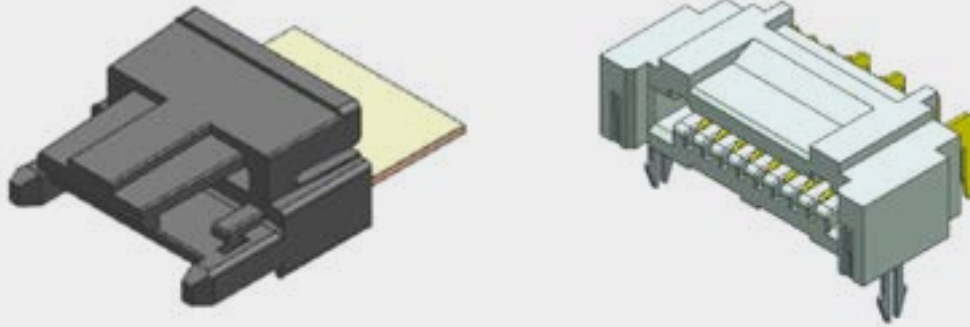
Product No.	No. of Contacts	A	B	C	D	E	F	G
IS100-L06B-C20	6	12.60	5.00	13.70	14.25	9.70	14.25	13.10

FPC/FFC Connectors

(Display, LED Power)

FFC 1.0 Pitch 8PIN 4.6H

Applications | Mobile device, Display, PC



- ▶ 1.0mm Pitch, 6.2mm Height, Horizontal type connector
- ▶ Applicable for FFC thickness is 0.40±0.03mm

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
Housing : HS100-L08N-N62 HS100-L08N-N62-A	1.00	8	10.95	6.20	11.30	-
DIP Wafer : IS100-L08T-C46 IS100-L08T-C46-A	1.00	8	10.27	4.60	14.90	-
SMD Wafer : IS100-L08T-C46-B IS100-L08T-C46-C IS100-L08B-C46 IS100-L08B-C46-A	1.00	8	7.80	4.40	16.35	-
Housing : HS100-L14N-N62 HS100-L14N-N62-A	1.00	14	10.95	6.20	17.30	-
DIP Wafer : IS100-L14T-C46 IS100-L14T-C46-A	1.00	14	10.27	4.60	20.90	-
SMD Wafer : IS100-L08T-C46-B IS100-L08T-C46-C	1.00	14	7.80	4.40	22.35	-

Current Rating	Contact Resistance	Withstanding Voltage	Temperature Range
1.0A Max.	50mΩ [Max.]	AC 500V	-35°C ~ 85°C

FPC/FFC Connectors

(Display, LED Power)

FFC 1.0 Pitch 8PIN 4.6H

Applications | Mobile device, Display, PC

Product Specification

Ratings	Rated current	1.0A Max. / contact	Operating temperature range	-35°C to +85°C	Storage temperature range	15°C to 35°C
	Rated voltage	150V AC, DC	Operating humidity range	85%RH 2	Storage humidity range	65%RH

1) Including terminal temperature rise.

2) Storage area is to be free of corrosive gases and dew formation.

Applicable FFC Specification T=0.4±0.03mm

Items	Specifications	Conditions
1. Contact resistance	50mΩ Max. / contact	Closed circuit Current : 10mA. Opened circuit voltage : 20mV
2. Insulation resistance	50MΩ Min.	Test voltage : 500V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 500V for 1minute
4. Insertion Force	4.0kgf [Max.]	FFC shall be insert at a speed of 25mm/min and measured the insertion force.
5. Durability	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact	Number of cycles : 30 cycles.
6. Vibration	No damage or mechanical defect Contact resistance : 500mΩ Max. / contact	Amplitude: 1.5mm Test current: DC 100mA Frequency: 10-55-10Hz/Min Duration : XYZ axis 2h each (6h in total)
7. Humidity	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact Insulation Resistance : 50MΩ Min.	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
8. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.	Reflow : Refer to the recommended reflow condition.

Materials / Finish

Part	Materials	Finish	UL Regulation
Housing Base	PA66	Natural	UL94V-0
Wafer Base	LCP	Black	UL94V-0
Contact Terminal - A	Phosphor Bronze	Sn over Nickel	-
Contact Terminal - B	Phosphor Bronze	Sn over Nickel	-
Fitting Nail	Phosphor Bronze	Sn over Nickel	-

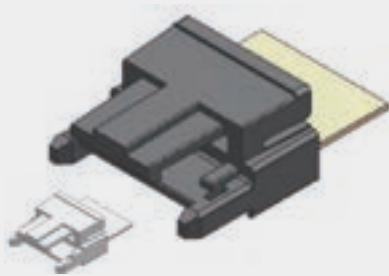
FPC/FFC Connectors

(Display, LED Power)

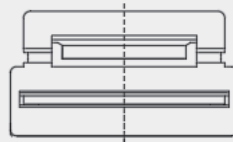
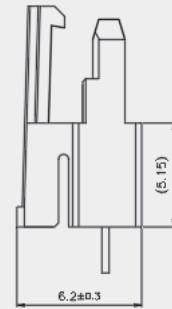
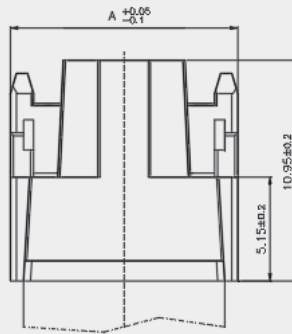
FFC 1.0 Pitch 8PIN 4.6H

Applications | Mobile device, Display, PC

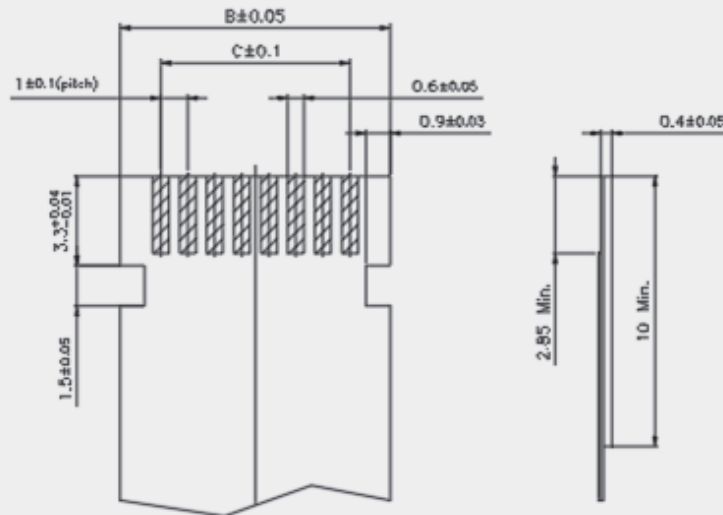
Product Drawing



Housing



Recommended FPC Dimensions



Mating Size / Unit : (mm)

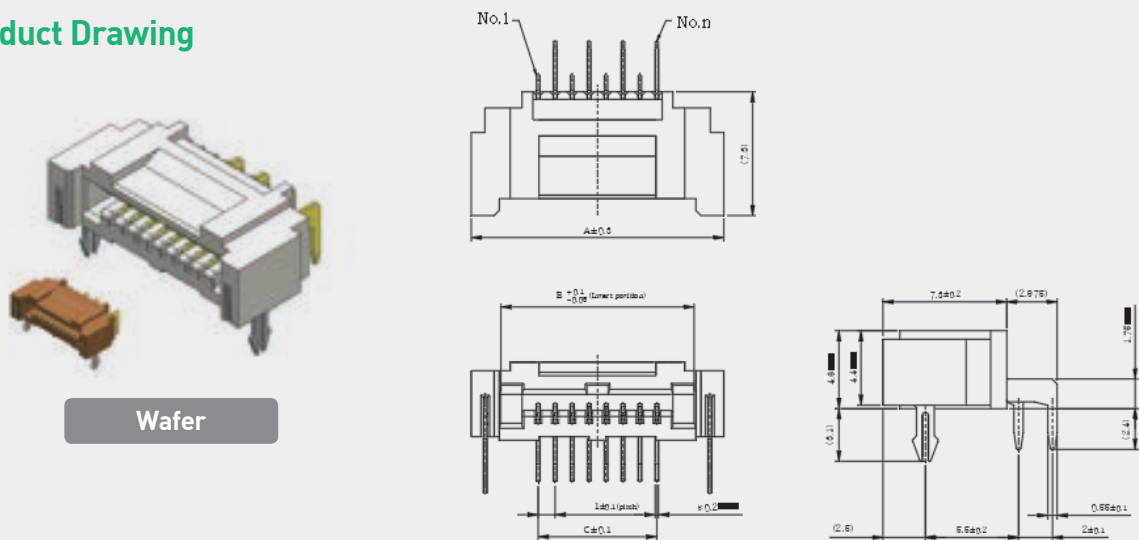
Product No.	No. of Contacts	A	B	C
HS100-L08N-N62-A	8	11.30	10.00	7.00

FPC/FFC Connectors (Display, LED Power)

FFC 1.0 Pitch 8PIN 4.6H

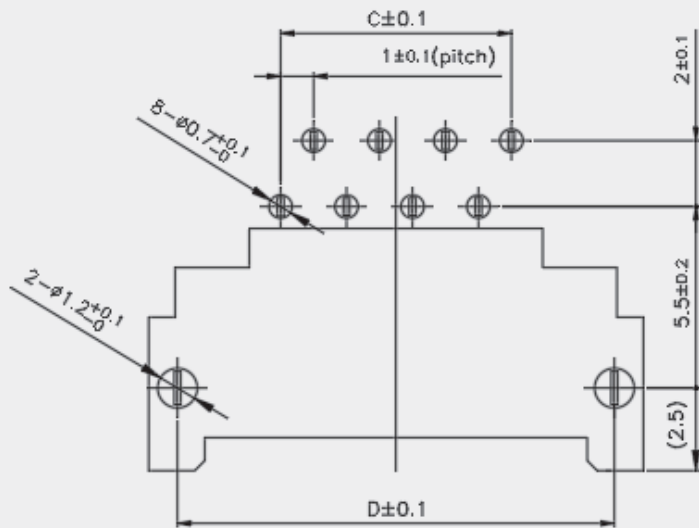
Applications | Mobile device, Display, PC

Product Drawing



Wafer

Recommended PCB, Metal Mask Layout



Recommended PCB Dimensions

Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
IS100-L08T-C46-A	8	14.90	11.40	7.00	13.25

FPC/FFC Connectors (Display, LED Power)

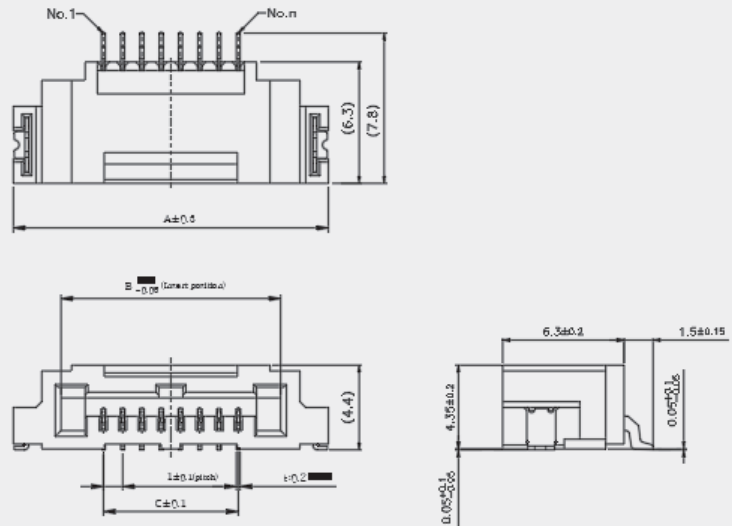
FFC 1.0 Pitch 8PIN 4.6H

Applications | Mobile device, Display, PC

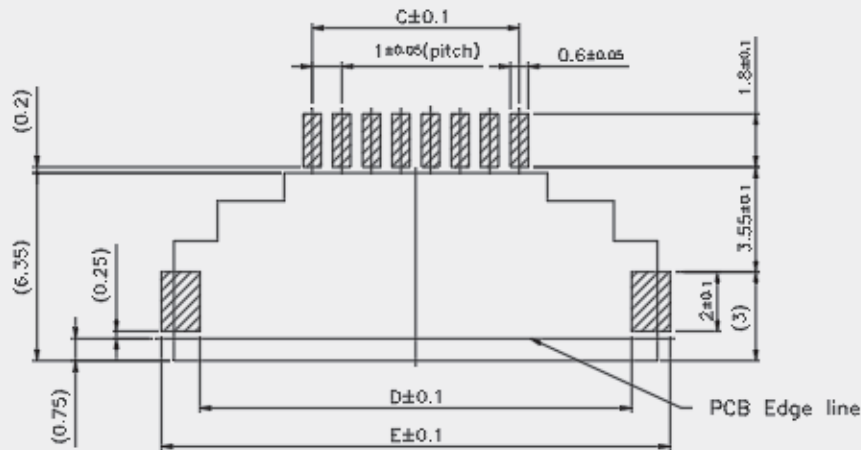
Product Drawing



Wafer



Recommended PCB, Metal Mask Layout



Recommended PCB Dimensions

Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D	E
IS100-L08B-C46-A	8	16.35	11.40	7.00	14.60	17.20

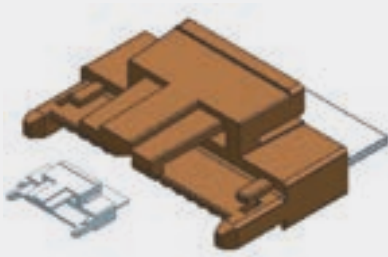
FPC/FFC Connectors

(Display, LED Power)

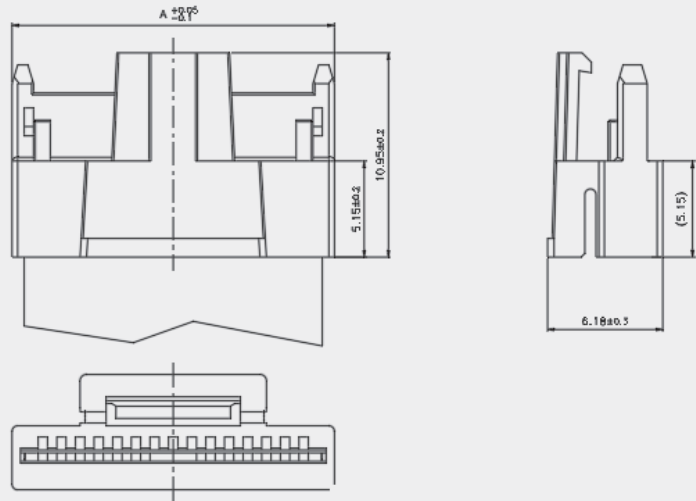
FFC 1.0 Pitch 14PIN 4.6H

Applications | Mobile device, Display, PC

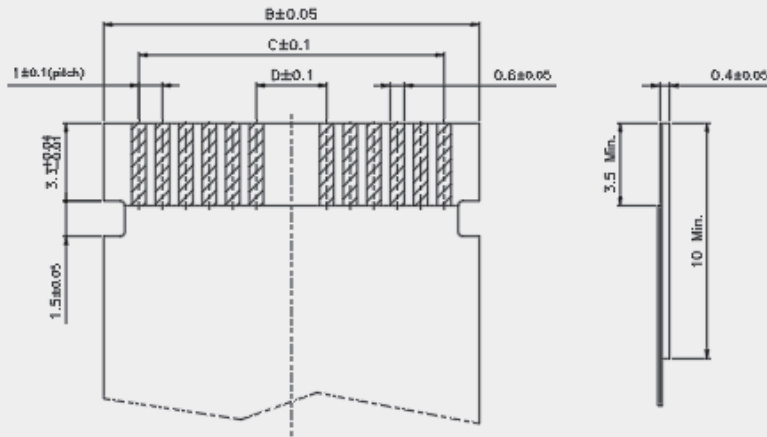
Product Drawing



Housing



Recommended FPC Dimensions



Mating Size / Unit : (mm)

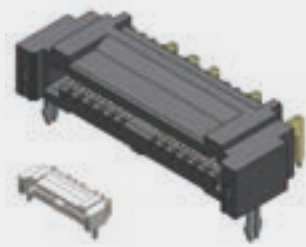
Product No.	No. of Contacts	A	B	C	D
HS100-L14N-N62-A	14	17.30	16.00	13.00	3.00

FPC/FFC Connectors (Display, LED Power)

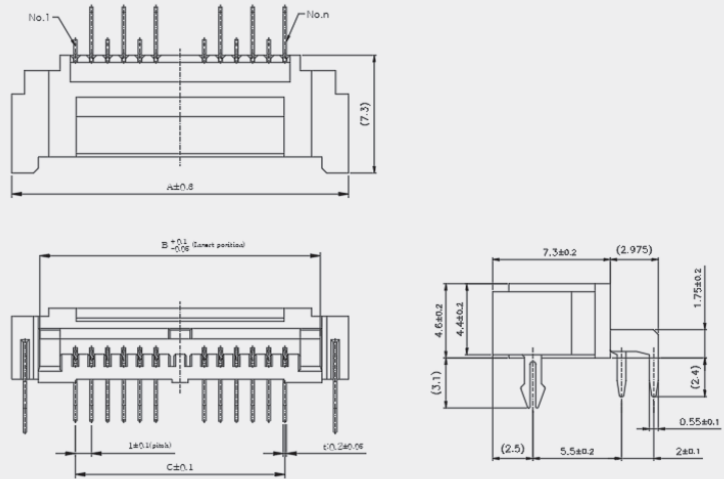
FFC 1.0 Pitch 14PIN 4.6H

Applications | Mobile device, Display, PC

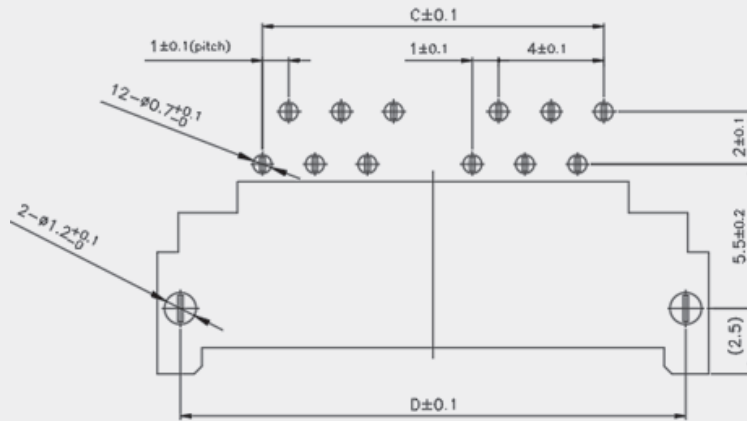
Product Drawing



Wafer



Recommended PCB, Metal Mask Layout



Recommended PCB LAYOUT

Mating Size / Unit : (mm)

Product No.	No. of Contacts	A	B	C	D
IS100-L14T-C46-A	14	20.90	17.40	13.00	19.25

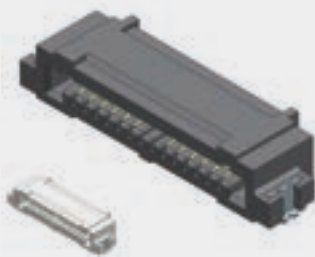
FPC/FFC Connectors

(Display, LED Power)

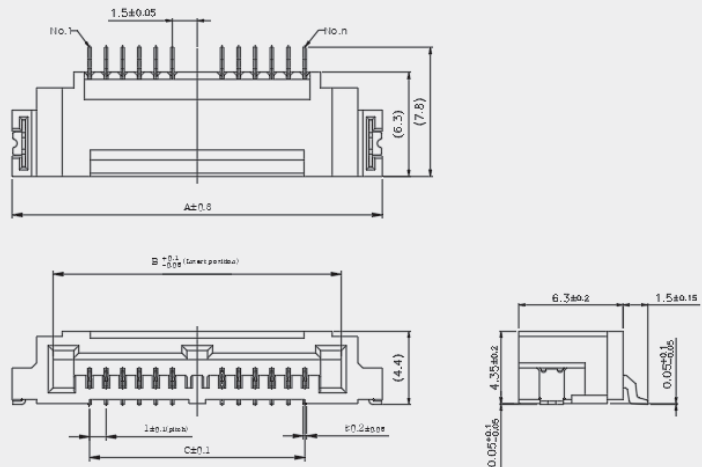
FFC 1.0 Pitch 14PIN 4.6H

Applications | Mobile device, Display, PC

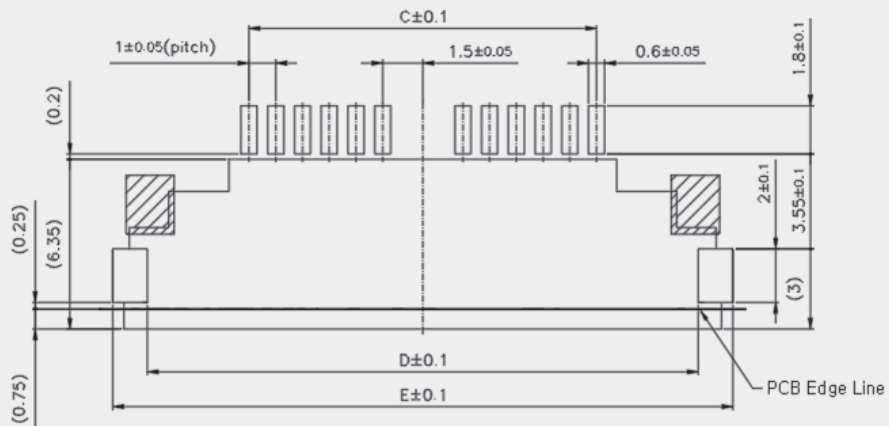
Product Drawing



Wafer



Recommended PCB , Metal Mask Layout



Recommended PCB Dimensions

Mating Size / Unit : (mm)

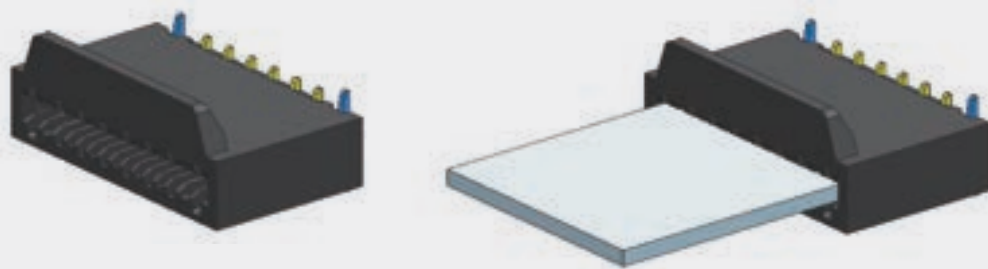
Product No.	No. of Contacts	A	B	C	D	E
IS100-L14T-C46-C	14	22.35	17.40	13.00	20.60	23.20

FPC/FFC Connectors

(Display, LED Power)

FFC 1.0 Pitch 8P NON-ZIF

Applications | Mobile device, Display, PC



- ▶ 1.0mm Pitch, 5.5mm Height
- ▶ Applicable for FFC thickness is 0.40 ± 0.03 mm

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
FN100-Z08B-C55	1.00	8	3.45	5.50	11.20	-

Current Rating	Contact Resistance	Withstanding Voltage	Temperature Range
1.0A Max.	30mΩ [Max.]	DC 500V	-35°C ~ 85°C

FPC/FFC Connectors

(Display, LED Power)

FFC 1.0 Pitch 8P NON-ZIF

Applications | Mobile device, Display, PC

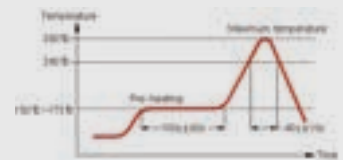
Product Specification

Ratings	Rated current	1.0A Max. / contact	Operating temperature range	-35°C to +85°C	Storage temperature range	15°C to 35°C
	Rated voltage	150V AC, DC	Operating humidity range	85%RH 2	Storage humidity range	65%RH

- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Applicable FFC Specification T=0.4±0.03mm

Items	Specifications	Conditions
1. Contact resistance	30mΩ Max. / contact	Closed circuit Current : 10mA. Opened circuit voltage : 20mV
2. Insulation resistance	50MΩ Min.	Test voltage : 500V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	DC 500V for 5sec
4. Insertion Force	0.4Kgf Max. / pin	FFC shall be insert at a speed of 25mm/min and measured the insertion force.
5. Durability	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact	Number of cycles : 30 cycles.
6. Vibration	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out Contact resistance : 50mΩ Max. / contact	Amplitude: 1.5mm Frequency: 10~55~10Hz Duration : X,Y,Z axis each 2 hours.
7. Humidity	No damage or mechanical defect Contact resistance : 50mΩ Max. / contact Insulation Resistance : 50MΩ Min.	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr
8. Solder heat resistance	Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.	Reflow : Refer to the recommended reflow condition.



Materials / Finish

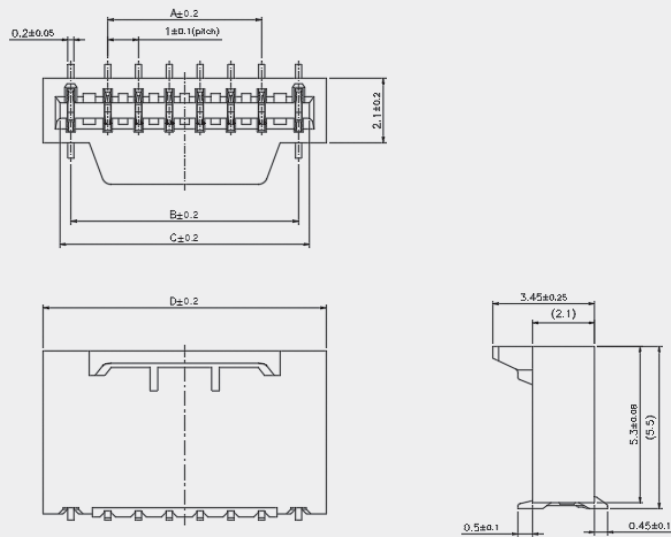
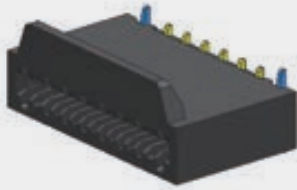
Part	Materials	Finish	UL Regulation
Base Insulation	PA4T	Black	UL94V-0
Contact Terminal	Phosphor Bronze	Sn over Nickel	-
Fitting Nail	Phosphor Bronze	Sn over Nickel	-

FPC/FFC Connectors (Display, LED Power)

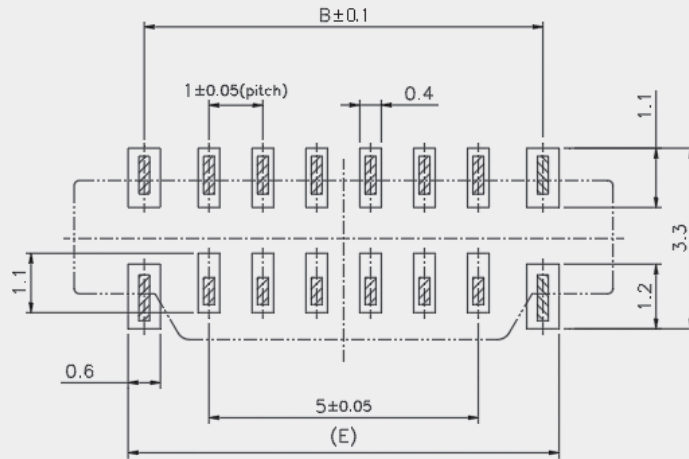
FFC 1.0 Pitch 8P NON-ZIF

Applications | Mobile device, Display, PC

Product Drawing



Recommended PCB , Metal Mask Layout



Mating Size / Unit : (mm)

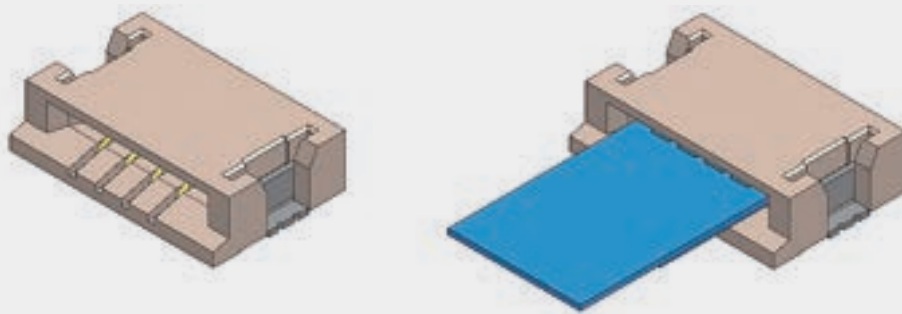
Product No.	No. of Contacts	A	B	C	D	E
FN100-Z08B-C55	8	7.00	9.40	10.10	11.20	10.00

FPC/FFC Connectors

(Display, LED Power)

FFC 1.0 4p Angle

Applications | Mobile device, Display, PC



- ▶ 1.0mm Pitch, 2.0mm Height
- ▶ Applicable for FFC thickness is 0.30±0.03mm

Code & Specification

Mating Size / Unit : (mm)

Product Code	Pitch (mm)	No. of Contacts	Width (mm)	Height (mm)	Length	Remark
FN100-Z04B-C20	1.00	4	6.00	2.00	7.70	-

Current Rating	Contact Resistance	Withstanding Voltage	Temperature Range
1.0A Max.	100mΩ [Max.]	AC 500V	-35°C ~ 85°C

FPC/FFC Connectors

(Display, LED Power)

FFC 1.0 4p Angle

Applications | Mobile device, Display, PC

Product Specification

Ratings	Rated current	1.0A Max.	Operating temperature range	-35°C to +85°C	Storage temperature range	15°C to 35°C
	Rated voltage	40V r.m.s	Operating humidity range	85%RH 2	Storage humidity range	65%RH

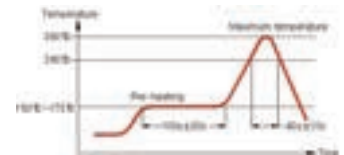
- 1) Including terminal temperature rise.
- 2) Storage area is to be free of corrosive gases and dew formation.

Applicable FFC Specification T=0.3±0.03mm

Items	Specifications	Conditions
1. Contact resistance	50mΩ Max. / contact	Closed circuit Current : 1mA. Opened circuit voltage : 20mV
2. Insulation resistance	100MΩ Min.	Test voltage : 500V D.C.
3. Withstanding voltage	No flashover or dielectric breakdown	AC 500V for 1minute
4. Insertion force	1.6Kgf Max.	Pull the FPC from a connector at a speed of 25mm/min and measured extraction force.
5. Withdrawal force	0.12kgf Min.	Pull the FPC(FFC) from a connector at a speed of 25mm/min and measured extraction force.
6. Vibration	No damage or mechanical defect Contact resistance : 40mΩ Max. / contact	Number of cycles : 10 cycles.
7. Shock	No damage or mechanical defect No interruption over 1μ sec. No FPC drop out Contact resistance : 40mΩ Max. / contact	Amplitude: 1.5mm Frequency: 10~55~10Hz Duration : X,Y,Z axis each 2 hours
8. Humidity	No damage or mechanical defect Contact resistance : 40mΩ Max. / contact Insulation Resistance : 100MΩ Min.	Temperature : 40°C±2°C Humidity : 90% ~ 95% Duration : 96hr

9. Solder heat resistance
- Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.

Reflow condition.
(Refer to Reflow)



Materials / Finish

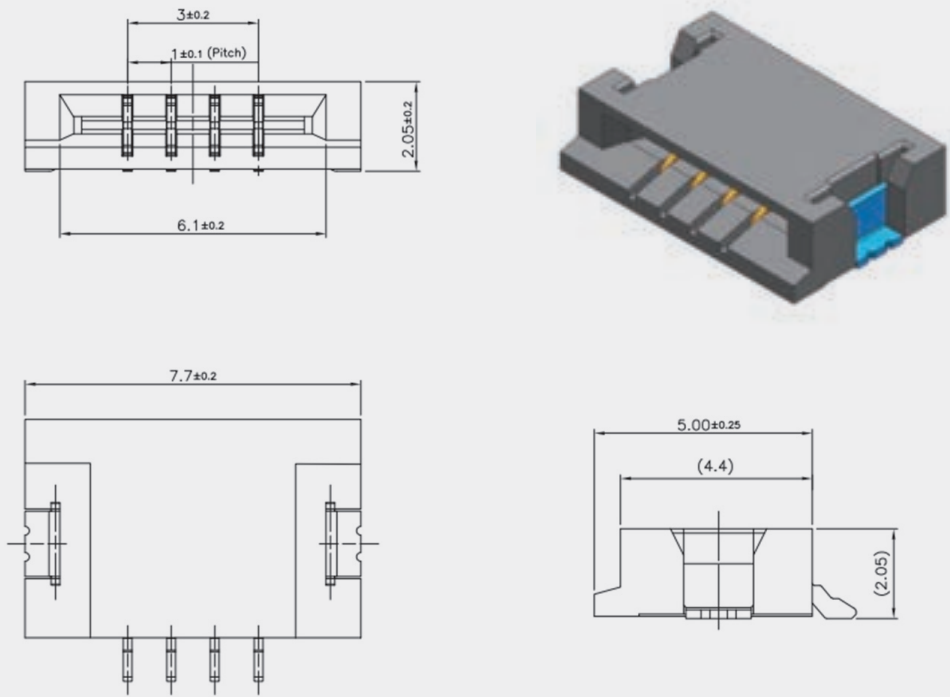
Part	Materials	Finish	UL Regulation
Base Insulation	LCP	Natural Color	UL94V-0
Contact Terminal	Phosphor Bronze	Au over Nickel	-
Fitting Nail	Brass	Sn over Nickel	-

FPC/FFC Connectors (Display, LED Power)

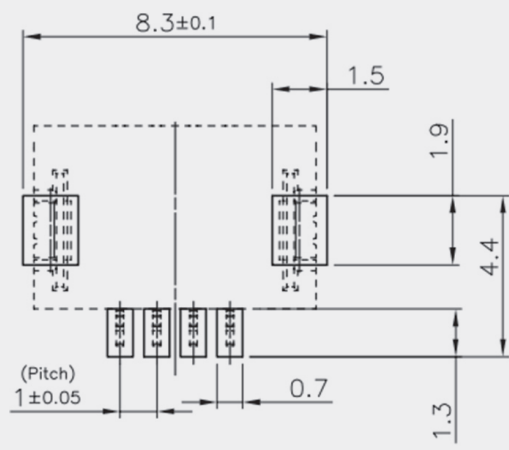
FFC 1.0 4p Angle

Applications | Mobile device, Display, PC

Product Drawing



Recommended PCB , Metal Mask Layout



Globalization

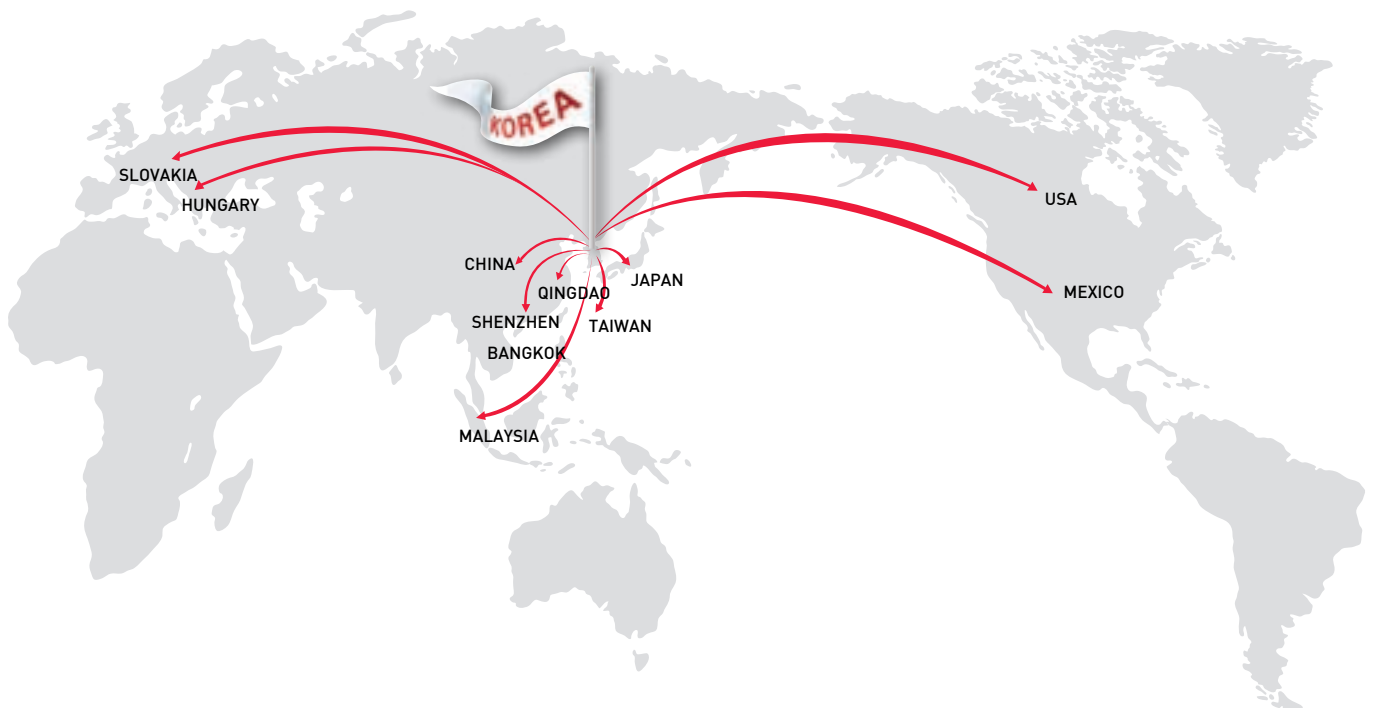
Professional company
leading IT industry in the connector sector

Product Specialized connector for mobile and LCD TV/Monitor, etc.

Price Competitive price, cost innovation

Place Perfect positioning for market demand

Promotion Advertising & marketing with overseas network



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UJU...
Refers to Join of [ju:](You) and everything
within the Universe, the space surrounding
the whole world.



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