

Floating Board To Board Connector

Automotive Connector

VB1

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

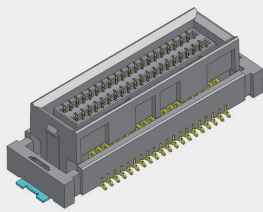
④ Type : Vertical

⑤ No. of position : 40P

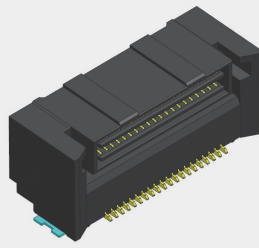
⑥ Test of on board : Through hole

⑦ Shape symbol : With Fitting Nail

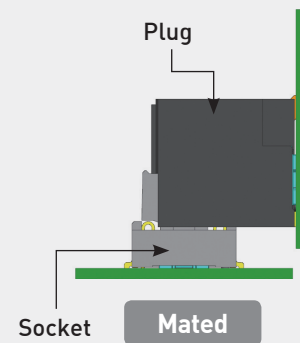
⑧ Connector Height : 15.9mm



Socket



Plug



Socket

Mated

- ▶ Floating structure for absorbing Vibration in the X, Y, Z direction
- ▶ Floating range $\pm 0.5\text{mm}$ 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

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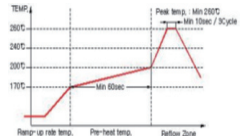
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Product Specification

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 - Bath temperature : 85°C / Humidity : 85% - Reflow temperature profile is below (Peak 260°C , 10s, 3cycles Min.)
7. Solder heat resistance	There will be no peeling or deformation. No abnormalities in appearance and structure.	

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	-

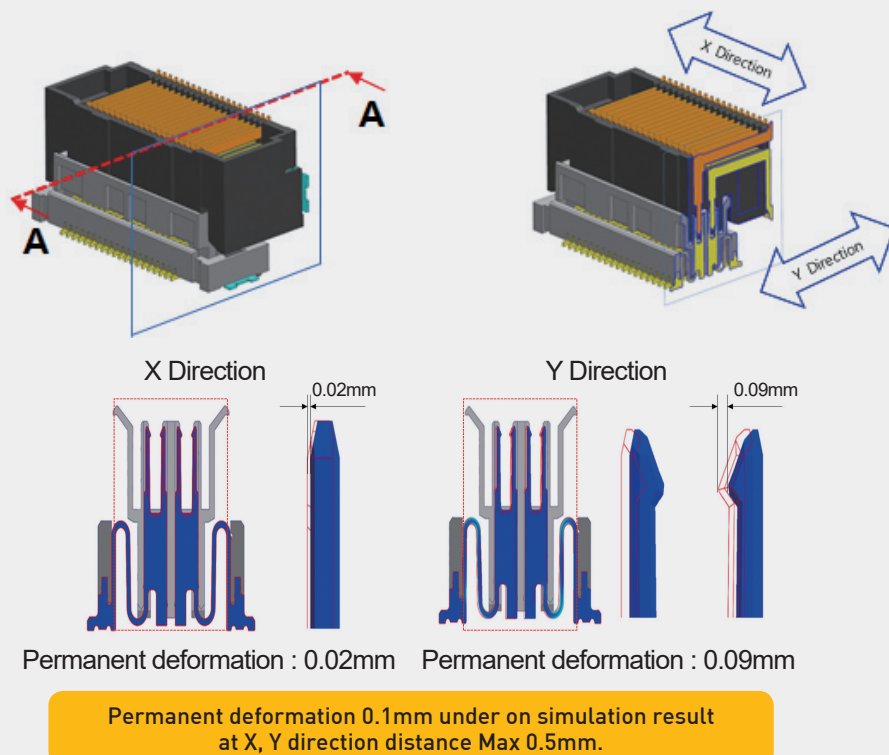
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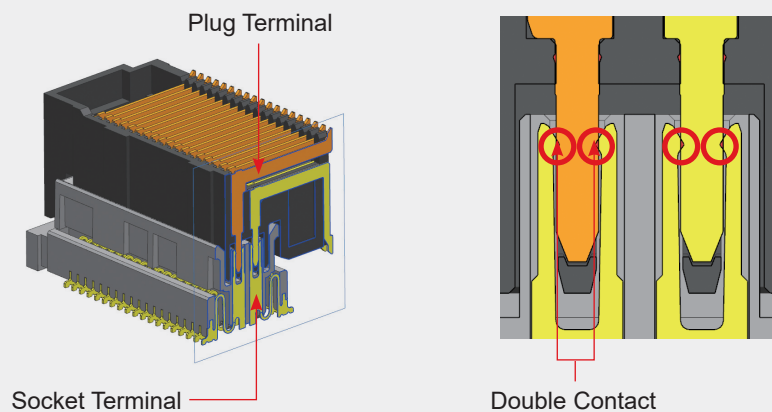
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FEATURES AND ADVANTAGES

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



- ▶ Double Contact point for stable contact preservation



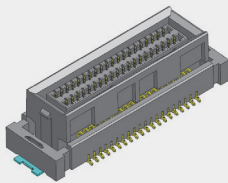
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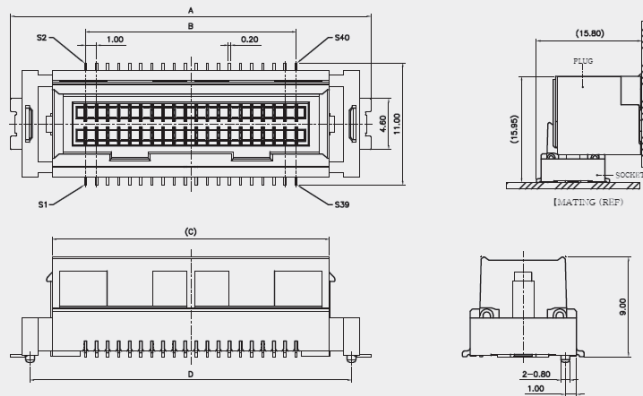
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TYPE : RECEPTACLE (FEMALE)

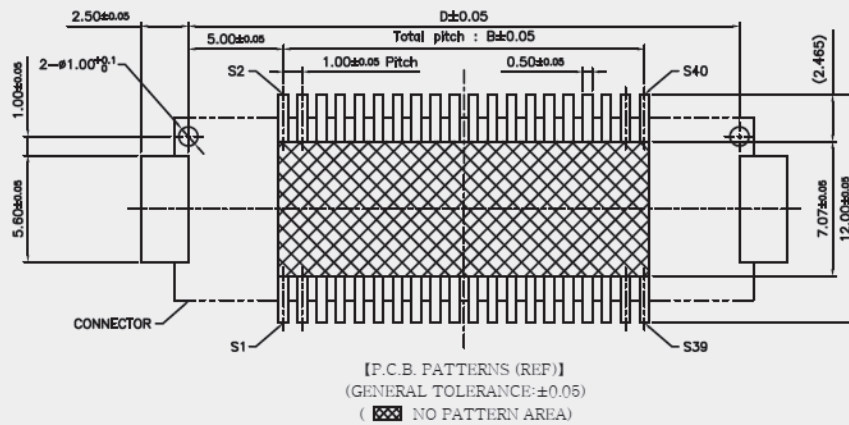
Product Drawing



Female (Receptacle)



Recommended PCB , Metal Mask Layout



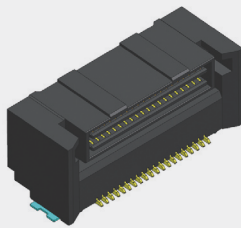
Mating Size / Unit : (mm)

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

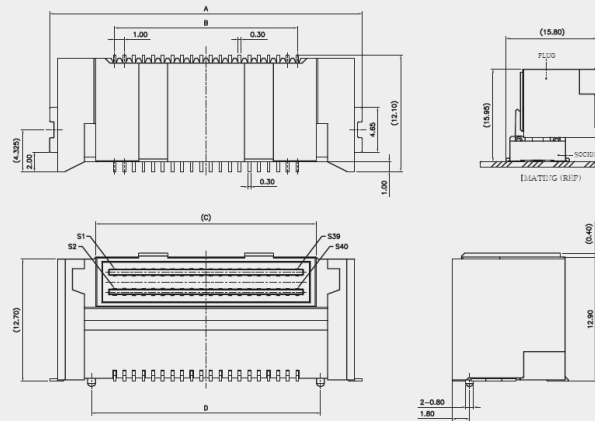
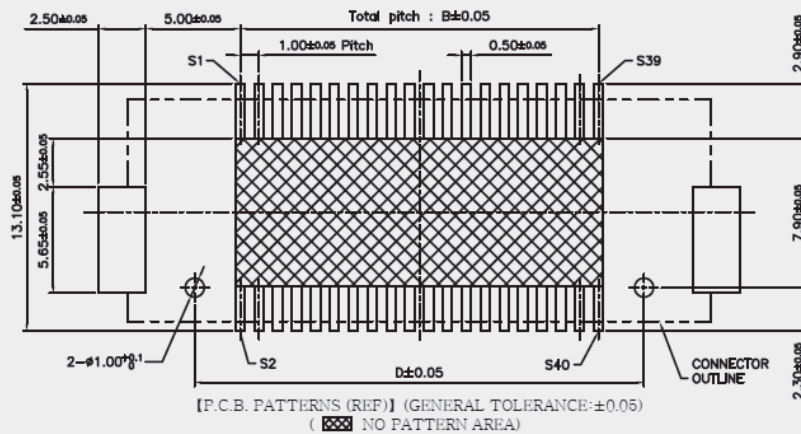
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TYPE : PLUG (MALE)
Product Drawing


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