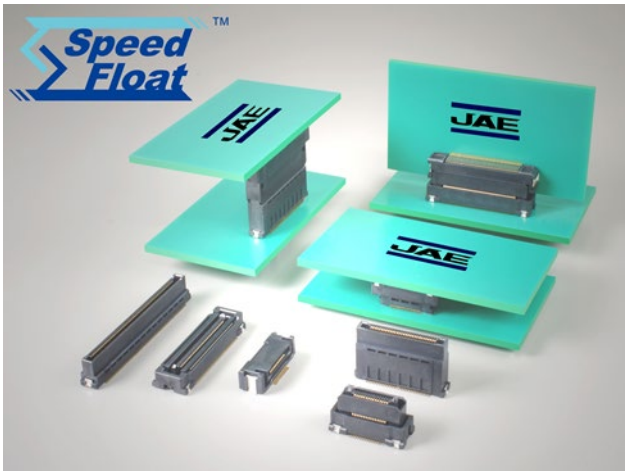
MA01Series

CONNECTOR

Automotive Grade, High-speed Transmission, Floating Board-to-board Connector

MB-0369-2
Mar.2022

RoHS Compliant



The MA01 Series is the next generation floating board-to-board connector. This product features a highly reliable two-point contact structure, achieving high-speed transmission exceeding 8Gbps. With an operation temperature range of -40℃ to 125℃ the connector is suitable for harsh temperature environments unique to the automotive industry.

Applicable Markets

On board equipment (ADAS-ECU, Central gateway, etc.), Factory automation equipment, semiconductor manufacturing equipment, office machines, communication equipment, measuring equipment, broadcasting equipment and other various applications

Features

- Floating tolerance: ±0.5 mm in both X-axis & Y-axis directions
- Stacking height tolerance between boards: ±0.5 mm in Z-axis direction
- Two-point contact structure ensures high contact reliability
- Low insertion and removal forces achieved by roll surface contact structure
- Operating temperature range: -40° C to +125° C
- 8 Gbps+ high-speed transmission (10 GBASE-KR and PCIe Gen3 equivalent)
- Excellent mating process with large guides , supporting automatic assembly and mating (mating guide length: ±1.0 mm)
- Supports automatic mounting
- Multiple connectors can be used to interface between the same pair of PCB's
- Keyed to prevent mis-mating

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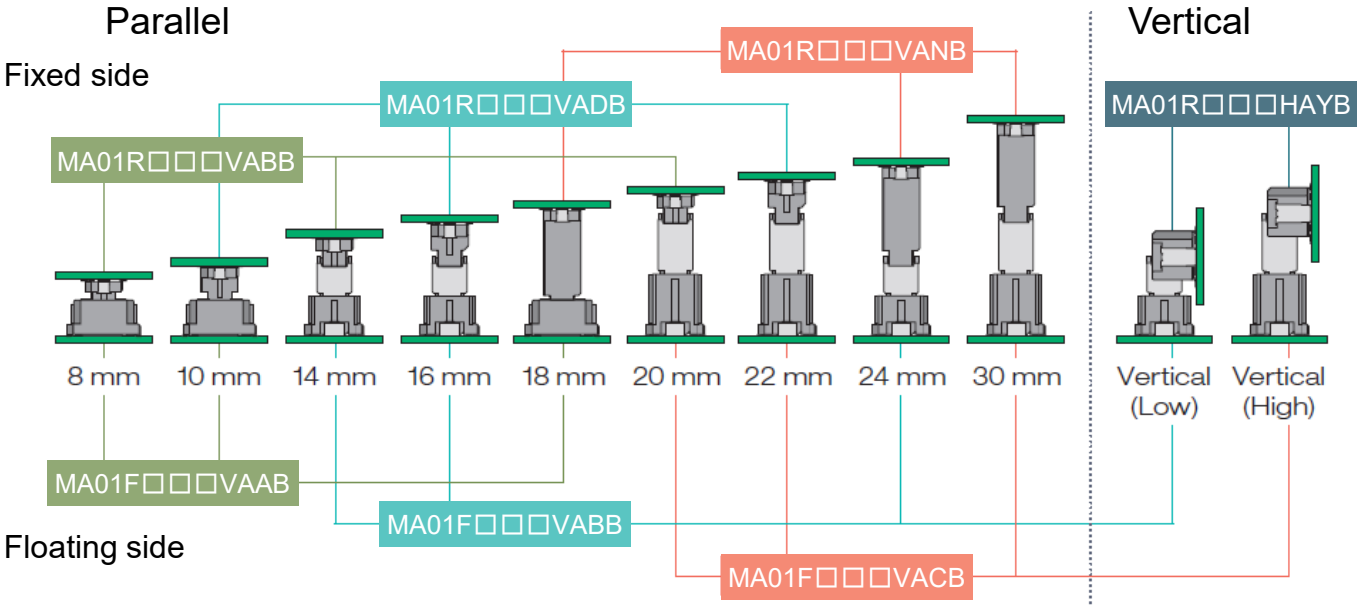
MA01 Series Variations



Internal board-to-board connection, tolerance in Z direction: ±0.5 mm

Floating Side Connector Part Number	Fixed Side Connector Part Number	Mating Height (mm)	Number of Contacts							
			30	40	60	80	90	100	120	140
MA01F□□□VAAB	MA01R□□□VABB	8	●	●	●	●	●	●	●	●
MA01F□□□VAAB	MA01R□□□VADB	10	●	●	●	●	●	●	●	●
MA01F□□□VABB	MA01R□□□VABB	14	●	●	●	●	●	●	●	●
MA01F□□□VABB	MA01R□□□VADB	16	●	●	●	●	●	●	●	●
MA01F□□□VAAB	MA01R□□□VANB	18	●	●	●	●	●	●	●	●
MA01F□□□VACB	MA01R□□□VABB	20	●	●	●	●	●	●	●	●
MA01F□□□VACB	MA01R□□□VADB	22	●	●	●	●	●	●	●	●
MA01F□□□VABB	MA01R□□□VANB	24	●	●	●	●	●	●	●	●
MA01F□□□VACB	MA01R□□□VANB	30	●	●	●	●	●	●	●	●
MA01F□□□VABB	MA01R□□□HAYB	Vertical (L)	●	●	●	●	●	●	●	●
MA01F□□□VACB	MA01R□□□HAYB	Vertical (H)	●	●	●	●	●	●	●	●

□□□ Number of Contacts
(The squares in the Part Number represent pin count)

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General Specifications

Pitch	0.635 mm pitch
Number of Contacts	30, 40, 60, 80, 90, 100, 120, 140 positions
Stacking Height	8, 10, 14, 16, 18, 20, 22, 24, 30 mm
Floating Movable Amount	X direction: ±0.5 mm, Y direction: ±0.5 mm
Operating Temperature Range	-40˚C to +125˚C (including conduction temperature rise)
Rated Current	0.5A
Rated Voltage	AC50V rms.
Contact Resistance	Initial: 50mΩ max. / After test: 100mΩ max.
Dielectric Withstanding Voltage	AC250V rms., conduction for 1 minute
Insulation Resistance	100MΩ min.
Durability	100 mating cycles

Materials and Finishes

Floating Connector

Component	Materials	Finishes
Fixed Insulator	LCP	N/A
Floating Insulator	LCP	N/A
Contact	Copper alloy	Au plating
Hold-down	Copper alloy	Sn plating
Cap	Stainless steel	N/A

Fixed Connector

Component	Materials	Finishes
Insulator	LCP	N/A
Contact	Copper alloy	Au plating
Hold-down	Copper alloy	Sn plating
Cap	Stainless steel	N/A

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Ordering Information

Floating Straight Connector

MA01 F □□□ V A ○ ※ R***

- MA01: Series: MA01
- F: Floating Type
- □□□: Number of Contacts
- V: Straight Type, Contact SMT, with H/D
- A: Plating thickness of contact area — A: Au 0.1 μm min.
- ○: Height Code
  - A: Low-profile type (6.3 mm)
  - B: Standard type (12.3 mm)
  - C: High-profile type (18.3 mm)
- ※: Modification Code — A: Without boss, B: With boss
- R***: Reel quantity

Fixed Straight Connector

MA01 R □□□ V A ○ ※ R***

- MA01: Series: MA01
- R: Rigid Type
- □□□: Number of Contacts
- V: Straight Type, Contact SMT, with H/D
- A: Plating thickness of contact area — A: Au 0.1 μm min.
- ○: Height Code
  - B: 6.6 mm
  - D: 8.6 mm
  - N: 16.6 mm
- ※: Modification Code — A: Without boss, B: With boss
- R***: Reel quantity

Fixed Right-angle Connector

MA01 R □□□ H A Y ※ R***

- MA01: Series: MA01
- R: Rigid Type
- □□□: Number of Contacts
- H: Angle Type, Contact SMT, with H/D
- A: Plating thickness of contact area — A: Au 0.1 μm min.
- Y: Height Code — Y: Vertical Connection Type
- ※: Modification Code — A: Without boss, B: With boss
- R***: Reel quantity

Note) Please contact JAE local Sales for details.

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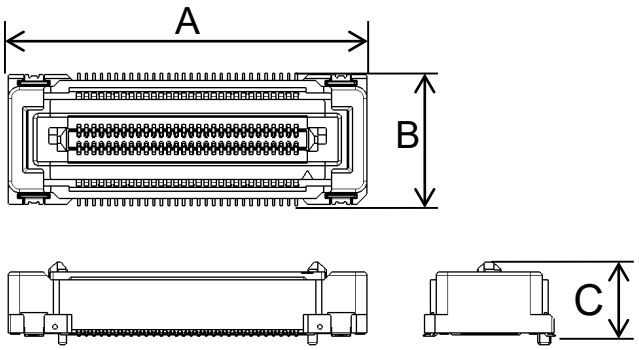
Outer Dimensions

Floating Connector (Low-profile type)

[MA01F□□□VAAB]

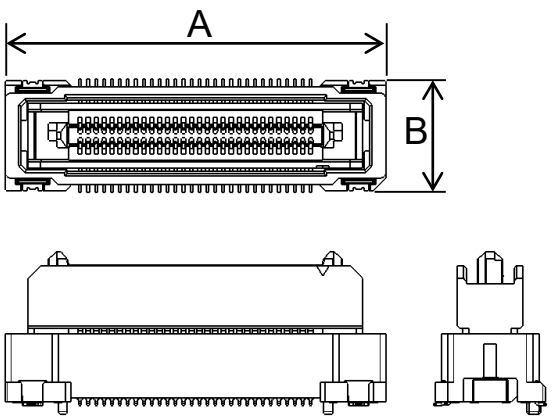


Unit: mm

Number of Contacts	A	B	C
30	20.925	11.2	6.3
40	24.1		
60	30.45		
80	36.8		
90	39.975		
100	43.15		
120	49.5		
140	55.85		

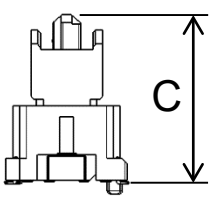
Floating Connector (Standard, High-profile type)

[MA01F□□□VABB] [MA01F□□□VACB]

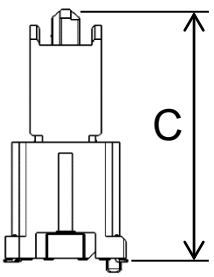


Unit: mm

Number of Contacts	A	B
30	20.925	8.8
40	24.1	
60	30.45	
80	36.8	
90	39.975	
100	43.15	
120	49.5	
140	55.85	



[MA01F□□□VABB]



[MA01F□□□VACB]

Unit: mm

Part Number	C
MA01F□□□VABB	12.3
MA01F□□□VACB	18.3

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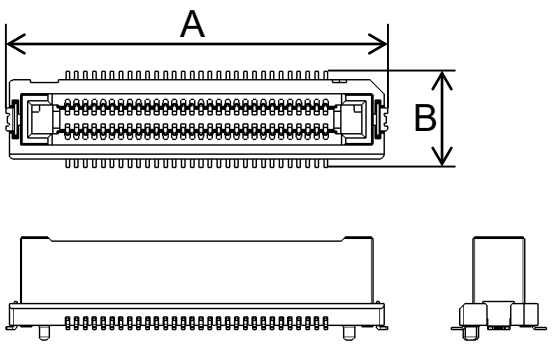
Outer Dimensions

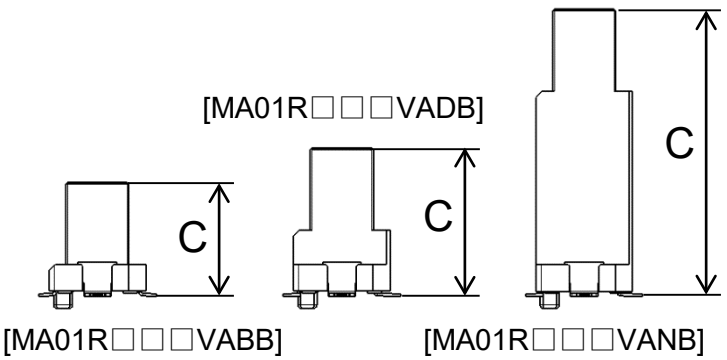
Fixed Straight Connector

[MA01R□□□VABB] [MA01R□□□VADB] [MA01R□□□VANB]

Unit: mm



Number of Contacts	A	B
30	17.745	6.8
40	20.92	
60	27.27	
80	33.62	
90	36.795	
100	39.97	
120	46.32	
140	52.67	



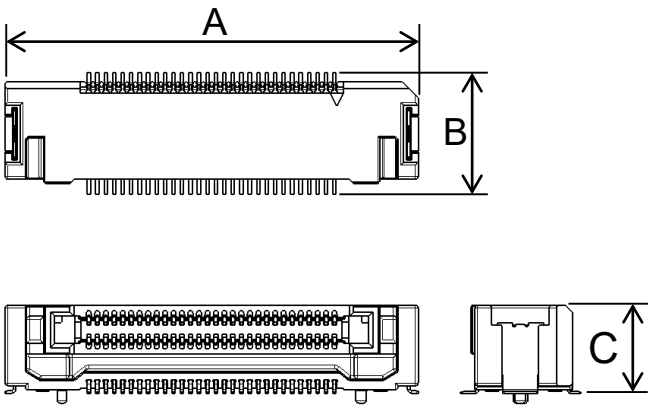
Unit: mm

Part Number	C
MA01R□□□VABB	6.6
MA01R□□□VADB	8.6
MA01R□□□VANB	16.6

Fixed Right-angle Connector

[MA01R□□□HAYB]

Unit: mm



Number of Contacts	A	B	C
30	21.425	9.0	6.6
40	24.6		
60	30.95		
80	37.3		
90	40.475		
100	43.65		
120	50.0		
140	56.35		

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