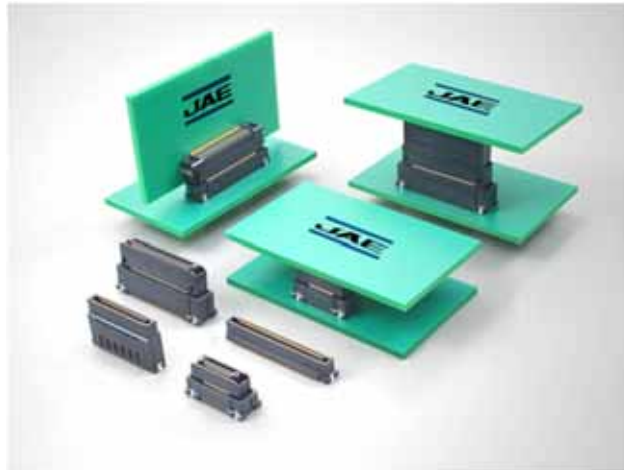


MA01 Series

Automotive Grade, High-speed Transmission, MB-0369-1
Floating Board-to-board Connector

CONNECTOR
May 2021

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.

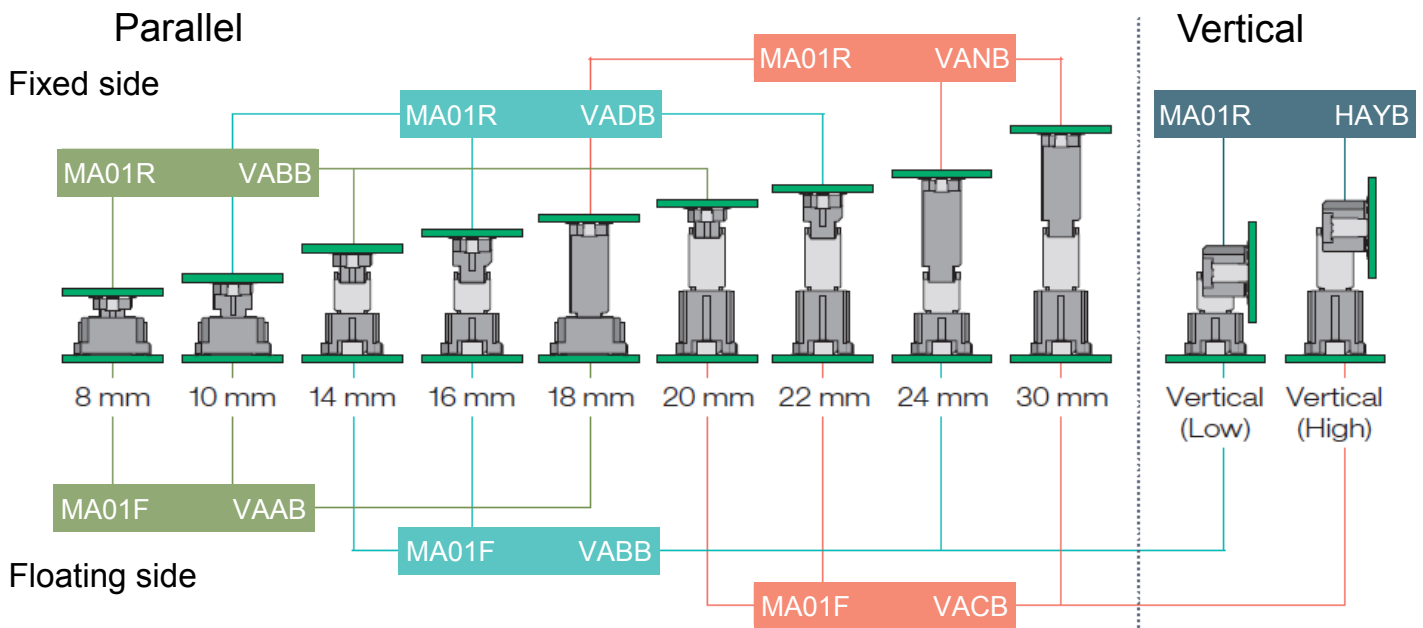
Applicable Markets

On board equipment (ADAS-ECU, Central gateway, etc.), FA 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 & Y 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
- Allows for multiple connectors to be used on a single board
- Keyed to prevent mis-mating

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)

: Released

: Samples available

Note) Please contact JAE local Sales for details.

General Specifications

Pitch	0.635 mm pitch
Number of Contacts	30 to 140 position
Stacking Height	8 to 30mm
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: 50m Ω max. / After test: 100m Ω max.
Dielectric Withstanding Voltage	AC250V rms., conduction for 1 minute
Insulation Resistance	100M Ω min.
Durability	100 mating cycles

Materials and Finishes

Floating Connector

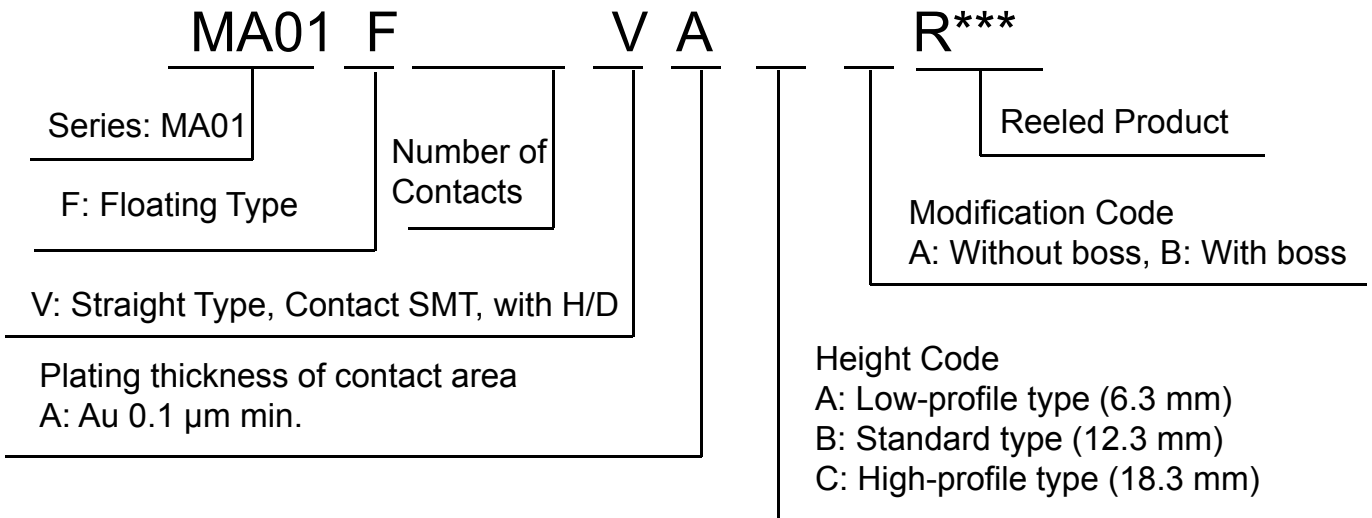
Component	Materials	Finishes
Fixed Insulator	LCP	
Floating Insulator	LCP	
Contact	Copper alloy	Au plating
Hold-down	Copper alloy	Sn plating
Cap	Stainless steel	

Fixed Connector

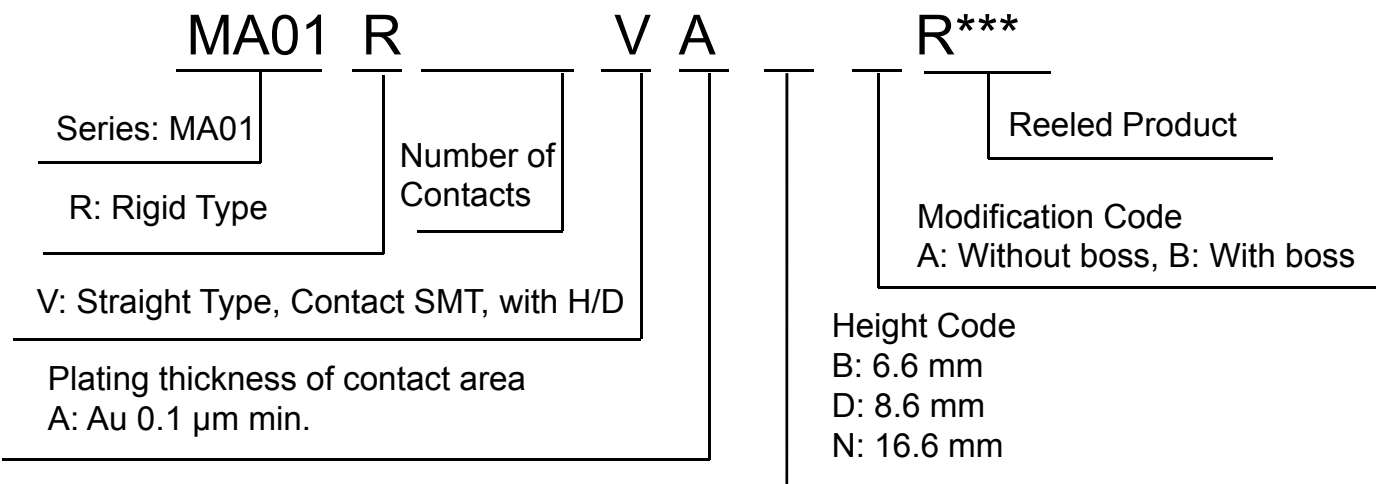
Component	Materials	Finishes
Insulator	LCP	
Contact	Copper alloy	Au plating
Hold-down	Copper alloy	Sn plating
Cap	Stainless steel	

Ordering Information

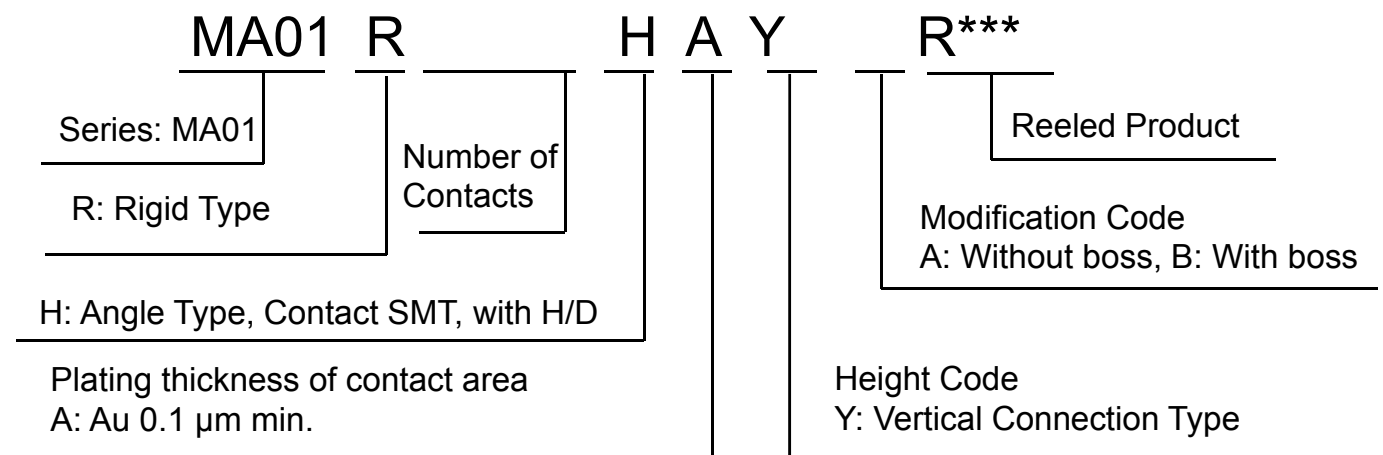
Floating Connector



Fixed Straight Type Connector



Fixed Angle Type Connector



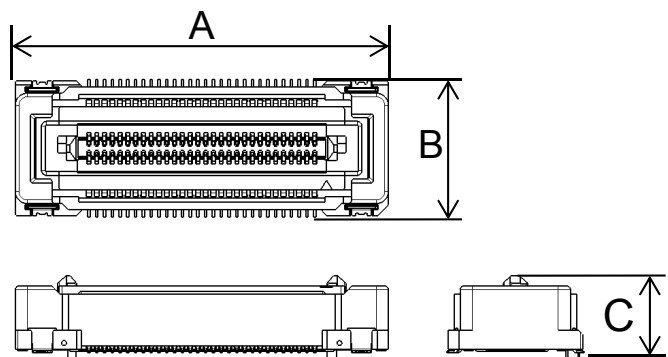
Note) Please contact JAE local Sales for details.

Outer Dimensions

Floating Connector (Low-profile type)

Unit: mm

[MA01F VAAB]

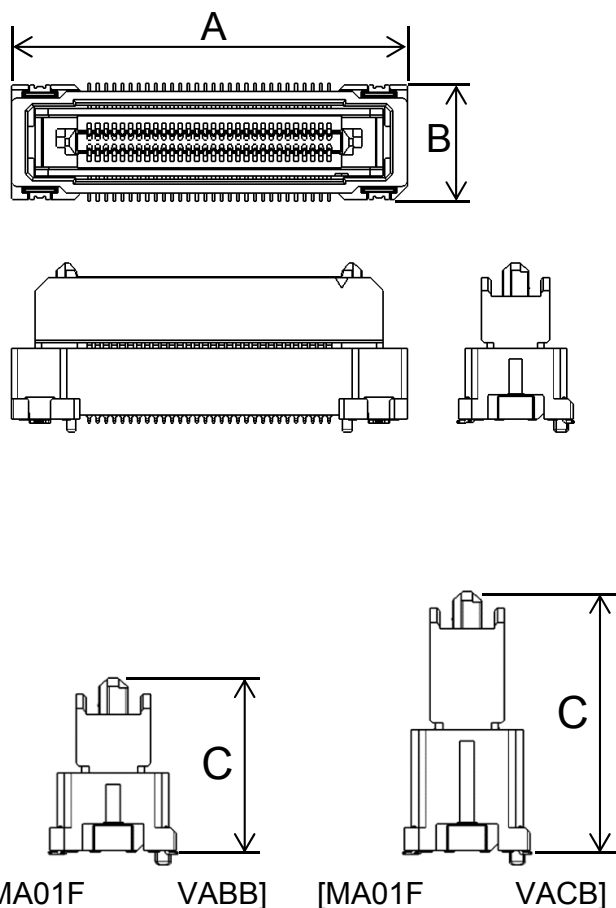


Number of Contacts	A	B	C
30	20.925	11.2	6.3
40	24.1		
60	30.45		
80	36.8		
90	39.975		
100	43.15		
120	49.5		
140	55.85		

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	

Unit: mm

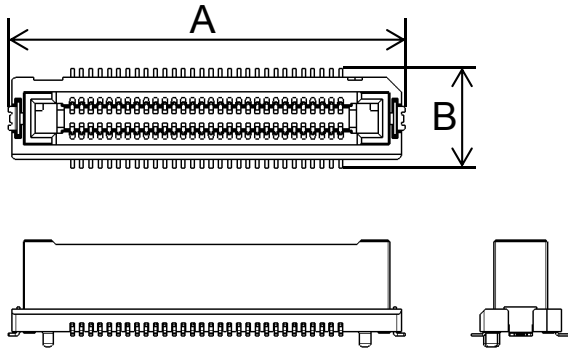
Part Number	C
MA01F VABB	12.3
MA01F VACB	18.3

Outer Dimensions

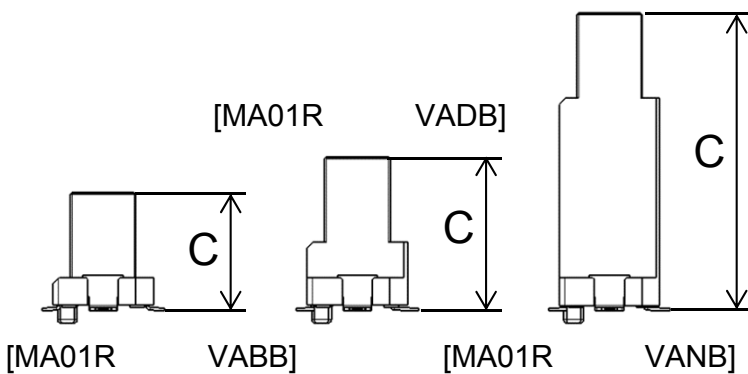
Fixed Straight Type Connector

[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	



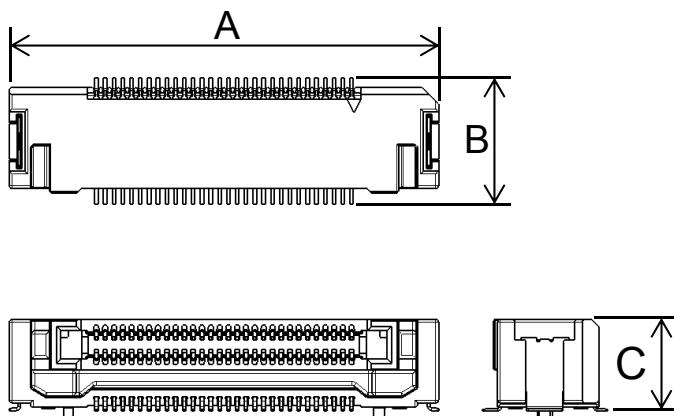
Unit: mm

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

Fixed Angle Type 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		

Part Numbers and Drawing Numbers

Part Numbers		Drawing Numbers	Specifications	Handling Instructions
MA01F	VAAB	under development	JACS-11300	JAHL-11300
MA01F	VAABR500			
MA01F	VABB	SJ123188(Individual product)		
MA01F	VABBR300	SJ123189(Reeled product)		
MA01F	VACB	SJ123194(Individual product)		
MA01F	VACBR150	SJ123195(Reeled product)		
MA01R	VABB	SJ123190(Individual product)		
MA01R	VABBR600	SJ123191(Reeled product)		
MA01R	VADB	SJ124126(Individual product)		
MA01R	VADBR500	SJ124127(Reeled product)		
MA01R	VANB	SJ123196(Individual product)		
MA01R	VANBR200	SJ123197(Reeled product)		
MA01R	HAYB	SJ123192(Individual product)		
MA01R	HAYBR600	SJ123193(Reeled product)		

Number of Contacts (030, 040, 060, 080, 090, 100, 120, 140 positions)

Notice:

1. The values specified in this brochure are only for reference. The products and their specifications are subject to change without notice. Contact our sales staff for further information before considering or ordering any of our products. For purchase, a product specification must be agreed upon.
2. Users are requested to provide protection circuits and redundancy circuits to ensure safety of the equipment, and sufficiently review the suitability of JAE's products to the equipment.
3. The products presented in this brochure are designed for the uses recommended below. We strongly suggest you contact our sales staff when considering use of any of the products in any other way than the recommended applications or for a specific use that requires an extremely high reliability.
 - (1) Applications that require consultation:
 - (i) Please contact us if you are considering use involving a quality assurance program that you specify or that is peculiar to the industry, such as:
Automotive electrical components, train control, telecommunications devices (mainline), traffic light control, electric power, combustion control, fire prevention or security systems, disaster prevention equipment, etc.
 - (ii) We may separately give you our support with a quality assurance program that you specify, when you think of a use such as :
Aviation or space equipment, submarine repeaters, nuclear power control systems, medical equipment for life support, etc.
 - (2) Recommended applications include:
Computers, office appliances, telecommunications devices (terminals, mobile units), measuring equipment, audiovisual equipment, home electric appliances, factory automation equipment, etc.

Japan Aviation Electronics Industry, Limited

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