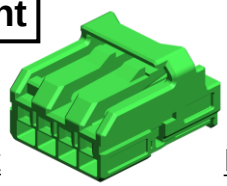
Unsealed Compact Automotive Connector

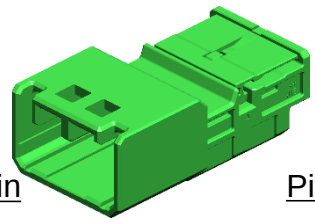
CONNECTOR

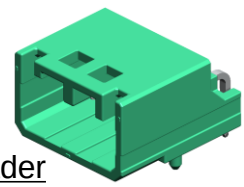
MX81 Series

MB-0388-2
Sep.2024

RoHS Compliant

Socket 

Inline Pin 

Pin header 

Overview

The MX81 Series of unsealed compact connectors are ideal for interfacing with small control modules uses in vehicles. These connectors share the same crimp socket terminals with the popular MX80 Series of sealed connectors and are compatible with a wide range of wire sizes. The same reliable terminals can be used for both sealed and unsealed areas of the vehicle.

Application

Various ECUs, sensors, lighting, and other general automotive applications

Features

- ISO/JASO/EWCAP/VDA standard 0.64 mm tab size
- Socket contacts are the same as those of sealed MX80 Series
- Socket and inline pin housing are one-piece type with hinged retainer
- Pin header is through-hole reflow compatible, and the housings use UL94 V-0 rated material
- USCAR-2 Tested
- Compatible with 2.54mm pitch pin contacts and small size
- Multiple colored key codes are available.

General Specifications

Number of Contacts	2, 4 positions		
Operating Temperature Range	-40 deg. C to +125 deg. C [1]		
Applicable Wire	0.13 to 1.0mm² nominal cross-section Cable types recommended: FLRY-A, FLRY-B, AESSX, FLCUSNRY, etc.		
Rated Current [2]	Wire Size	Number of Contacts	
		2 pos.	4 pos.
	0.13 mm²	4.5A	4.1A
	0.35 mm²	6.7A	5.5A
	1.0 mm²	9.7A	8.5A
Insulation Resistance	100MΩ min. at 500V DC		
USCAR-2 Vibration Classification	Socket / Inline Pin: V1, Socket / Pin header: V2		

Note 1. This range includes temperature rise from current load.

Note 2. In case of Socket / Pin header. Ambient temperature is 80ºC. Contact JAE for rating at other temperatures.

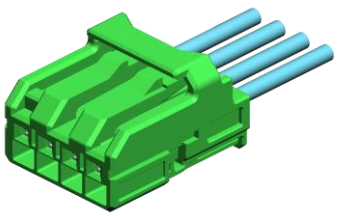
Ordering Information

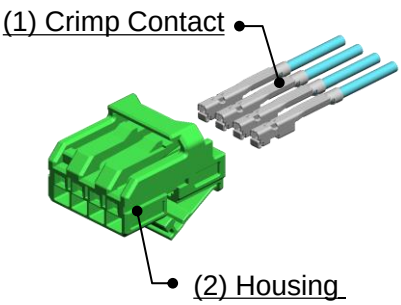
MX81 A 0 02 S F 1 (R470)

- Series: **MX81**
- Connector Type1: **A**: Standard
- Connector Type2: **0**: Standard, **L**:Pin header with Leg
- Number of Contacts: **02, 04** positions
- Connector Type3: **S**: Socket, **P**: Inline Pin, **N**: Pin header
- Terminal Finish **F**: Sn
- **1 ~ 3**: Mating Key Variations
- Number of pin headers per reel **R470**: 470pcs per reel

Configuration / Material and Finish

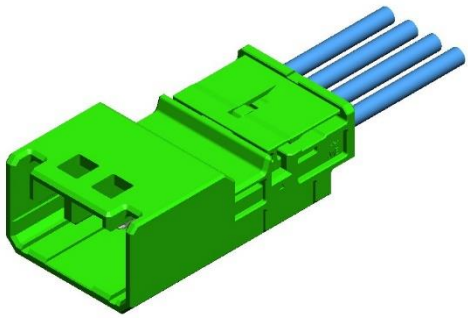
Socket Connector

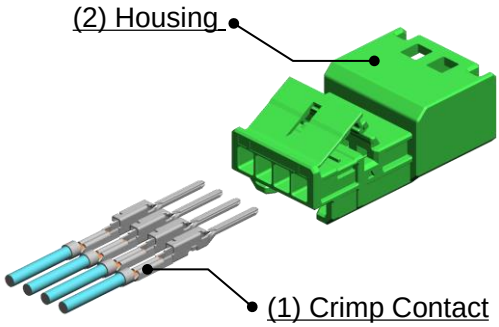




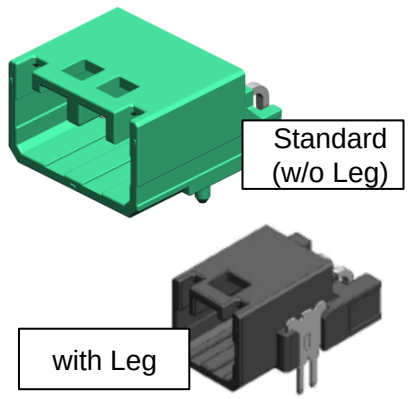
Component	Material / Finish
(1) Crimp Contact [3]	Copper alloy / Tin plating
(2) Housing	PBT-GF10

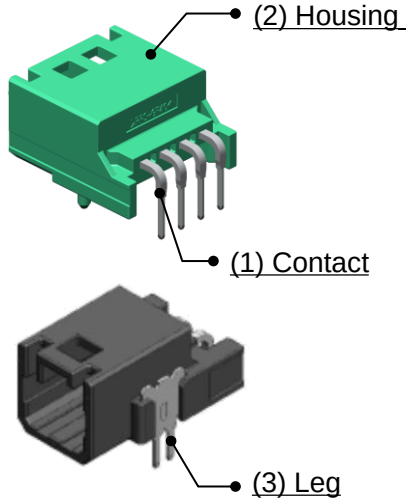
Inline Pin Connector





Pin Header





Component	Material / Finish
(1) Contact	Copper alloy / Tin plating
(2) Housing	PPS-GF40
(3) Leg	Copper alloy / Tin plating

Note 3. Crimp contacts are sold separately and are not integrated into connector at the time of delivery.

Part Numbers and Drawing Numbers

■ Socket Housing / Inline Pin Housing / Pin Header Connector

Number of Contacts	Key Code	Socket Housing Part Number / Drawing Number		Inline Pin Housing Part Number / Drawing Number	Pin header Connector w/o Leg Part Number / Drawing Number
2 pos.	A	MX81A002SF1 / SJ125328	⇔	MX81A002PF1 / SJ127356	Connector: MX81A002NF1 / SJ125326 Reel product: MX81A002NF1R470 / SJ126068
	C	MX81A002SF3[4] / SJ125329	⇔	MX81A002PF3[4] / SJ127357	Connector: MX81A002NF3[4] / SJ125327 Reel product: MX81A002NF3R470[4] / SJ126069
4 pos.	A	MX81A004SF1 / SJ123030	⇔	MX81A004PF1 / SJ127415	Connector: MX81A004NF1 / SJ125811 Reel product: MX81A004NF1R300 / SJ126070
	B	MX81A004SF2[4] / SJ123031	⇔	MX81A004PF2[4] / SJ127416	Connector: MX81A004NF2[4] / SJ125812 Reel product: MX81A004NF2R300[4] / SJ126071

Number of Contacts	Key Code	Socket Housing Part Number		Pin header Connector with Leg Part Number / Drawing Number	Pin Interface Drawing No.
2 pos.	A	MX81A002SF1	⇔	Connector: MX81AL02NF1 / TBD Reel product: MX81AL02NF1R370 / TBD	SJ125893
	C	MX81A002SF3[4]	⇔	Connector: MX81AL02NF3[4] / SJ127281 Reel product: MX81AL02NF3R370[4] / SJ127397	
4 pos.	A	MX81A004SF1	⇔		SJ123035
	B	MX81A004SF2[4]	⇔		

Note 4. This product is an alternate colored key code.

■ Socket / Inline Pin Contact

	Part Number	Common Drawing No.	Individual Drawing No.	Applicable Wire
Socket Contacts	MX80S08K3F1	SJ121646	SJ121371	0.75～1.0mm^2 wire (FLRY-A/B、AESSX、etc)
	MX80S08K4F1		SJ121372	0.3～0.5mm^2 wire (FLRY-A/B、AESSX、etc)
	MX80S08K5F1		SJ121373	0.13～0.22mm^2 wire (FLRY-A、FLCUSNRY、etc)
Inline Pin Contacts	MX81P08K3F1	SJ127437 **TBD**	SJ127353	0.75～1.0mm^2 wire (FLRY-A/B、AESSX、etc)
	MX81P08K4F1		SJ127354	0.3～0.5mm^2 wire (FLRY-A/B、AESSX、etc)
	MX81P08K5F1		SJ127355	0.13～0.22mm^2 wire (FLRY-A、FLCUSNRY、etc)

Applicable Tools

Tool type[5]	Tool Part number	Applicable Contact and Connector	Tool Handling Manual
Hand Crimp Tool	CT150-19C-MX80	Socket Contact：MX80S08K3F1 for 0.75～1.0mm^2 wire	T700459
	CT150-19D-MX80	Socket Contact：MX80S08K4F1 for 0.3～0.5mm^2 wire	T700460
	CT150-19E-MX80	Socket Contact：MX80S08K5F1 for 0.13～0.22mm^2 wire	T700461
	CT150-19C-MX81	Socket Contact ：MX80S08K3F1 Inline Pin Contact：MX81P08K3F1 for 0.75～1.0mm^2 wire	TBD
	CT150-19D-MX81	Socket Contact：MX80S08K4F1 Inline Pin Contact：MX81P08K4F1 for 0.3～0.5mm^2 wire	T700487
	CT150-19E-MX81	Socket Contact：MX80S08K5F1 Inline Pin Contact：MX81P08K5F1 for 0.13～0.22mm^2 wire	TBD
Semi-automated Applicator	3502-MX80-2	All Socket Contacts (All Inline Pin Contacts : TBD)	T703574
Contact Extraction Tool	ET-MX80S	All Socket Connectors	T711250
	TBD	All Inline Pin Connectors	TBD

Note 5. For details on how to use each tool, refer to the tool handling manual and connector handling manual.

Specification and Handling Manual

Connector Specification	Connector Handling Manual
JACS-11333 (USCAR-2) [6]	JAHL-11333

Note 6. There are some deviations to specifications.

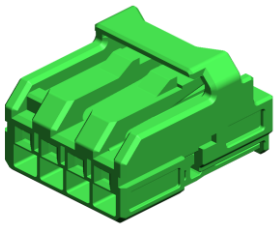
Outer Dimension

■ Socket Housing

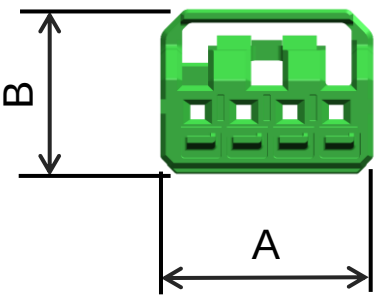
Unit：mm

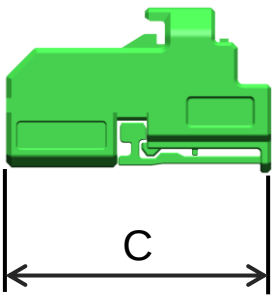
No. of Contacts	A	B	C
2 pos.	6.4	11.75	14.6
4 pos.	11.7		

*The figure below shows 4 pos. type



After Retainer is assembled



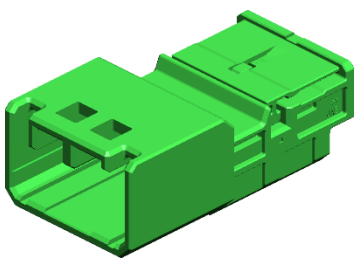


■ Inline Pin Housing

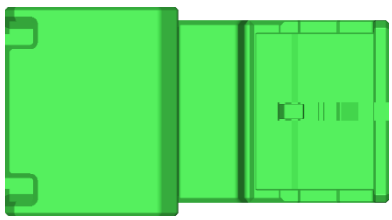
Unit：mm

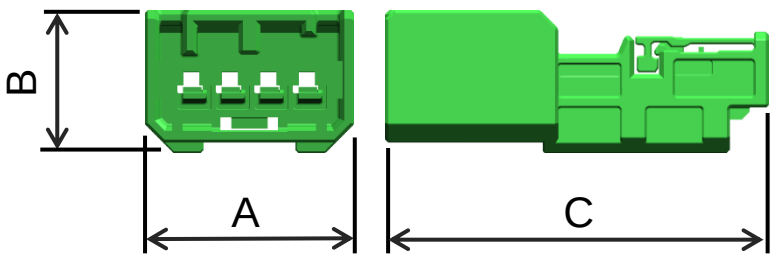
No. of Contacts	A	B	C
2 pos.	8.6	9.4	25.3
4 pos.	13.8		

*The figure below shows 4 pos. type



After Retainer is assembled





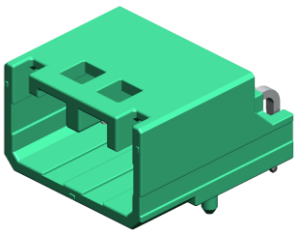
■ Pin Header Connector

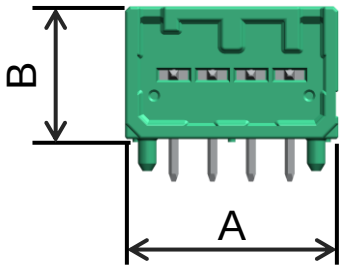
Standard（w/o Leg）

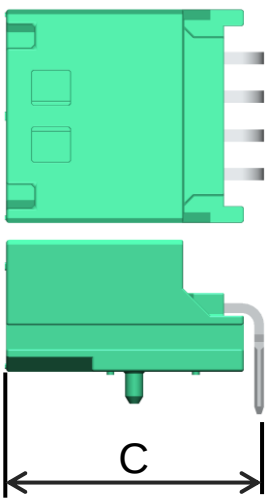
Unit：mm

No. of Contacts	A	B	C
2 pos.	8.6	8.9	17.02
4 pos.	14		

*The figure below shows 4pos. type





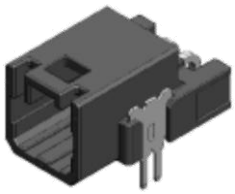


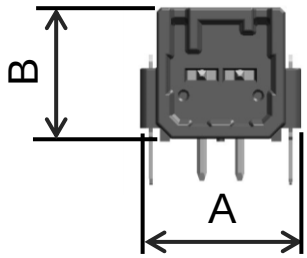
With Leg

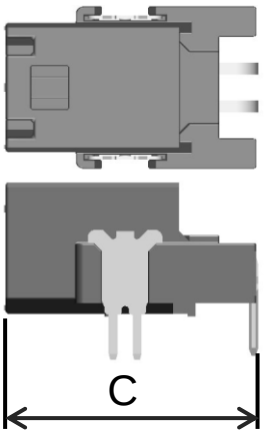
Unit：mm

No. of Contacts	A	B	C
2 pos.	10.8	8.9	17

*The figure below shows 2 pos. type







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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