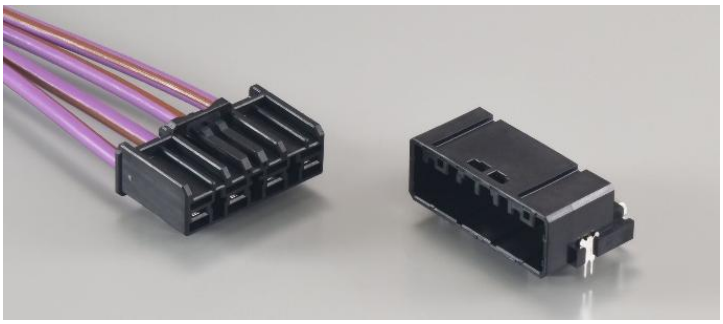
Non-waterproof high current automotive connector CONNECTOR

MX81D Series

MB-0411-1
Nov.2025

RoHS Compliant



As various ECUs become more integrated, larger, and the number of units increases, the required power and current capacity are increasing.
In response, we have developed the MX81D series, a high-current wire-to-board connector with a terminal tab size of 2.8 mm and compatible with wires up to 4.0 mm^2. We plan to expand the variations in the number of positions and other features in the future.

Application

Power supply for various automotive ECUs. (Automotive examples including general vehicle lighting, power steering, heaters, audio, BMS, motor drives, overhead units, autonomous driving systems, etc.)

Features

- ISO/JASO/EWCAP/VDA standard 2.8 mm tab size
- Supports high currents up to 25.0A
- Clearance and creepage distance between terminals, in accordance with IEC60664-1 (pollution degree 3, altitude 6,000m) to withstand a potential difference of 320V AC/DC
- Retainer detects incomplete insertion of terminals during harness assembly
- Insulator materials compliant with the flammability standard UL94 V-0
- USCAR-2 and USCAR-21 tested

General Specifications

Number of Contacts	4 positions（2 position variant in development）			
Operating Temperature Range	-40 deg. C to +125 deg. C (Note1)			
Applicable Wire	1.5 to 4.0 mm² nominal cross-section Cable types recommended : FLRYW-B			
Rated Current (Note2)			Contact only	4 pos.
	Wire Size	1.5 mm²	18.5A	16.2A
		4.0 mm²	29.0A	25.0A
Vibration Classification	USCAR-2 V2			

Note 1. This range includes temperature rise from current load.
Note 2. Socket mated with Pin header. Ambient temperature is 80ºC. Contact JAE for rating at other temperatures.

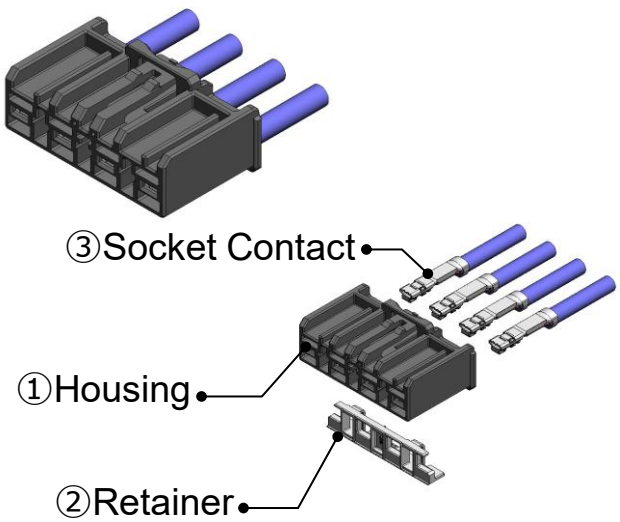
Ordering Information

MX81 D 004 S F 3

- MX81: Series
- D: Connection Type 1 — **D**: Pin tab size : 2.8 mm
- 004: Number of Contacts: 004 positions
- S: Connection Type 2 — **S**: Socket Housing, **N**: Angle Pin Header
- F: Plating Specification **F**: Sn plating
- 3: **3**: Mating Key Variations

Materials and Finishes

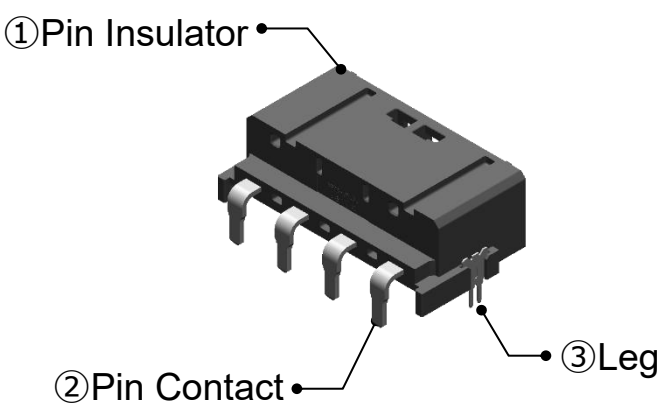
Socket Connector



Component	Material / Finish
①Housing	PBT-GF15
②Retainer	PBT-GF15
③Socket Contact (Note 3)	Copper Alloy / Sn plating

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

Angle Pin Header



Component	Material / Finish
①Pin Insulator	PPS-GF40
②Pin Contact	Copper Alloy / Sn plating
③Leg	Brass / Sn plating

Part Numbers and Drawing Numbers

■ Socket Housing / Angle Pin Header

Number of Contacts	Socket Housing			Angle Pin header	
	Part Number	Drawing Number		Part Number	Drawing Number
4 pos.	MX81D004SF3	SJ130475	⇔	MX81D004NF3	SJ130474

■ Socket Contact

Part Number	Common Drawing Number	Individual Drawing Number	Applicable Cable
MX81S17H1F1	SJ131180	SJ131063	4.0mm^2 wire (FLRYW-B、etc)
MX81S21H3F1		SJ131064	1.5～2.5mm^2 wire (FLRYW-B、etc)

Applicable Tools

Tool type	Tool Part number	Applicable Contact and Connector	Tool Handling Manual
Hand Crimp Tool	CT160-23-MX81	Socket Contact : MX81S17H1F1 (For 4.0mm^2 wire) Socket Contact : MX81S21H3F1 (For 1.5～2.5mm^2 wire)	T700495
Semi-automatic Applicator	3503-MX81P-2	Socket Contact	T703646
Contact Extraction Tool	ET-MX81-2	Socket connector	T711273

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

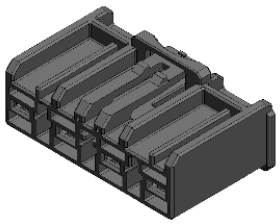
Technical Documents

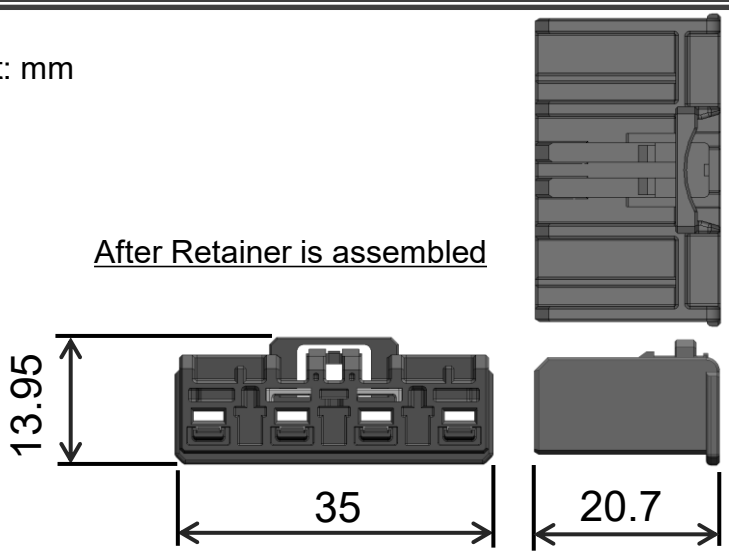
Connector Specification	Connector Handling Manual
JACS-11557 (USCAR-2)	JAHL-11557

Outer Dimensions

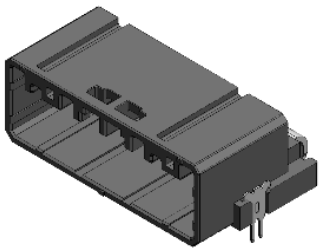
Unit: mm

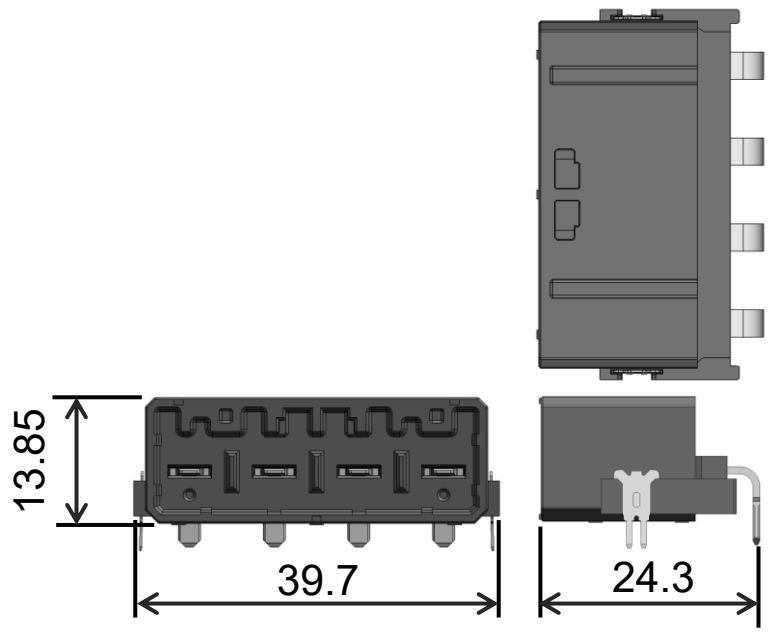
■ Socket Housing





■ Angle Pin Header





Notice:

1. The specifications provided in this brochure are for reference purpose only. The products and their specifications are subject to change without notice. Please contact our sales representatives for further information before considering or placing an order. A formal product specification must be agreed upon prior to purchase.
2. Users are responsible for implementing appropriate protection 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 provide separate support based on your specified quality assurance program, 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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