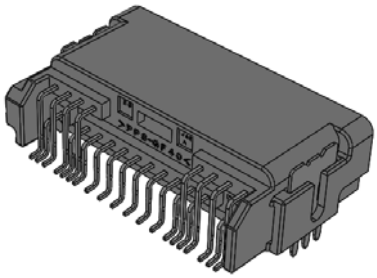
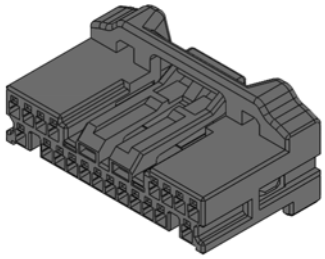
## Compact Low-profile Connector

# MX77 Series

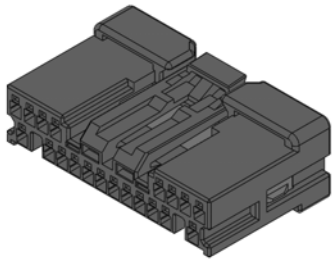
CONNECTOR
MB-0326-3
Feb.2022

**RoHS Compliant**





A



D

To cater to the demand for compact and low profile automotive connectors, an MX77D variation featuring 0.4mm tab size with added height-reduction has been added to the MX77 Series lineup.

Applicable Market

General purpose automotive electrical control units (ECU), battery system components for electric vehicles (EV), and battery management system applications (BMS), flame-retardant material

## Features

- Ultra compact type 0.4mm tab size (pin width)
- Pin header side insulator uses flame-retardant UL94 V-0 material
- Socket side (cable connection) offers two housing models.
- MX77D FLRY-B 0.35mm$^2$ cable is suggested for socket side cavities.
- The pin side are SMT-mounted to save space, and are fixed to the board by soldering the legs to the board using a through-hole reflow process to ensure sufficient strength
- USCAR2 tested

## General Specifications

| | |
|---|---|
| Number of Contacts | 4, 8, 12, 16, 20, 24, 32, 40 |
| Rated Current | 3A |
| Operating Temperature | -40℃ ~ +85℃ |
| Maximum Operating Temperature | 130℃ (Ambient temperature + temperature rise due to conduction) |
| Contact Resistance | Initial: 5mΩ max., posttest: 10mΩ max. |

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## Ordering Information

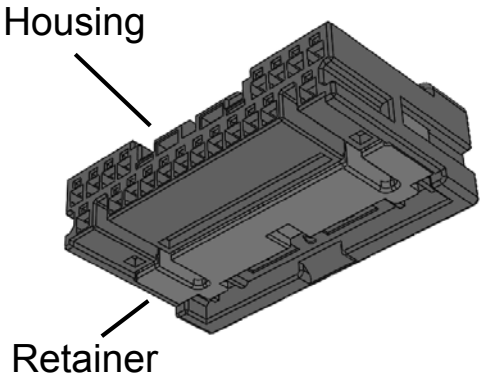
**MX77 A 004 S F 1**

- MX77: Series
- A: Connector Type — **A**: Standard, **D**: Slim
- 004: Number of Contacts: **04~40 position**
- S: **S**: Socket Housing, **H**: Angle Pin Header (SMT)
- F: Plating Specification — **F**: Sn plating
- 1: Modification Code — **1~3**: Different key mating type

## Materials and Finishes

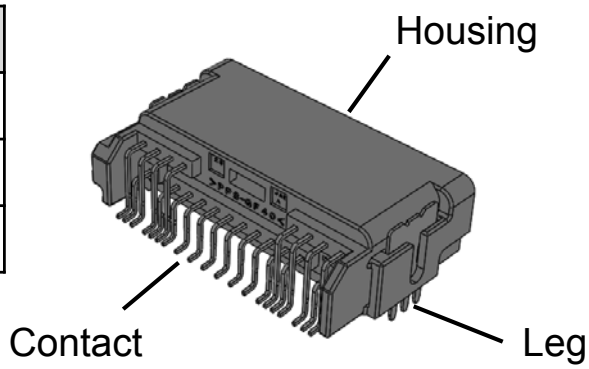
### Socket Housing

| Component | Material |
|---|---|
| Housing | PBT |
| Retainer | PBT |



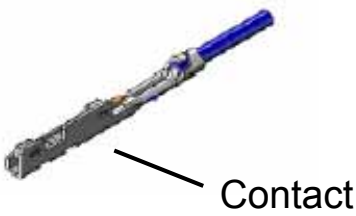

### Angle Pin Header

| Component | Material / Finish |
|---|---|
| Housing | PPS-GF40 |
| Contact | Copper Alloy / Sn plating |
| Leg | Brass / Sn plating |




### Socket Contact

| Component | Material / Finish |
|---|---|
| Contact | Copper Alloy / Sn plating |




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## Part Number and Drawings

# Socket Housing / Angle Pin Header

| Number of Contacts | Socket Housing | | | | | Angle Pin Header (SMT) | |
|---|---|---|---|---|---|---|---|
| | MX77A: Standard type | | MX77D: Slim type | | | | |
| | Part Number | Drawing | Part Number | Drawing | | Part Number | Drawing |
| 4 | MX77A004SF1 | SJ115705 | | | ⇔ | MX77A004HF1 | SJ115704 |
| | | | MX77D004SF2 **(Note 1)** | SJ120951 | ⇔ | MX77A004HF2 **(Note 1)** | SJ120666 |
| | | | MX77D004SF3 **(Note 1)** | SJ120952 | ⇔ | MX77A004HF3 **(Note 1)** | SJ120667 |
| 8 | MX77A008SF1 | SJ114912 | MX77D008SF1 | SJ120953 | ⇔ | MX77A008HF1 | SJ114911 |
| 12 | MX77A012SF1 | SJ113564 | MX77D012SF1 | SJ120954 | ⇔ | MX77A012HF1 | SJ113562 |
| 16 | MX77A016SF1 | SJ114782 | MX77D016SF1 | SJ120955 | ⇔ | MX77A016HF1 | SJ114781 |
| 20 | MX77A020SF1 | SJ113936 | MX77D020SF1 | SJ122094 | ⇔ | MX77A020HF1 | SJ113935 |
| 24 | MX77A024SF1 | SJ114910 | MX77D024SF1 | SJ122095 | ⇔ | MX77A024HF1 | SJ114909 |
| 32 | MX77A032SF1 | SJ114908 | MX77D032SF1 | SJ120956 | ⇔ | MX77A032HF1 | SJ114907 |
| 40 | MX77A040SF1 | SJ113563 | MX77D040SF1 | SJ120957 | ⇔ | MX77A040HF1 | SJ113561 |

Note 1) This product is different key mating type.

# Socket Contact

| Part Number | Drawing | Applicable Cable |
|---|---|---|
| MX77S13K5F1 | SJ113565 | CHFUS 0.13mm², CIVUS 0.13mm² |
| MX77S13K4F2 | SJ113566 | CHFUS 0.22mm², CIVUS 0.22mm² |
| MX77S13K4F1 | SJ116307 | CHFUS 0.35mm², CIVUS 0.35mm²<br>FLRY-B 0.35mm² **(Note 2)**<br>AVSS 0.3mm² **(Note 3)** |

Note 2) FLRY-B cable is compatible with all cavity for MX77D type, however it is limited for MX77A. (Please refer to drawing of housing for details)

Note 3) AVSS cable is limited to applicable cavity. (Please refer to drawing of housing for details)

・Handling Instruction for Crimp tool for Socket Contact is a below.

| Applicable Contact | Hand Crimp Tool | Semi-automatic Applicator | Automatic Applicator |
|---|---|---|---|
| MX77S13K5F1 | – | 3502-MX77-2 (T703573) | 3502-MX77-3B (Please contact us for details) |
| MX77S13K4F2 | – | | |
| MX77S13K4F1 | CT150-2-MX77 (T700444) | | |

・Extraction tool for Socket contact is “ET-MX77-1” (T711240).

## Technical Documents

| | Specifications | Handling Instructions |
|---|---|---|
| Socket Housing: MX77D type | JACS-11086-1 | JAHL-11086-1 |
| For items other than above | JACS-11086 | JAHL-11086 |

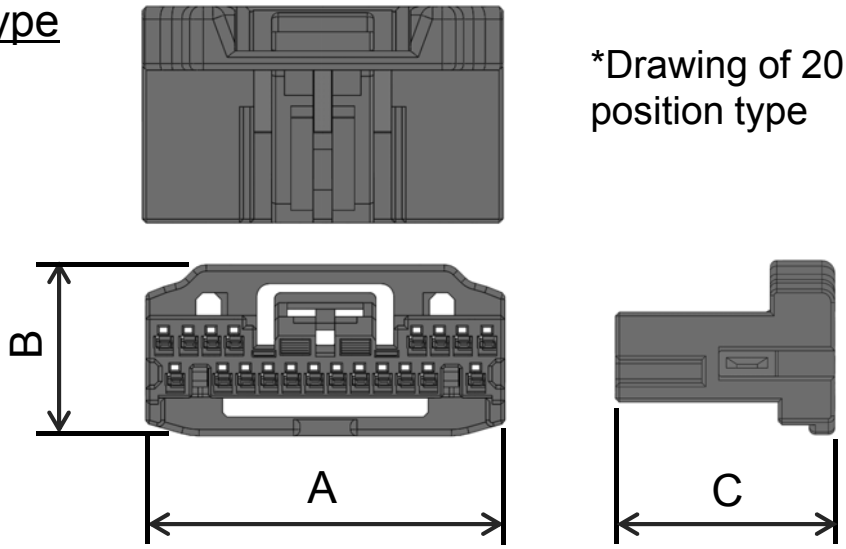
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Outer Dimensions

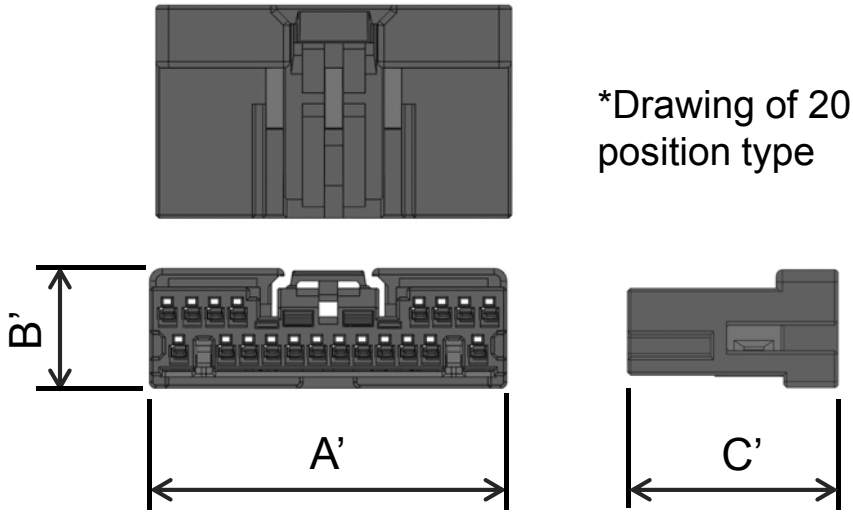
## Socket Housing

### MX77A: Standard type




*Drawing of 20 position type

### MX77D: Slim type




*Drawing of 20 position type

Unit: mm

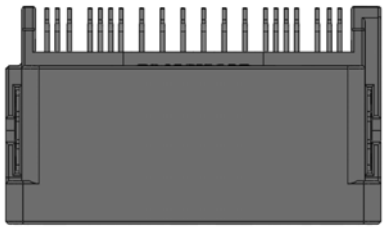
| | MX77A: Standard type | | | MX77D: Slim type | | |
|---|---|---|---|---|---|---|
| Number of Contacts | Dimension A | Dimension B | Dimension C | Dimension A' | Dimension B' | Dimension C' |
| 4 position | 11.9 | 12.5 | 17 | 11.9 | 9.5 | 17 |
| 8 position | 15.7 | 13.5 | | 15.7 | | |
| 12 position | 21.1 | | | 21.1 | | |
| 16 position | 24.7 | | | 24.7 | | |
| 20 position | 28.3 | | | 28.3 | | |
| 24 position | 31.9 | | | 31.9 | | |
| 32 position | 39.7 | | | 39.7 | | |
| 40 position | 46.9 | | | 46.9 | | |

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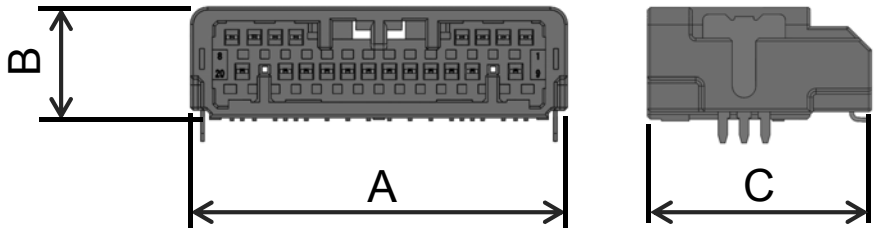
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## Outer Dimensions

# Angle Pin Header



*Drawing of 20 position type




Unit: mm

| Number of Contacts | Dimension A | Dimension B | Dimension C |
|---|---|---|---|
| 4 position | 15.8 | 9.7 | 19 |
| 8 position | 20.1 | | |
| 12 position | 25.5 | | |
| 16 position | 29.1 | | |
| 20 position | 32.7 | | |
| 24 position | 36.3 | | |
| 32 position | 44.1 | | |
| 40 position | 51.3 | | |

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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.

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