



MX23 Series

Robust Board-to-Cable Connector

Product Information Module

Technology to Inspire Innovation



Introduction

Purpose

- Introduction to JAE's MX23A Compact Waterproof Automotive Board-to-Cable Connectors

Objectives

- Application examples
- Main features
- General specifications
- Materials and finishes

Content

- X pages

Learning Time

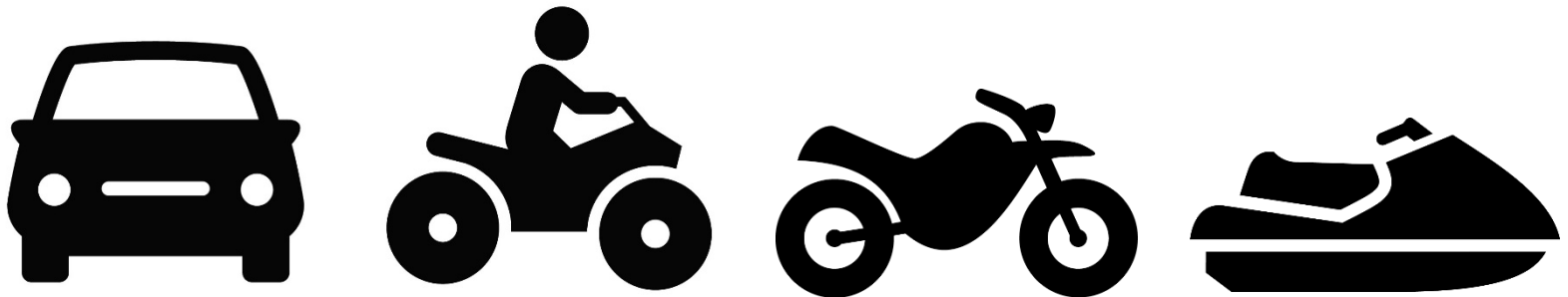
- X mins

JAE MX23A Series

Compact Waterproof Automotive Board-to-Cable Connectors

Application Examples

- ECU's
- Control
- Power
- Industrial
- ATV's
- Motorcycles
- Watercraft
- Robotics



Waterproof MX23A Series Overview

The MX23A Series of compact waterproof automotive board-to-cable connectors are designed for automotive applications requiring waterproof sealing, high temperature tolerance, and substantial vibration resistance all contained within a small form factor.

MX23A Series automotive connectors are designed with a low-profile that provides reduced vehicle mounting space to the system. They can tolerate temperatures between -40 and 125°C for rugged or near-engine applications. MX23A series supports an expansive wire size range from 0.3 mm² to 1.25 mm² nominal cross section. It can support 3 Amps per line and can also support hybrid configuration to provide up to 7 Amps on four contact lines. Additionally, incomplete socket contact insertion can be detected during the front cap retainer mounting process.

MX23A series connectors are offered in a number of contact positions and reverse mounting pin headers for added application flexibility and convenience.

MX23A Series Features

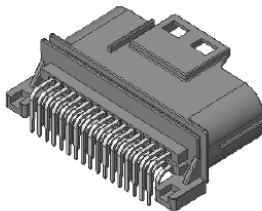
- Low profile type with board mounting height of 18.3 mm and socket connector height of 22.2mm max. (12 to 34pos.)
- Small form factor with 2.5 mm pitch ideal for automotive space
- Socket contact with double fin structure improves retention reliability
- Delivers up to 3 Amps for signal and 7 Amps power (Ambient temp: 85°C)
- Applicable wire sizes include 0.3 mm² – 1.25 mm² nominal cross section
- Operating temperature range from -40 to +125°C
- Front cap retainer functions like a TPA, ensuring socket terminal position
- Reverse mounting type pin connector (with pins facing up) is available

*Please check performance specification for individual part numbers.

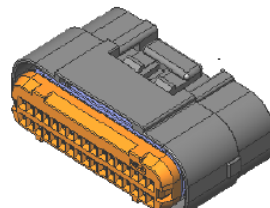
General Specifications

| | |
|------------------------------------|---|
| Number of Contacts | 12, 18, 26, 34, 36, 40 positions |
| Applicable Standard | ISO, JASO |
| Operating Temperature Range | -40°C ~ +125°C |
| Rated Current | 3 Amps, 7 Amps select cavities |
| Connector Retention Force | 12-36 Pos: 100N. 40 Pos: 140N. MAX |
| Contact Resistance | 10mΩ max. |
| Applicable Wire | AVSS, AVS (partially), 0.3 – 1.25 mm ² |

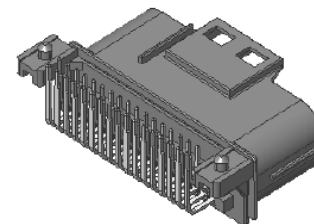
MX23A Male



MX23A Female



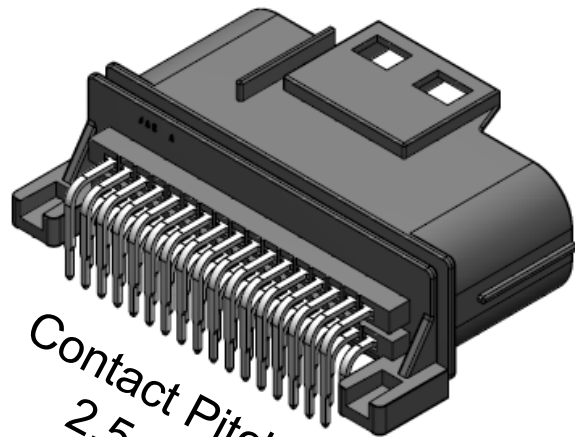
MX23A Reverse Male



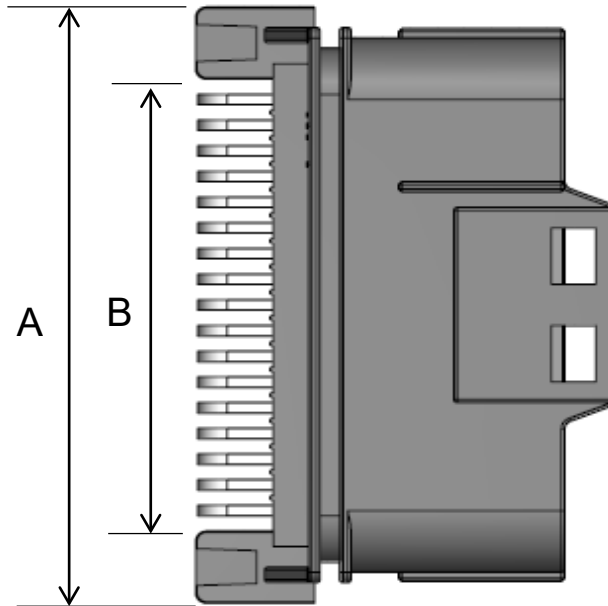
Basic Dimensions

*All units in mm

MX23A Standard Male Pin Header

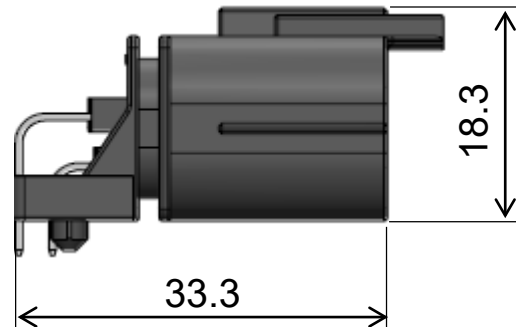
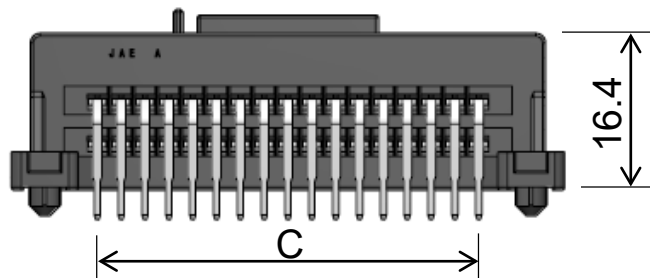


Contact Pitch:
2.5 mm



| # Pins | A | B | C |
|--------|------|------|------|
| 12 | 30.5 | 16.5 | 12.5 |
| 18 | 38 | 24 | 20 |
| 26 | 48 | 34 | 30 |
| 34 | 58 | 44 | 40 |
| 40 | 65.5 | 51.5 | 47.5 |

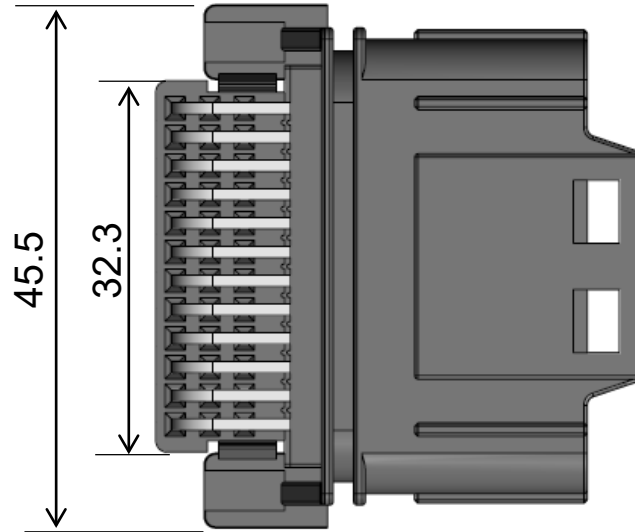
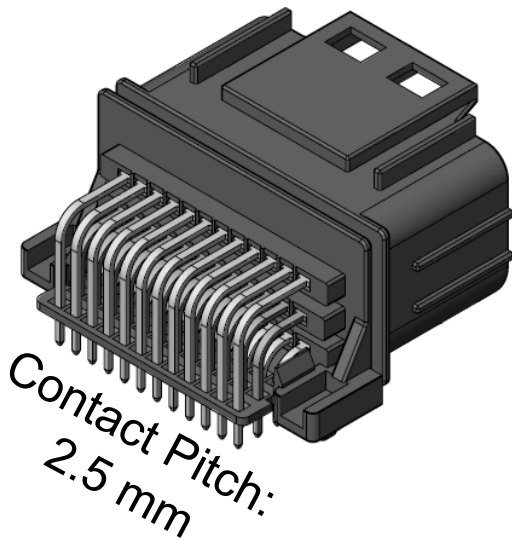
*Please Refer to
Drawings for Details



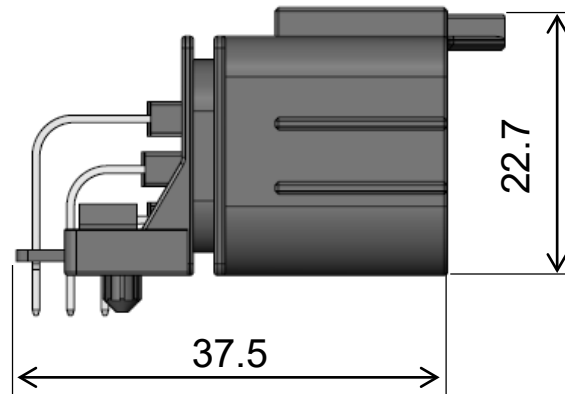
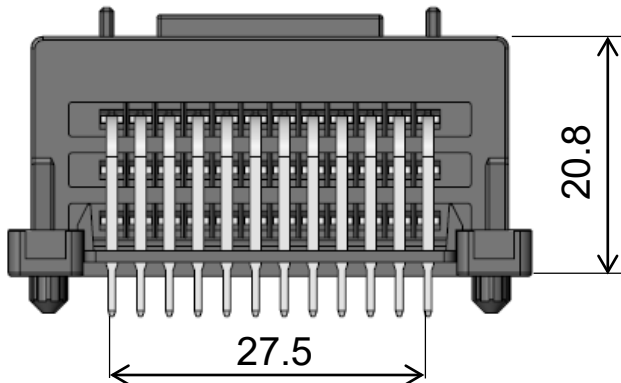
Basic Dimensions

*All units in mm

MX23A 36 Position Standard Male Pin Header



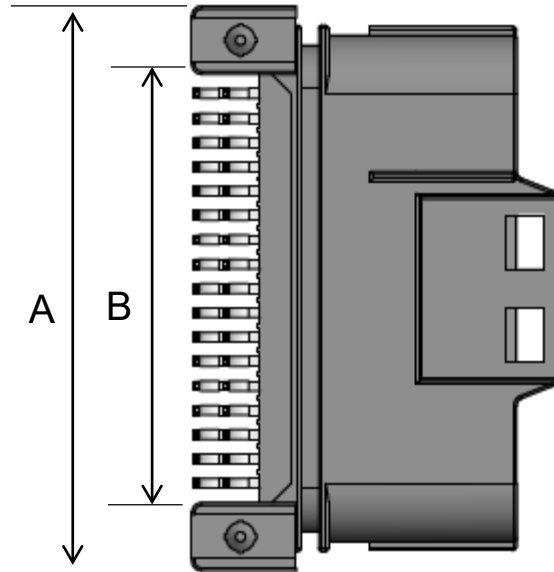
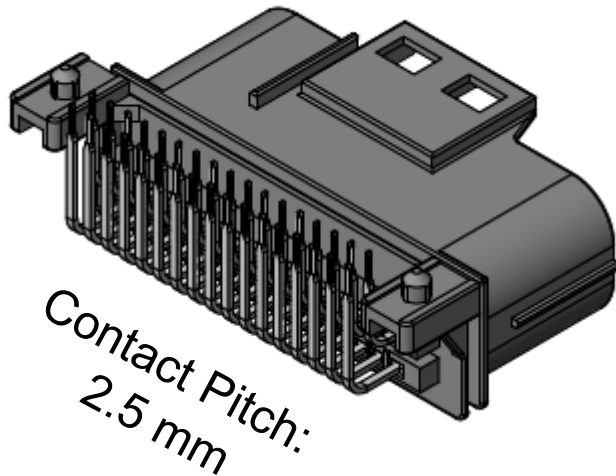
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Drawings for Details



Basic Dimensions

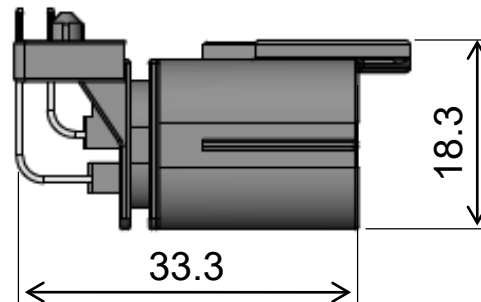
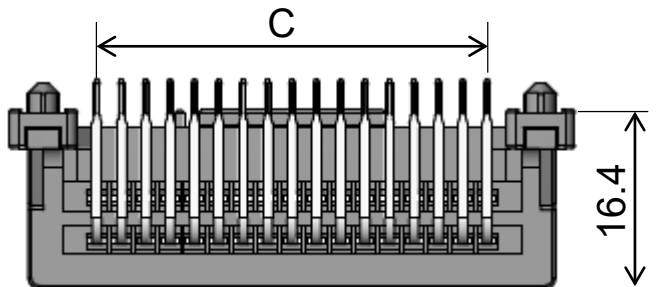
*All units in mm

MX23A Reverse Male Pin Header



| # Pins | A | B | C |
|--------|------|------|------|
| 12 | 30.5 | 16.5 | 12.5 |
| 18 | 38 | 24 | 20 |
| 26 | 48 | 34 | 30 |
| 34 | 58 | 44 | 40 |
| 40 | 65.5 | 51.5 | 47.5 |

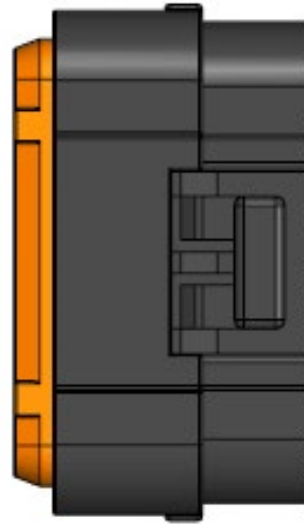
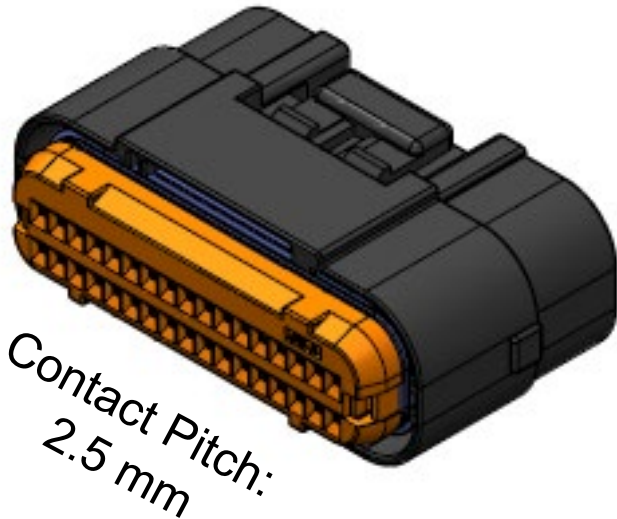
*Please Refer to Drawings for Details



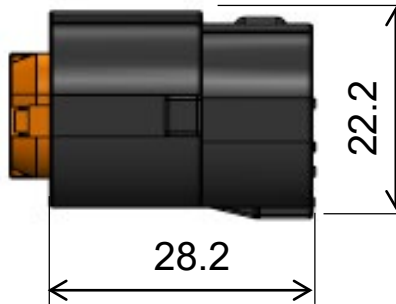
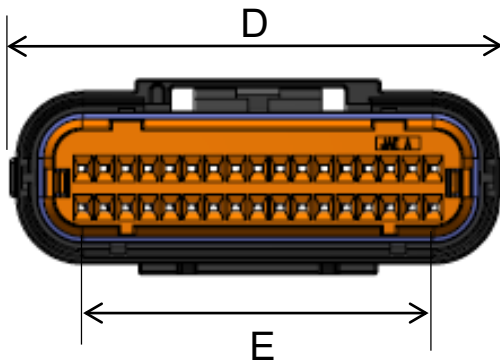
Basic Dimensions

*All units in mm

MX23A Female Socket Housing



Front Cap



| # Pins | D | E |
|--------|------|------|
| 12 | 29.1 | 12.5 |
| 18 | 36.6 | 20 |
| 26 | 46.6 | 30 |
| 34 | 56.6 | 40 |
| 40 | 64.1 | 47.5 |

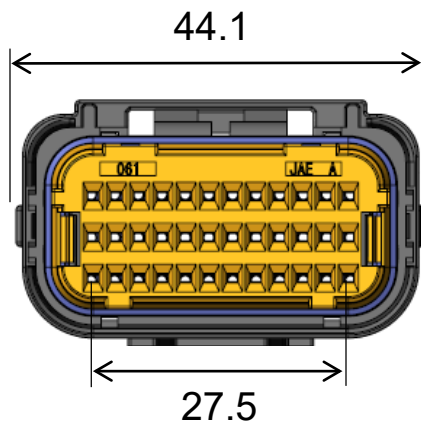
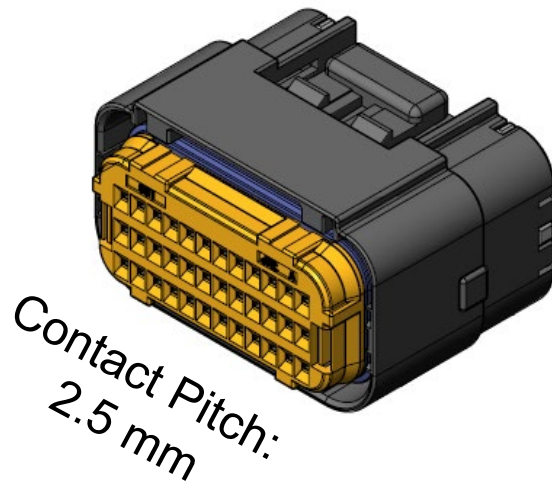
*Please Refer to
Drawings for Details

*Front Cap
Sold Separately

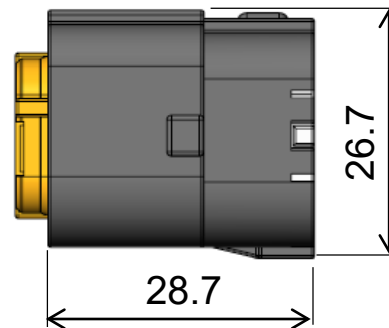
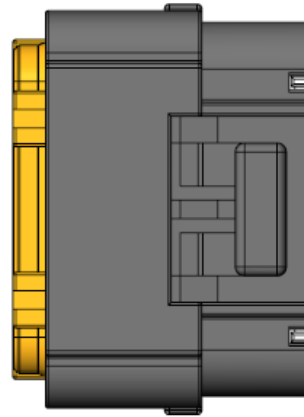
Basic Dimensions

*All units in mm

MX23A 36 Position Female Socket Housing



Front Cap

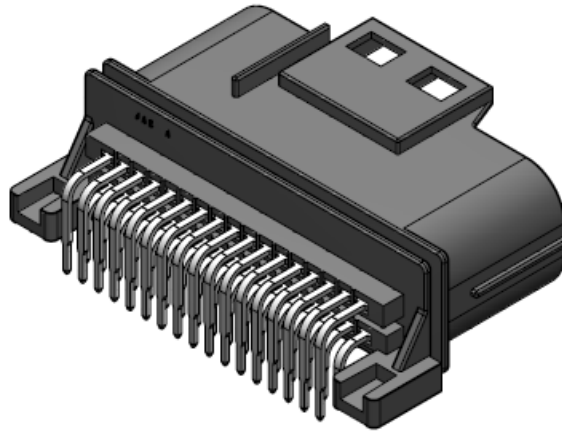


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Drawings for Details

*Front Cap
Sold Separately

Materials and Finishes

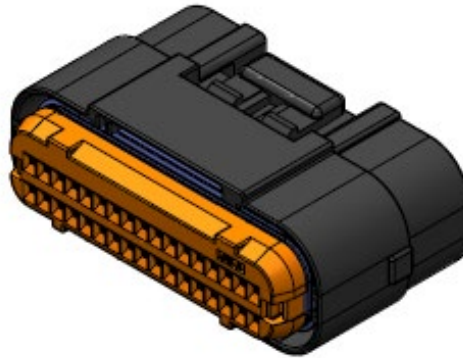
MX23A Male Pin Header



| Component | Material / Finish |
|-------------|---------------------------|
| Insulator | Glass Filled PBT |
| Pin Contact | Copper Alloy / Sn Plating |

Materials and Finishes

MX23A Female Socket Connector

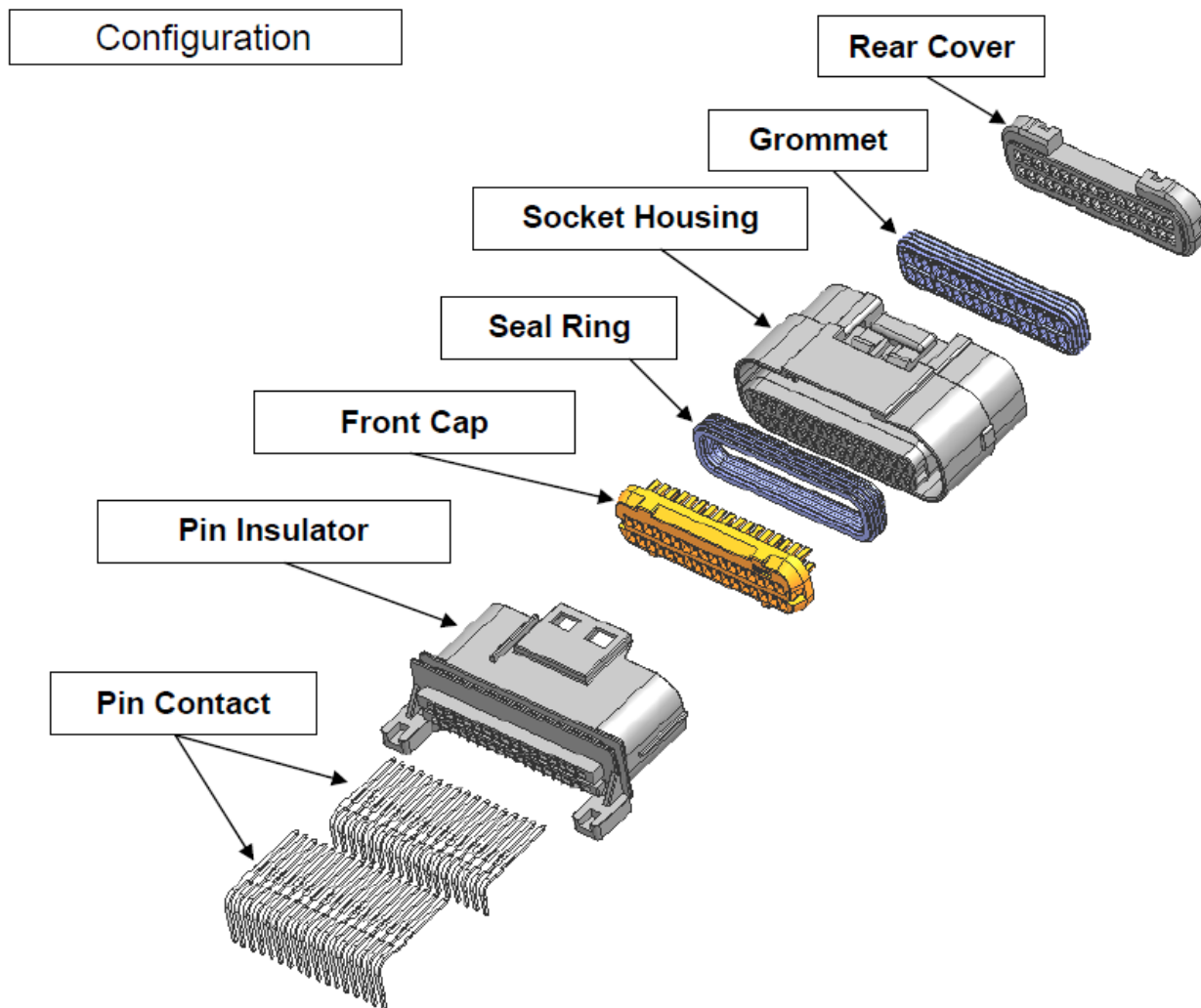


| Component | Material / Finish |
|----------------|-------------------|
| Socket Housing | Glass Filled PBT |
| Front Cap | Glass Filled PBT |
| Rear Cover | Glass Filled PBT |
| Grommet | Silicone Rubber |
| Seal Ring | Silicone Rubber |
| Dummy Pin | Glass Filled PBT |

MX23A Compatible Wire Types

| Contact | | Applicable Electric Wire | | | |
|---------|-------------|--------------------------|---------------------------------|-----------------------|-----------------------|
| Shape | Part Number | Type | Cross-section Area of Conductor | AWG No. | Insulation Outer Dia. |
| Socket | M23S05K351 | AVSS | 0.5 to 1.25 mm ² | #20 to #16 equivalent | 1.6 to 2.3 mm |
| | | AVS | 0.5f to 0.75f mm ² | #20 to #18 equivalent | |
| | M23S05K4F1 | AVSS | 0.3 mm ² | #22 equivalent | 1.4 to 1.5 mm |

MX23A Series Components



Ordering Information

| Description | Part Number |
|--|-------------|
| 12 Position Socket Housing | MX23A12SF1 |
| 12 Position Front Cap | MX23A12XF1 |
| 12 Position Standard Pin Header | MX23A12NF1 |
| 18 Position Socket Housing | MX23A18SF1 |
| 18 Position Front Cap | MX23A18XF1 |
| 18 Position Standard Pin Header | MX23A18NF1 |
| 18 Position Reverse Pin Header | MX23A18NF2 |
| 26 Position Socket Housing | MX23A26SF1 |
| 26 Position Front Cap | MX23A26XF1 |
| 26 Position Standard Pin Header | MX23A26NF1 |
| 26 Position Reverse Pin Header | MX23A26NF2 |
| 34 Position Socket Housing | MX23A34SF1 |
| 34 Position Socket Housing Keyed Gray Color | MX23A34SF6 |
| 34 Position Front Cap | MX23A34XF1 |
| 34 Position Standard Pin Header | MX23A34NF1 |
| 34 Position Reverse Pin Header | MX23A34NF2 |

| Description | Part Number |
|---|-------------|
| 34 Position Standard Pin Header Keyed Gray Color | MX23A34NF6 |
| 36 Position Socket Housing | MX23A36SF1 |
| 36 Position Socket Housing | MX23A36SF2 |
| 36 Position Front Cap | MX23A36XF1 |
| 36 Position Standard Pin Header | MX23A36NF1 |
| 36 Position Standard Pin Header Keyed Gray Color | MX23A36NF6 |
| 40 Position Socket Housing | MX23A40SF1 |
| 40 Position Front Cap | MX23A40XF1 |
| 40 Position Standard Pin Header | MX23A40NF1 |
| Socket Contact 0.5 to 1.25 mm ² | M23S05K351 |
| Socket Contact 0.3 mm ² | M23S05K4F1 |
| Dummy Pin | M120-55780 |

Summary

- Compact Automotive Waterproof board-to-cable connectors
- Delivers up to 3 Amps for signal and 7 Amps power (Ambient temp: 85°C)
- Applicable wire sizes include (0.3 mm² – 1.25 mm²) nominal cross section
- Operating temperature range from -40 to +125°C
- Terminal Position Assurance features enabled on front cap
- Reverse pin header mounting type is available

*Please check performance specification for individual part numbers.



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