

# MX23 Series

## Robust Board-to-Cable Connector

Product Information Module

# 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 mm<sup>2</sup> to 1.25 mm<sup>2</sup> 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

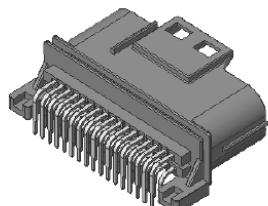
- Low profile type with board mounting height of 18.3 mm and socket connector height of 22.2mm max. (12 to 34pos.)
- Small form factor with 2.5 mm pitch ideal for automotive space
- Socket contact with double fin structure improves retention reliability
- Delivers up to 3 Amps for signal and 7 Amps power (Ambient temp: 85°C)
- Applicable wire sizes include 0.3 mm<sup>2</sup> – 1.25 mm<sup>2</sup> 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.

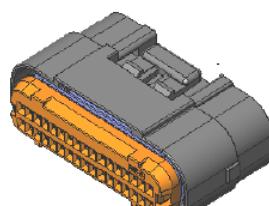
# General Specifications

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

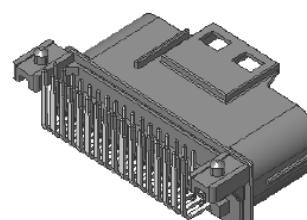
MX23A Male



MX23A Female



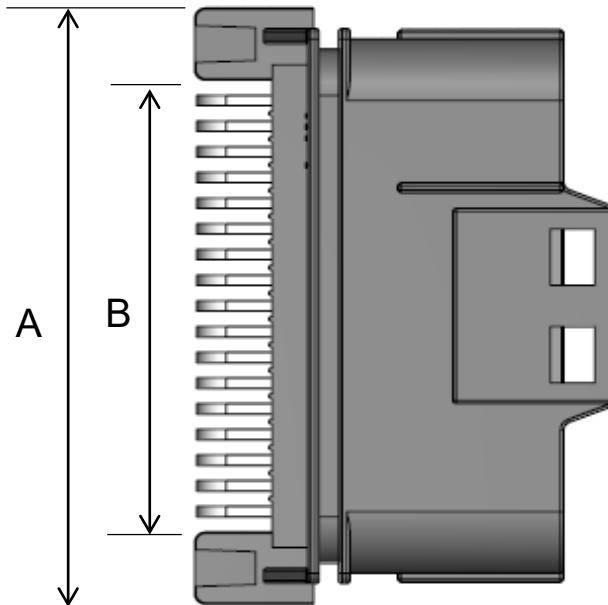
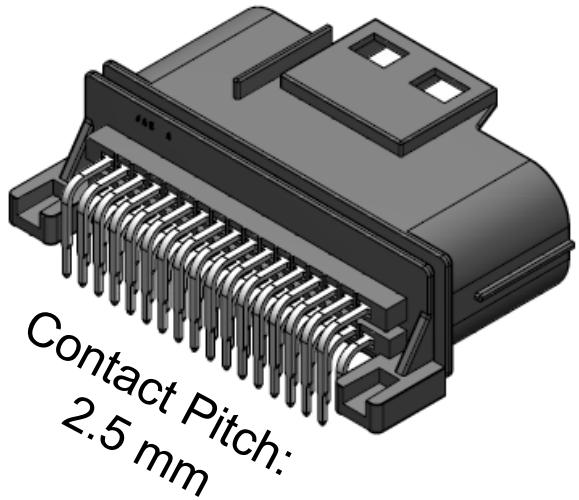
MX23A Reverse Male



# Basic Dimensions

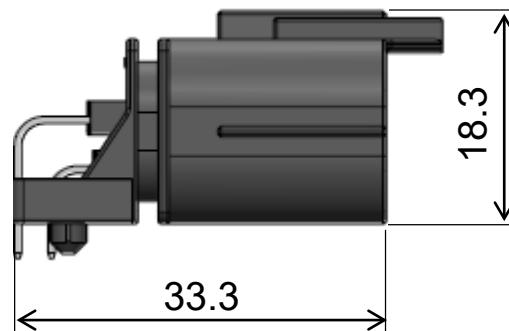
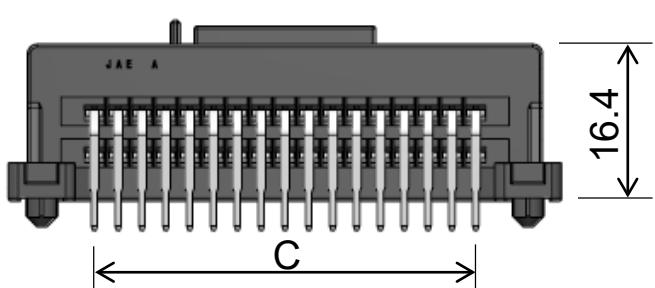
\*All units in mm

## MX23A Standard 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

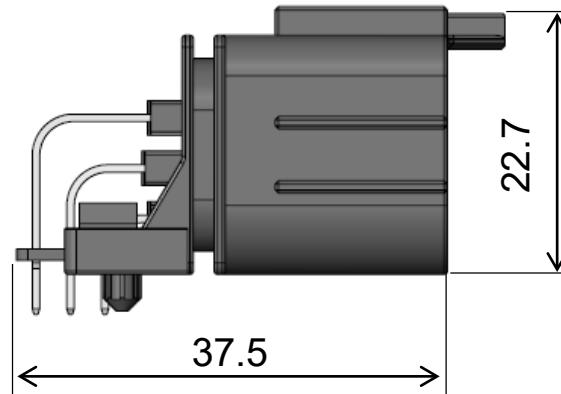
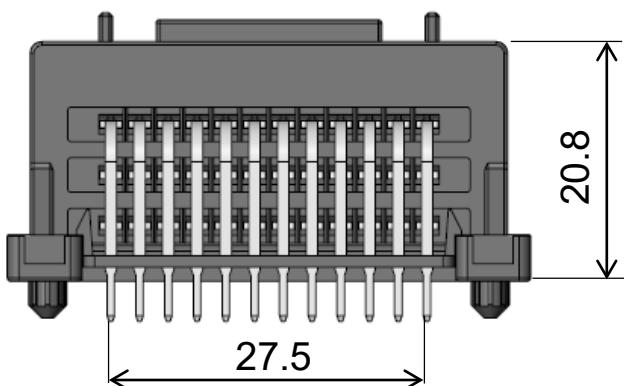
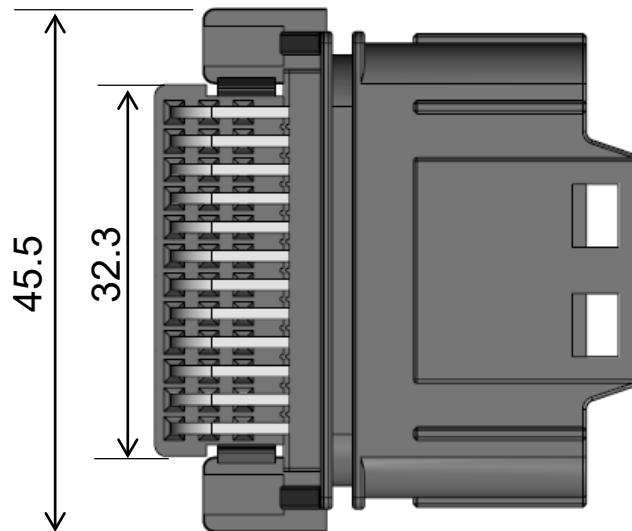
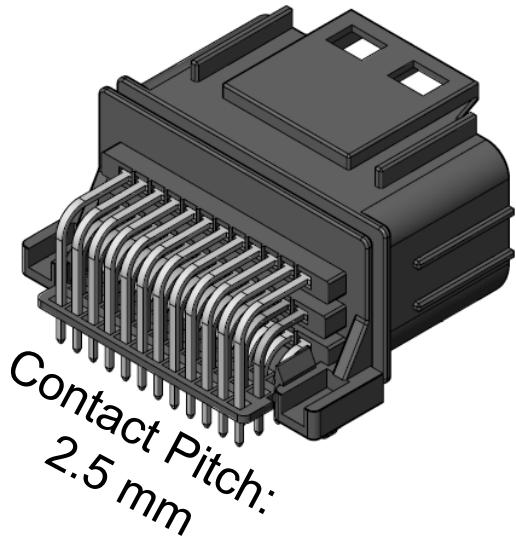
\*Please Refer to  
Drawings for Details



# Basic Dimensions

\*All units in mm

## MX23A 36 Position Standard Male Pin Header

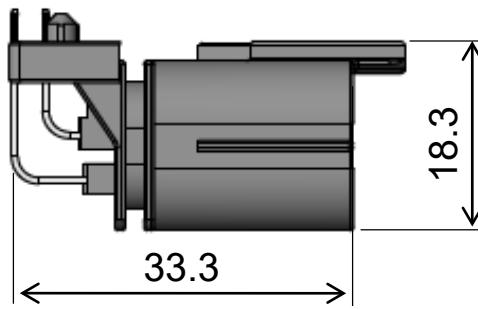
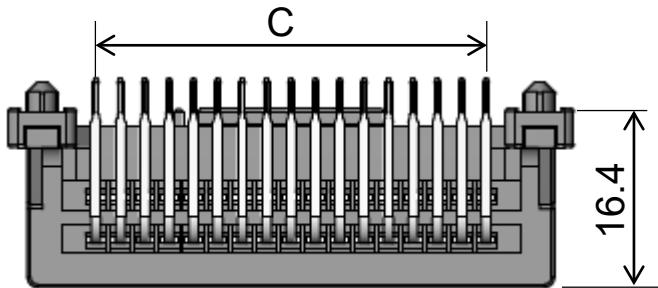
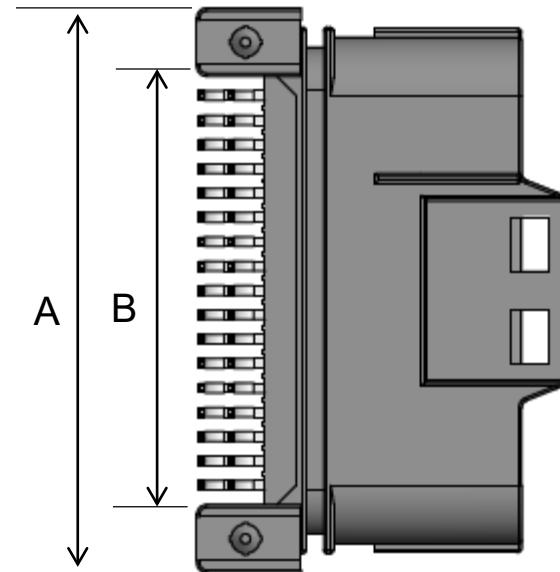
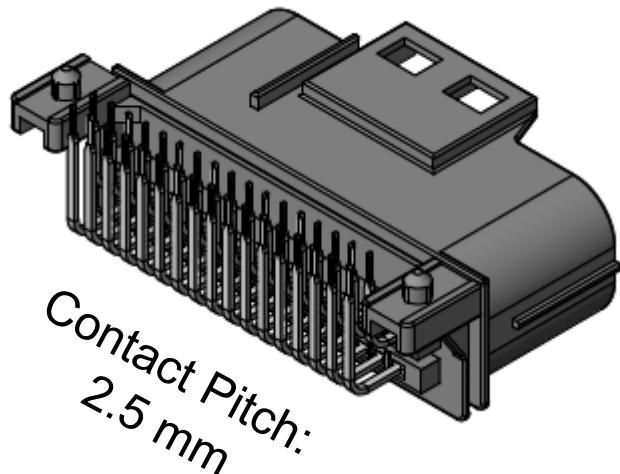


\*Please Refer to  
Drawings for Details

# Basic Dimensions

\*All units in mm

## MX23A Reverse Male Pin Header



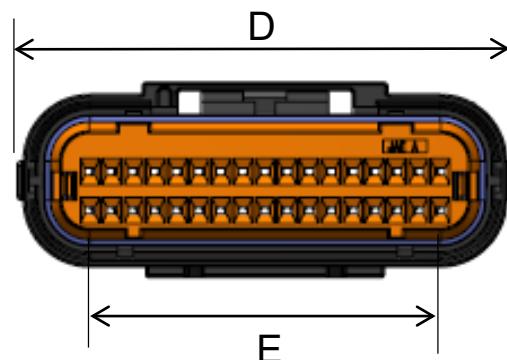
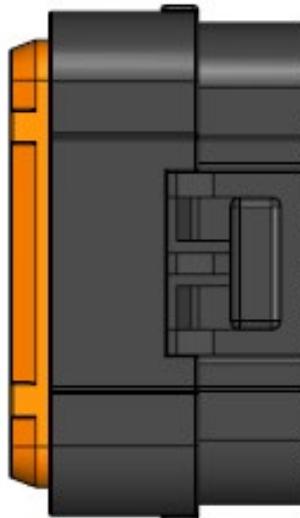
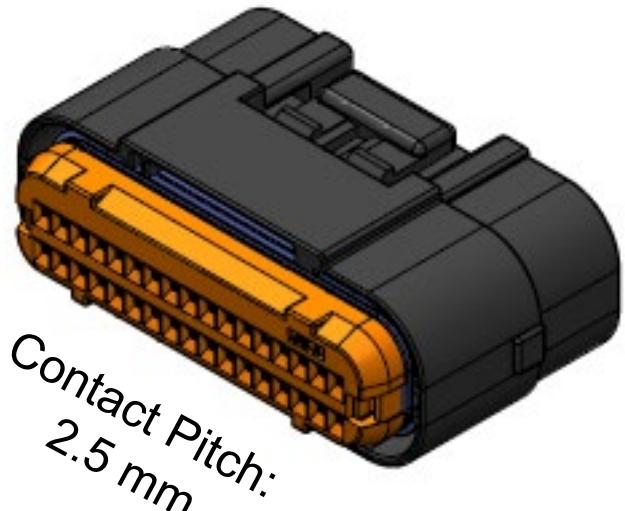
# Pins	A	B	C
12	30.5	16.5	12.5
18	38	24	20
26	48	34	30
34	58	44	40
40	65.5	51.5	47.5

\*Please Refer to  
Drawings for Details

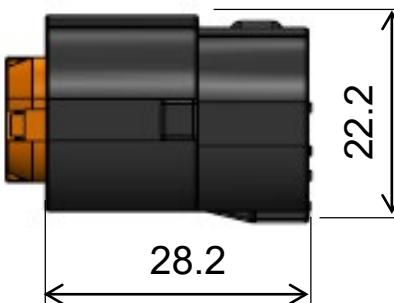
# Basic Dimensions

\*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

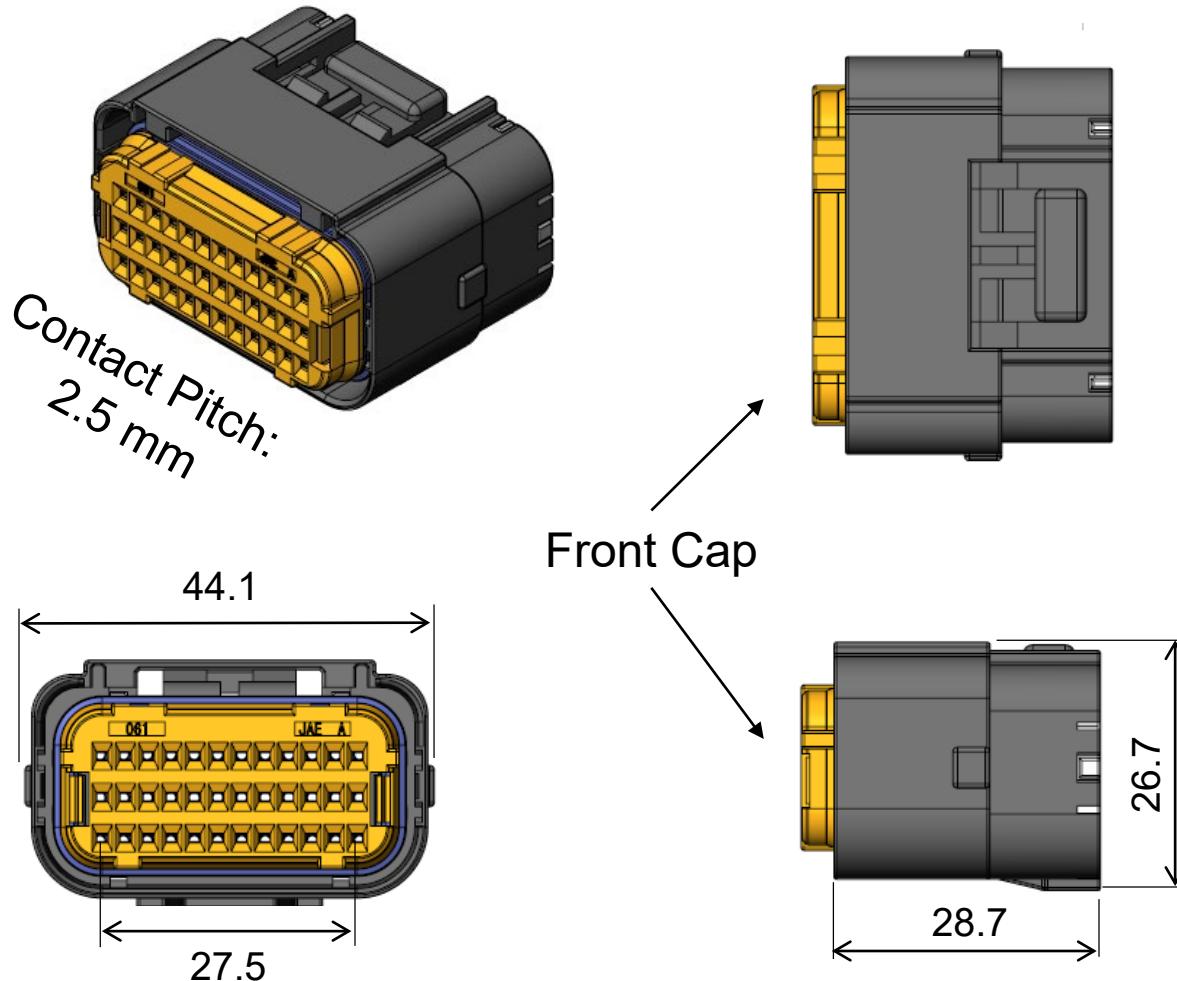
\*Please Refer to  
Drawings for Details

\*Front Cap  
Sold Separately

# Basic Dimensions

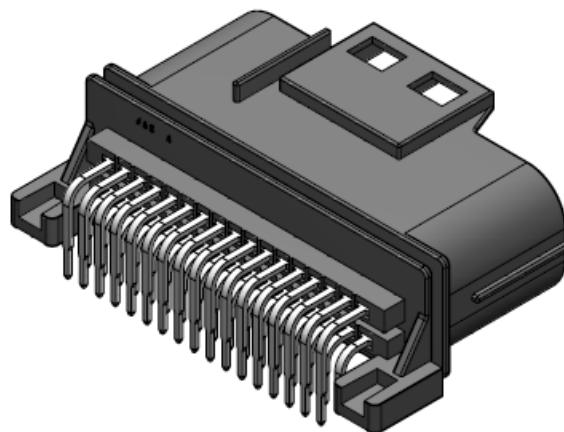
\*All units in mm

## MX23A 36 Position Female Socket Housing



# Materials and Finishes

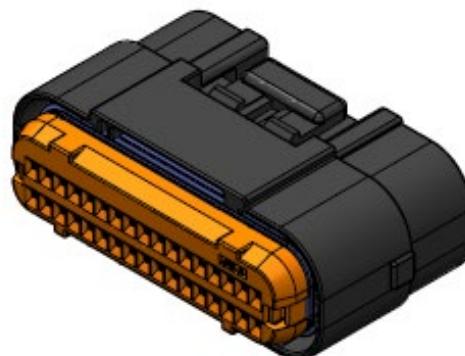
## MX23A Male Pin Header



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

# Materials and Finishes

## MX23A Female Socket Connector

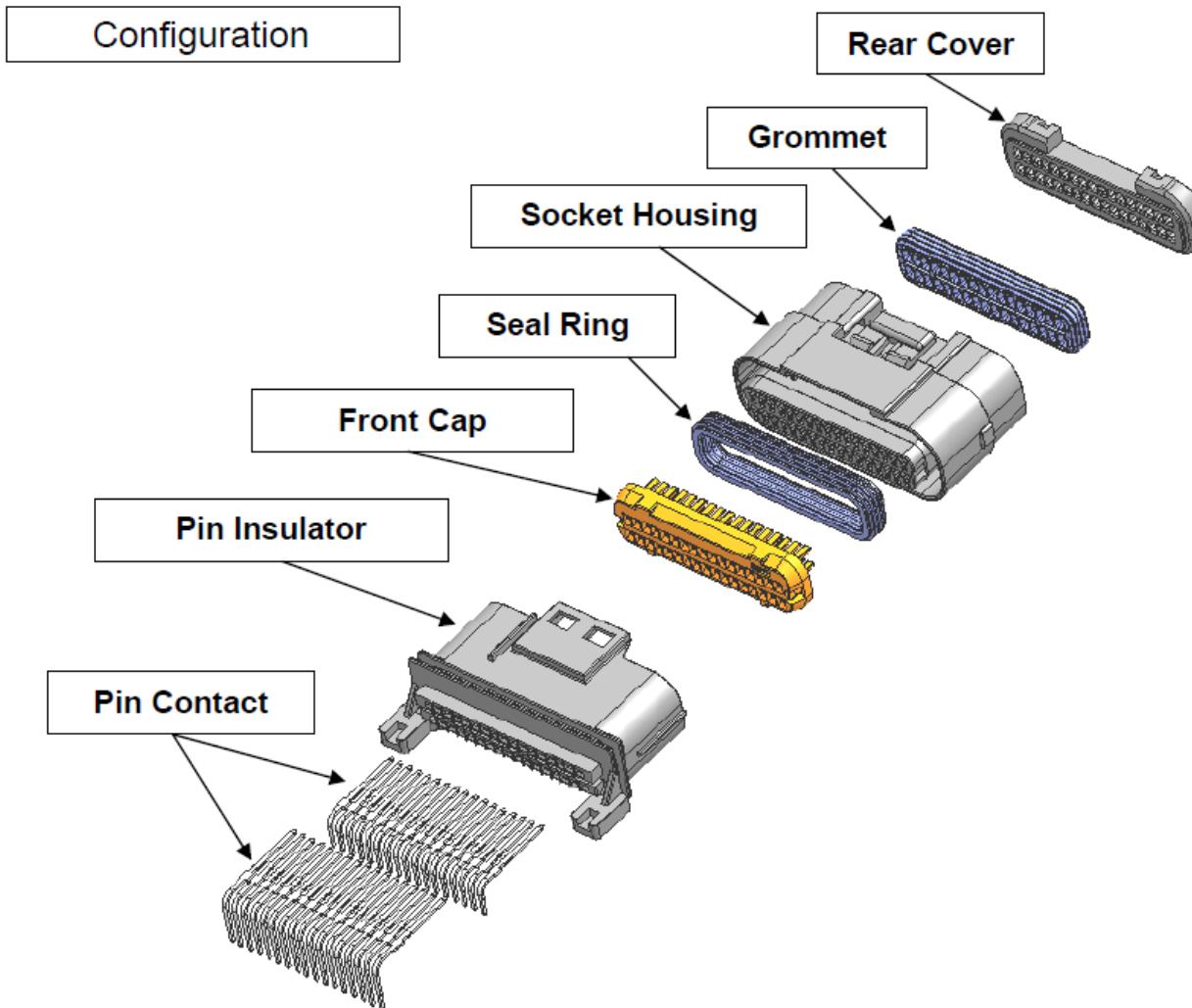


Component	Material / Finish
Socket Housing	Glass Filled PBT
Front Cap	Glass Filled PBT
Rear Cover	Glass Filled PBT
Grommet	Silicone Rubber
Seal Ring	Silicone Rubber
Dummy Pin	Glass Filled PBT

# 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 <sup>2</sup>	#20 to #16 equivalent	1.6 to 2.3 mm
		AVS	0.5f to 0.75f mm <sup>2</sup>	#20 to #18 equivalent	
	M23S05K4F1	AVSS	0.3 mm <sup>2</sup>	#22 equivalent	1.4 to 1.5 mm

# MX23A Series Components



# Ordering Information

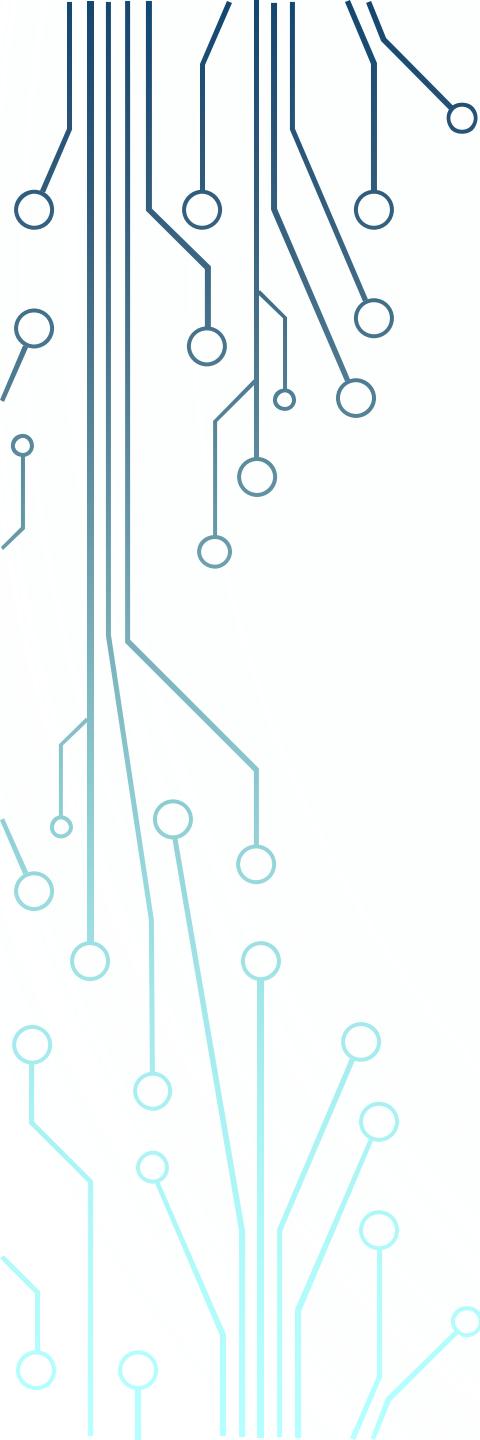
Description	Part Number
12 Position Socket Housing	MX23A12SF1
12 Position Front Cap	MX23A12XF1
12 Position Standard Pin Header	MX23A12NF1
18 Position Socket Housing	MX23A18SF1
18 Position Front Cap	MX23A18XF1
18 Position Standard Pin Header	MX23A18NF1
18 Position Reverse Pin Header	MX23A18NF2
26 Position 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 <sup>2</sup>	M23S05K351
Socket Contact 0.3 mm <sup>2</sup>	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 mm<sup>2</sup> – 1.25 mm<sup>2</sup>) 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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**JAE**