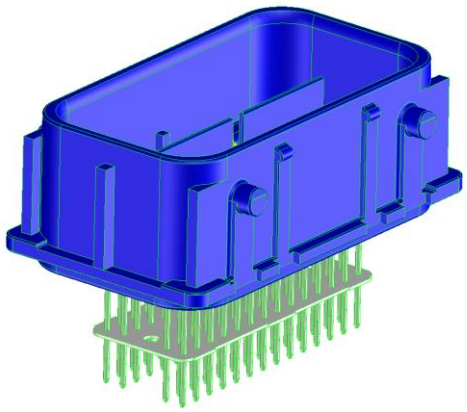
# PRODUCT SPECIFICATION

## 1.0 SCOPE

This specification covers the general market MX123 stitched shroud assembly consisting of a fifty-six circuit and a forty-nine circuit configuration for molded shrouds. The fifty-six circuit product consist of fifty-six 0.64 mm signal pins & one pin alignment plate (PAP) and the forty-nine circuit product consist of forty-eight 0.64 mm signal pins, one 2.80 mm ground pin and one pin alignment plate (PAP). These products also have two plating types (Au & Ag) & two polarization key/color options. The header assemblies are intended to be adhesively attached to an aluminum alloy case, compatible with a MX123 interface connector and attached to a printed circuit board by a solder process.

## 2.0 PRODUCT DESCRIPTION



### 2.1 Product Name and Series Number(s)

- 56/49 Stitched Shroud Assembly – 31386
  - Assembly Circuit Count
    - ➢ 56ckt Shroud Assembly
      - Key features:
        - ♦ Key G, Blue
        - ♦ Key H, Grey
    - ➢ 49ckt Shroud Assembly
      - Key features:
        - ♦ Key A, Black
        - ♦ Key C, Blue
- Mating Component Information
  - MX123 Receptacle Connector Assembly – Series Number 34576
  - Receptacle Terminal
    - ➢ 0.64 mm MX64 silver 22 AWG – 347361001 / 347362001
    - ➢ 0.64 mm MX64 gold 22 AWG – 334670003 / 334670004
    - ➢ 0.64 mm MX64 silver 18-20 AWG – 347361002 / 347362002
    - ➢ 0.64 mm MX64 gold 18-20 AWG – 334670005 / 334670006
    - ➢ MX64 terminal crimping – AS-33468-001/AS-33468-002
    - ➢ 2.80 mm sealed tin 14 AWG – 7116-4152-02 (Yazaki)
  - MX123 Wire Dress Cover – 34575

**2.2 Materials**

- Molded Shroud – 30% glass filled PBT
  - 56 Circuit (Blue, Key G & Grey, Key H)
  - 49 Circuit (Black, Key A & Blue, Key C)
- 0.64mm Signal Pin
  - Base material – C26000
  - Harness interface plating
    - Silver Interface
      - 1.90-3.30 μm thick electrodeposited semi-bright silver over 1.27-2.54 μm thick ductile sulphamate nickel
    - Gold Interface
      - 0.76 μm minimum thick electrodeposited gold over 1.27-2.54 μm thick ductile sulphamate nickel
- PCB interface plating – 5.08-10.16 μm bright tin over 1.27-2.54 μm electro-deposited nickel
- 2.80mm Ground Pin (not available in 56 circuit assembly)
  - Base material – 260 Brass
  - Under plating material – 1.27-2.54 μm electro-deposited nickel
  - Over plating material – 2.54-4.06 μm matte tin finish
- Pin Alignment Plate
  - Insulating paper-polyester laminate
- For Silver Plating Only
- 
  - Environmental Barrier – synthetic hydrocarbon contact surface finish or equivalent applied without void to 0.64 mm pin contact area (minimum 3.7 mm from pin tip)
    - *Care should be taken not to touch areas that have environmental barrier applied. If transferred, environmental barrier can inhibit adhesion of certain adhesives, coatings, sealants, etc.*

### 2.3 Safety Agency Approvals

- UL File Number – not applicable
- CSA File Number – not applicable
- TUV License Number – not applicable

## 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

- Assembly Drawing(s)
  - SD-31386-056
  - SD-31386-049
- Case Interface Drawing
  - SD-31386-156
- Interface Control Drawing – General Motors
  - 18/49/56 CKT Receptacle Connector, silver plating – 12642694
  - 18/49/56 CKT Receptacle Connector, gold plating – 12582683

## 4.0 RATINGS

### 4.1 Temperature

- Operating: -40°C to +125°C (Class 3 per GMW 3191 Dec 2007 & USCAR-2 Rev. 3)
- Storage: -55°C to +150°C for 100 hours (see section 5 for additional information)

### 4.2 Current

**0.64 mm :**

- 0.64 mm pin mated to MX64 Ag plated receptacle crimped to 18 gage wire: 11.3A @ 25°C / 6.5A @ 125°C
- 0.64 mm pin mated to MX64 Ag plated receptacle crimped to 22 gage wire: 8.6A @ 25°C / 5.0A @ 125°C
- 0.64 mm pin mated to MX64 Au plated receptacle crimped to 18 gage wire: 11.7A @ 25°C / 6.5A @ 125°C
- 0.64 mm pin mated to MX64 Au plated receptacle crimped to 22 gage wire: 7.0A @ 25°C / 5.0A @ 125°C

**2.8mm :**

- 2.80 pin mated to Yazaki 2.80 Sn plated receptacle crimped to 14 gage wire: 25.6A @ 25°C / 15.8A @ 125°C

### 4.3 Voltage

Refer to PS-34566-0000

## 5.0 PERFORMANCE

- See PS-34566-0000 for MX123 harness interface performance.
- See DVPR 1719 for header assembly validation.
- See DVPR 1546 for storage temperature evaluation.

## 6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage. See packaging specification PK-31301-916.

## 7.0 GAGES AND FIXTURES

The true position of the harness mate side pins is 100% functionally gauged.
The true position of the PCB side pins is 100% functionally gauged.
The color of shroud is 100% inspected.
The mate side polarization is 100% inspected
The anti-scoop rib position is functionally verified.
Continuity and Hypot testing on the shroud is 100% inspected.
The mate side pin length is 100% inspected.
EB3 presence on pins is verified.

## 8.0 ADDITIONAL INFORMATION

Not applicable