



PRODUCT SPECIFICATION

1.0 SCOPE

This specification covers the 3.50 mm (0.138 inch) MX150 Unshrouded SMT header product line and is intended to mate with the MX150 receptacle connector series 33471 and 33472.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER(S)

- A. Header Assembly
 - I. Dual Row Vertical SMT Headers: 75757-4XXX

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

- A. Header Housing - 30% glass filled LCP
- B. Terminal – HSM Copper C19400
- C. Plating – Matte Tin 1.5µ MIN overall with 1.50 µ MIN Nickel under plate overall.

2.2.1 Recommended PCB Thickness 0.062inches/(1.57mm)

2.3 SAFETY AGENCY APPROVALS

UL File Number	TBD
CSA File Number	TBD
TUV License Number	TBD

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

3.1 SPECIFICATIONS

All documents referenced shall be of the latest revision. The order of precedence detailing requirements of this specification is as follows:

- 1. Product Drawings
- 2. This Specification

3.2 REFERENCE DOCUMENTS

- Molex Product Specification PS-33472-000, MX150 Dual Row Connector
- Molex Application Specification AS-75757-210, MX150 Header Shroud Details

REVISION: 3	ECR/ECN INFORMATION: EC No: UAU2016-1569 DATE: 04/21/2016	TITLE: PRODUCT SPECIFICATION MX150 SMT UNSHROUDED HEADER	SHEET No. 1 of 4
DOCUMENT NUMBER: PS-75757-400	CREATED / REVISED BY: Jarod Fischer	CHECKED BY: Trevor Machuga	APPROVED BY: Ron Bauman



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4.0 RATINGS

4.1 VOLTAGE

100MΩ Minimum when 500 Volts DC between adjacent terminals and terminals to ground.

4.2 CURRENT

Ratings shown below represent maximum current carrying capacity of a fully loaded connector with all circuits powered. Ratings are based on a 30 °C maximum temperature rise limit over ambient (see section 5.1.4 for specification) without derating. Current is dependent on connector size, ambient temperature and related factors. Actual current rating is application dependent and should be evaluated for each use.

CKT SIZE	AWG	AMPS
20 CKT	16 AWG	7.0 AMPS

4.3 TEMPERATURE

Operating: - 40 C° to + 125 C°

Non-Operating: - 40 C° to + 125 C°

5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Contact Resistance (Low Level)	Mate Header with MX150 Receptacle: limiting the open circuit voltage of 20 mV and a maximum current of 100 mA.	10 milliohms MAXIMUM (initial)
2	Contact Resistance @ Rated Current	Mate Header with MX150 Receptacle: Apply a 5 ampere/mm2 current	10 milliohms MAXIMUM
3	Insulation Resistance	Apply a voltage of 500 VDC between adjacent terminals and between terminals to ground.	20 Megohms MINIMUM
4	Temperature Rise (via Current Cycling)	Mate Header with MX150 Receptacle: measure the temperature rise at the rated current after: 1. 96 hours (steady state) 2. 240 hours(45 minutes ON and 15 minutes OFF per hour) 3. 96 hours (steady state)	Temperature rise over Ambient: +30 °C MAXIMUM

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5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
5	Terminal Insertion and Extraction Forces	Insert and withdraw terminal (male to female) at a rate of 50 ± 6 mm ($2 \pm \frac{1}{4}$ inch) per minute.	6.5 Newtons MAXIMUM
6	Connector Mate and Unmate Forces	Mate and unmate connector (male to female) at a rate of 50 ± 6 mm ($2 \pm \frac{1}{4}$ inch) per minute.	130 Newtons MAXIMUM (20 circuit)
7	Terminal Retention Force (in Header Housing)	Axial push out force on the terminal from the housing at a rate of 50 ± 6 mm ($2 \pm \frac{1}{4}$ inch) per minute.	0.7 kgf MINIMUM
8	Durability	EIA-364-09 Mate connectors 25 cycles for tin maximum rate of 10 cycles per minute prior to Environmental Tests.	10 milliohms Maximum (change from initial) No evidence of physical Damage

5.3 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
8	Thermal Aging	Mate Header with MX150 Receptacle connector; expose to 96 hours at $125 \pm 2^\circ\text{C}$	10 milliohms MAXIMUM (change from initial) & Visual: No Damage
9	Cold Resistance	Mate Header with MX150 Receptacle connector; expose to 96 hours at $-40 \pm 3^\circ\text{C}$	10 milliohms MAXIMUM (change from initial) & Visual: No Damage
10	Solderability	Per SMES-152	Solder coverage: 95% MINIMUM (per SMES-152)
11	Solder Resistance	Dip Header terminal tails in solder; Duration: 5 ± 0.5 seconds Temperature : $245 \pm 5^\circ\text{C}$	Visual: No damage to insulator material

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6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage.

7.0 GAGES AND FIXTURES

8.0 OTHER INFORMATION

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