1.0 SCOPE

This specification covers the 3.50 mm (0.138 inch) MX150 Unshrouded 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 & Single Row Vertical Headers: 75757
   II. Dual Row, Right Angle: 75900

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

A. Header Housing - 30% glass filled LCP

B. Terminal - Brass Alloy C26000
   I. Plating Option 1 - Matte Tin 2.5µ MIN overall with 1.25 µ MIN Nickel under plate overall.

   II. Plating Option 2 - Select Gold 0.05µ MIN in contact area, Select Matte Tin 2.5 µ MIN in PC tail area, 1.25 µ MIN Nickel under plate overall.

   III. Plating Option 3 - Select Gold 0.50µ MIN in contact area, Select Matte Tin 2.5 µ MIN in PC tail area, 1.25 µ MIN Nickel under plate overall.

   IV. Plating Option 4 - Matte Tin 1.5µ MIN overall with 1.25µ MIN Nickel under plate overall.

2.2.1 Recommended PCB Thickness 0.062/(1.57)

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 Product Specification PS-33471-000, MX150 Single Row Connector
Molex Application Specification AS-75757-210, MX150 Header Shroud Details

4.0 RATINGS

4.1 VOLTAGE

≤ 500 VDC

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 Cº to + 125 Cº
Non-Operating: - 40 Cº to + 125 Cº

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: **+55** Cº MAXIMUM

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 ± ¼** 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 ± ¼** 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 ± ¼** inch) per minute.	**0.7 kgf** MINIMUM

5.3 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
8	**Thermal Aging**	Mate Header with MX150 Receptacle connector ; expose to :96 hours at 125 ± 2°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 ± 3°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 Temperture : 245 ± 5°C	Visual: No damage to insulator material

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