



# PRODUCT SPECIFICATION

## 1.0 SCOPE

This specification covers the performance requirements for Milli-Grid 2mm Dual Row Shrouded Headers.

## 2.0 PRODUCT DESCRIPTION

2.1 Product covered by this specification are for series number

<u>Product Name</u>	<u>Part Number</u>
MGrid Headers (Vertical)	87831 Series
MGrid Headers (SMT)	87832 Series
MGrid Headers (R/A)	87833 Series

These series mate with Molex :

- a. Milli-Grid 2mm Grid Wire to Board Connector, Crimp Receptacle Housing, 51110 series and Crimp Terminal, 50394 series.
- b. 2mm Milli-Grid Dual Row IDT, 87568 series.

2.2 For dimensions, materials & plating, refer to the appropriate product drawings.

2.3 Safety Agency Approvals:

UL File Number : E29179  
 CSA File Number : LR19980

## 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

The following documents are part of this specification to the extent specified herewith. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and reference documents, this specification shall take the precedence.

MIL-STD-202 Test Methods for Electrical and Electronic Component Parts.

MIL-STD-1344 Test Methods of Electrical Connector

Reference Product Specifications

PS-51110-001 Milli-Grid 2mm Grid Wire to Board Connector

PS-87568-004 2mm Milli-Grid Dual Row IDT Receptacle

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<u>DOCUMENT NUMBER:</u> <b>PS-87831-027</b>		<u>CREATED / REVISED BY:</u> <b>SK ANG 2009/07/14</b>	<u>CHECKED BY:</u> <b>AT SEE 2009/07/24</b>
		<u>APPROVED BY:</u> <b>ML ONG 2009/07/24</b>	



# PRODUCT SPECIFICATION

## 4.0 RATINGS

- 4.1 Voltage : 125
- 4.2 Current : 2.00 Amp MAXIMUM
- 4.3 Operating Temperature : -55°C to +105°C  
Non-operating Temperature : -55°C to +105°C

## 5.0 PERFORMANCE

### 5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	<b>Insulation Resistance</b>	Apply 500 VDC for 1 minute per MIL-STD-1344A, METHOD 3003.1	<b>1000</b> Megaohms Minimum
2	<b>Dielectric Strength</b>	1000 Vrms for 1 minute between adjacent terminals.	No breakdown

### 5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
3	<b>Pin/ Terminal Retention Force (in Housing)</b>	Apply an axial load on the terminal in the housing to dislodge the terminals from the connector at a rate of 0.50 inch per minute	Retention Force: 850 g Min per pin. (Before heat soldering)

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DOCUMENT NUMBER: <b>PS-87831-027</b>	CREATED / REVISED BY: <b>SK ANG 2009/07/14</b>	CHECKED BY: <b>AT SEE 2009/07/24</b>	APPROVED BY: <b>ML ONG 2009/07/24</b>



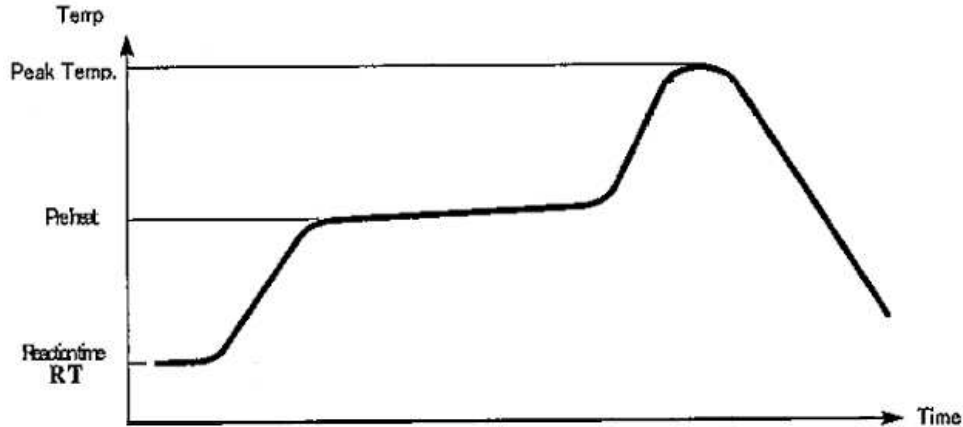
# PRODUCT SPECIFICATION

## 5.3 ENVIROMENT REQUIREMENTS

4.	<b>Solderability</b>	Solder Time: 5 +/-0.5 secs. Solder Temperature: 260+/- 5°C	95% of the immersed area must show no voids, pin holes.
5.	<b>Resistance to Soldering Heat (Through Hole)</b>	Solder tail to be dipped in flux as per MIL-STD-202F method 210 condition B.  Solder Temperature: 260 +/- 5°C Solder Time: 10 +/- 1 secs	No damage in appearance of the connector
	<b>Resistance to IR reflow heat (SMT)</b>	Pass product through IR machine for 3 cycles of the following reflow profile:  Average Ramp Rate            3°C/sec max. Preheat Temp. (Min.)        150°C Preheat Temp. (Max.)        200°C Preheat Time                    60 – 180 sec Ramp to Peak                    3°C/sec max. Time over liquidus (217°C) 60 – 150 sec Peak Temperature              260 +/-5°C Time within 5°C of peak      20 – 40 sec. Ramp – Cool Down              6°C/sec max. Time 25°C to Peak              8 mins max.	No damage in appearance of the connector

6.

**Reflow Temperature Profile**



## 6.0 Packaging

Product shall be packed in either Tube or Tape & Reel and protected against damage during handling, transportation and storage.

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## 7.0 Special Instructions

Since the products covered in this specification are molded with a moisture sensitive thermoplastic, it is recommended to adhere to the following instructions when handling this type of connectors:

7.1 These connectors are supplied in moisture barrier bags and sealed with desiccants to minimize moisture absorption. Once the moisture barrier bags are opened, the connectors should not be exposed to any environment with a temperature and humidity exceeding 30°C/60% RH respectively. The connectors should also be consumed not later than 24 hours upon opening of the bags.

7.2 In the event excessive moisture is suspected to be present in the connectors, they should be baked at 125°C for 3 to 5 hours prior to exposing them to high temperature processing environments such as SMT reflow soldering.

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