



# PRODUCT SPECIFICATION

## 1.0 SCOPE

This specification covers Insulation Displacement Terminal (IDT) for ribbon cable on 1.00 mm centers with single-beam contact terminal connection for 0.50 mm square pins on dual row 2.00mm grid.

## 2.0 PRODUCT DESCRIPTION

This specification covers the following Product Series:

2.1

Product Name	Part Numbers
2.00 mm "Milli-Grid" Dual Row IDT	87568-**** Series

2.2 See the appropriate sales drawings for more information on dimensions, materials, plating and markings.

2.3 The connector is supplied to the customer with the terminals pre-assembled in a lower housing and pre-loaded with an upper housing. The ribbon cable may be inserted into the pre-loaded upper housing and assembled to the lower housing with the use of hand tool or bench press.

2.4 The ribbon cable connector will mate with any Milli-Grid header with a mating pin length between 2.50mm to 4.20mm.

2.5 The connector accepts 1.00mm pitch AWG #26 & 28 stranded flat ribbon cable.

### 2.6 SAFETY AGENCY APPROVAL

UL FILE NUMBER: E29179  
CSA FILE NUMBER: LR 19980

## 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

The following documents form 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 precedence.

MIL-STD-202	Test methods for Electronic and Electrical component parts.
MIL-STD-1344	Test methods for Electrical Connectors.

REVISION: <b>A1</b>	ECR/ECN INFORMATION: EC No: 121915 DATE: 2010/10/10	TITLE: <b>2 MM "MILLI GRID" DUAL ROW IDT RECEPTACLE</b>	SHEET No. <b>1 of 4</b>
DOCUMENT NUMBER: <b>PS-87568-004</b>	CREATED / REVISED BY: <b>SCHEONG</b>	CHECKED BY: <b>GMENARLY</b>	APPROVED BY: <b>KHLIM</b>



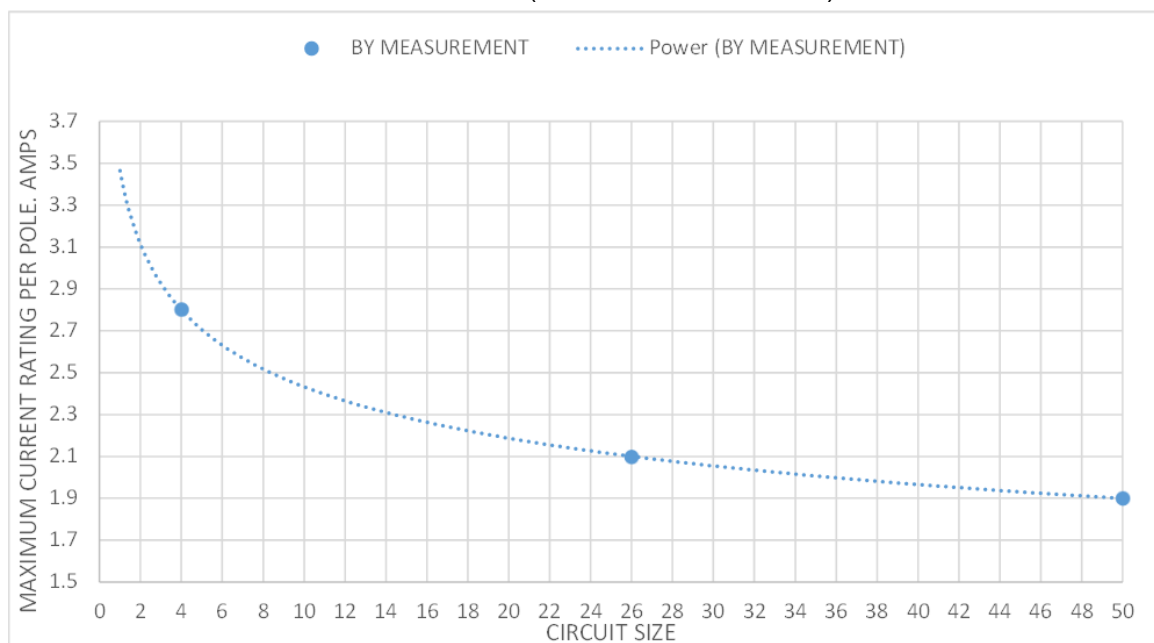
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## 4.0 RATINGS

### 4.1 Current :

Current rating is application dependent and each application should be evaluated by the end user for compliance to specific safety agency requirements. The ratings listed in the chart below are per Molex test method based on a 30° C maximum temperature rise over ambient temperature and are provided as a guideline. Appropriate de-rating is required based on circuit size, ambient temperature, copper trace size on the PCB, AWG WIRE, gross heating from adjacent modules/components and other factors that influence connector performance. Wire size, insulation thickness, stranding, tin coated or bare copper, wire length & crimp quality are other factors that influence current rating.

Wire to Board (87568 & 87832 Series)



4.2 Voltage : 125 Volts AC (RMS) / DC Max

4.3 Temperature Range : -45°C to + 85 °C

## 5.0 PERFORMANCE

### 5.1 Mechanical Performance

	ITEM	TEST CONDITION	REQUIREMENT
5.1.1	Cable Retention With out Strain Relief (Upper Housing Retention)	An axial force is applied to the cable at the rate of 25.4 mm per minute till the upper housing is removed from the lower housing	0.25 kgf min. per ckt

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5.1.2	Terminal Retention Force	Dislodge the terminal from the housing at the rate of 25.4 mm per minute.	0.20 kgf min. per terminal
5.1.3	Engagement / Disengagement Forces (per ckt)	SQ pin 0.52 +/- 0.005 mm (Engagement) SQ pin 0.48 +/- 0.005 mm (Disengagement) at the rate of 25.4 mm per minute.	Engaging: 200 gf max. Disengaging: 10 gf min.
5.1.4	Mate & Unmate Force	Mate & Unmate connector with applicable shrouded headers at the rate of 25.4 mm/min.	Mate force: 200 g per ckt max.  Unmate force: 40 g per ckt min.
5.1.5	Strain Relief Retention (Optional)	An axial force is applied to the cable at the rate of 25.4 mm per minute till the strain relief is removed from the lower housing.	7.5 kgf min.
5.1.6	Durability	100 cycles of mating and unmating at a rate of 600 cycles per hour	Contact Resistance: 30 mΩ max.

## 5.2 Electrical Performance:

	ITEM	TEST CONDITION	REQUIREMENT
5.2.1	Temperature Rise	Mate connectors and measure the temperature rise of contact when the maximum DC rated current is passed.	30 °C max. rise over ambient.
5.2.2	Insulation Resistance	Measurements taken between adjacent contacts of unmated connectors where 500V DC is applied. (MIL-STD-1344A, Method 3003)	5,000 MΩ min.
5.2.3	Dielectric Strength	Unmated samples subjected to 500V AC rms for 5 seconds. between adjacent contacts (MIL-STD-1344A, Method 3001)	No breakdown.
5.2.4	Contact Resistance	Mated samples subjected to 20 mV open circuit & 10mA max. (MIL-STD-1344A, Method 3004)	30 mΩ max.

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## 5.3 Environmental Performance

	ITEM	TEST CONDITION	REQUIREMENT
5.3.1	Humidity	Temperature : 40 °C Relative Humidity : 90-95% Duration : 240 hrs (MIL-STD-1344A, Method 1002.2, Type 1, Condition A)	No Damage Contact Resistance: 30 mΩ max. Insulation Resistance: 5000 MΩ min. Dielectric Strength: No Break Down.
5.3.2	Thermal Shock	30 minutes of -55 °C and 30 minutes of 85 °C for 5 cycles (MIL-STD-1344A, Method 1003.1, Condition A)	Contact Resistance: 30 mΩ max. No Damage.
5.3.3	Temperature Life	Temperature: 105 +/- 2 °C for 250 hours. (MIL-STD-1344A, Method 1005.1, Condition 4)	Contact Resistance: 30 mΩ max. No Damage.
5.3.4	Salt Spray	Temperature: 35 +/- 2 °C Solution : 5 +/- 1% Spray Time : 48 hours (MIL-STD-202F, Method 101D, Condition B)	Contact Resistance: 30 mΩ max.
5.3.5	Vibration	1.52mm peak to peak, 10-55-10 Hz traversed in 1 min, each 1 hour fro X,Y, & Z directions.	Discontinuity 1 μsec max. Contact Resistance: 30 mΩ max.
5.3.6	Mechanical Shock	100 G's 6msm, half sine with 3 shocks in each X, Y & Z axis.	Discontinuity 1 μsec max. Contact Resistance: 30 mΩ max.

## 6.0 PACKAGING

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

PENDING APPROVAL

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