PRODUCT SPECIFICATION

Vertical Mini DIMM Connector

1.0 SCOPE

This Product Specification covers the performance requirements of the 0.60 mm centerline edge card socket for board to board interconnect of 1.00 mm thick memory modules.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER (S)

Part Number	Product Descriptions
87782-2001/2002/2003/2201/2202	244/200 Ckt Vertical Mini DIMM Socket (Tin Version)

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate Sales Drawings for information on dimensions, materials, plating and markings**,** recommended module outlines and footprint Specifications.

2.3 CONNECTOR SIZE

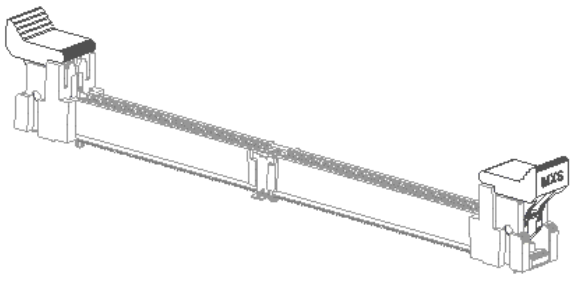
Refer to the appropriate sales drawing for dimensional information and detail.

2.4 PCB / MODULE DIMENSIONS

Refer to the appropriate sales drawing for PCB / module hole layout and dimensional Information. The connector accommodates a 1.00 ± 0.10mm thick PC module.

2.5 SAFETY AGENCY APPROVALS

UL File : E29179
CSA File : 1699020 (LR19980)



3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

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

4.0 RATINGS

4.1 VOLTAGE
30 VRMS at 60 Hz

4.2 CURRENT
1.0 Amps at 30°C Temperature Rise

4.3 TEMPERATURE
Operating Temperature : -55°C to +85°C
Non Operating Temperature : -55°C to +85°C

5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
5.1.1	**Contact Resistance (Low Level)**	Mate connectors: apply a maximum voltage of 20mV and a current of 100mA Mated per EIA-364-23	30 mΩ maximum (initial) 10 mΩ maximum change from initial
5.1.2	**Temperature Rise at rated current**	Temperature of mated connector at rated current for 96 hours (6 consecutive ckts link in series.)	1.0 Amps per contact at a maximum of 30°C temperature rise
5.1.3	**Insulation Resistance**	Unmated per EIA-364-21	1000 Mega Ω minimum
5.1.4	**Dielectric Withstanding Voltage**	Unmated, 500VAC per EIA-364-20	No breakdown or flashover
5.1.5	**Time Domain Impedance**	Risetime = 300pS (10% ~ 90%) S:G ratio = 2:1 Source impedance = 50Ω Load impedance = 50Ω Single-Ended Configuration Test Procedure per EIA-364-108	50Ω +/- 10%
5.1.6	**Time Domain Multiline Crosstalk**	Risetime = 300pS (10% ~ 90%) S:G ratio = 2:1 7nearest adjacent driven signal, 1 victim signal Source impedance = 50Ω Load impedance = 50Ω Single-Ended Configuration Test Procedure per EIA-364-90	6% max (NEXT & FEXT)

5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
5.2.1	**Vibration**	Amplitude : 1.52mm peak to peak Sweep : 10-55-10 Hz in one min. Duration : 2 hrs each on XYZ axis Module weight : 15g for 244Ckt and 13g for 200Ckt. EIA 364-28	No change in LLCR greater than 10mΩ from initial. Discontinuity : No greater than 1.0 micro sec.
5.2.2	**Shock (Mechanical)**	Mated, 30G, 11ms duration, half-sine waveform, 3 shocks in each perpendicular axis (18 total) Module weight – 15g for 244Ckt and 13g for 200Ckt.	No change in LLCR greater than 10mΩ from initial. Discontinuity : No greater than 1.0 micro sec.
5.2.3	**Durability**	Mate and unmated 25 times at a maximum rate of 10 cycles per minute. Reseating to be done for 3 cycles.	No change in LLCR greater than 10 mΩ from initial.
5.2.4	**Module Insertion Force (w/ Latches)**	Mate connector with PCB module per EIA364-13	Total insertion force not to exceed : 195.0 N (43.73lbs) for 200 ckt 238.0 N (53.37lbs) for 244 ckt
5.2.5	**Module Rip Out Force**	Apply a pulling force on module card at a rate of 25±6 mm/min (1±¼ in/min) with recommended test module as per 2.4 inserted into connector with latches closed.	35.0 N (7.85lb) min. with no damage
5.2.6	**Latch Actuation Force**	Apply an actuation force on each latch at a rate of 25 ± 6 mm/ min (1 ± ¼ in/min) with recommended test module as per 2.4inserted into connector.	35N (7.85lb) max. per latch.
5.2.7	**Latch Overstress Force**	Apply a force on each latch in the fully open position at a rate of 25 ± 6 mm / min (1 ± ¼ in/min) and hold for 10 seconds	35 N (7.85lb) min with no damage.
5.2.8	**Terminal Retention Force**	Axial pull out force on the terminal in the housing at a rate of 25 ± 6mm (1± ¼ inch) per minute.	3N minimum

5.3 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
5.3.1	**Shock (Thermal)**	Mate connectors; expose to 5 cycles of: Temperature °C — Duration (Minutes) -55 +0/-3 — 30 +25 +10/-5 — 5 MAXIMUM +85 +3/-0 — 30 +25 +10/-5 — 5 MAXIMUM EIA-364-32-Test condition I	No change in LLCR greater than 10 mΩ from initial.
5.3.2	**Thermal Aging**	Mated, +105±2°C for 500 hours per EIA 364 – 17. Preconditioning to be done at 105°C for 72 hrs	No change in LLCR greater than 10 mΩ from initial.
5.3.3	**Cyclic Temperature & Humidity**	Mated connectors exposed for 10 days at 25°C to 65°C at 90-98% RH, per EIA 364-31 Method 3.	No change in LLCR greater than 10 mΩ from initial.
5.3.4	**Solderability**	Solder time: 5±0.5 seconds. Solder temperature: 245±5°C Subject to steam aging for 8 hours ± 5 mins. (For Tin-Lead Version) Solder time: 5±0.5 seconds. Solder temperature: 260±5°C Subject to steam aging for 8 hours ± 5 mins. (For Tin Version)	95% solder coverage minimum.
5.3.5	**Porosity**	EIA 364, TP-53 Nitric Acid Test, 10 contacts per contact type selected at random	Max. number of pores : 30uin-1 pore per 10 contacts
5.3.6	**Solvent Resistance**	MIL – STD- 202F Method 215J	No damage or degradation of any marking.
5.3.7	**Reflow Process Withstand**	Unmated, exposed to reflow profile as defined in Section 8.1.	No damage or blistering.

6.0 TEST SEQUENCE

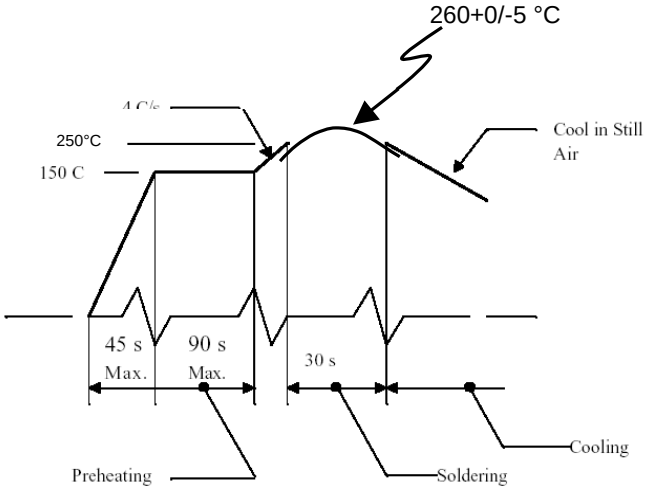
Test Description Sequence	Test Group											
	1	2	3	4	5	6	7	8	9	10	11	12
Contact Resistance	1 9 3 5 7	1 3 5	1 4 6 8									
Temperature Rise											1	
Insulation Resistance				1 5								
Dielectric Withstand Voltage				2 6								
Vibration	6											
Mechanical Shock	8											
Durability (5X) pre-cond.	2											
Durability (25X)			2									
Module Insertion Force					1							
Module Ripout Force					2							
Latch Actuation Force												1
Latch Overstress Force												2
Thermal Shock			3	3								
Thermal Aging 105°C – 500hrs		2										
Cyclic Temp & Humidity			5	4								
Plating thickness						1						
Solderability								1				
Porosity									1			
Solvent Resistance							1					
Terminal Retention Force										1 3		
Resistance to Soldering Heat										2		
Temp life (pre-conditioning) 105°C – 72hrs	4											
Reseating (3X)		4	7									
Sample Size per Test Group	5	5	5	5	5	5	5	5	5	5	5	5

7.0 PACKAGING

Parts shall be packed in trays and protected against damage during handling, transportation and storage.

8.0 OTHER INFORMATIONS

8.1 Reflow Profile.
(Tin Version)



Notes :

1. Reflow solder Preheat at 3°C/s to 150°C.
2. Reflow at 250°C for 30s per figure.
3. Peak to be at 260 +0/-5°C
4. Component must withstand (2) reflow solder cycles with a cool down between.