SPECIFICATION

SPEC. NO：PS-SM-0002 REV：B

DATE：2004/05/21

PRODUCT NAME：SLIM D-SUB MALE AND FEMALE CONNECTOR

PRODUCT NO：HTDSMT1-** **SERIES**

	APPROVED	CHECKED	PREPARED
NAME	TONY	DAVID	CARSON

育鼎精密工業股份有限公司
ACRON PRECISION INDUSTRIAL CO., LTD
桃園縣八德市新興路 55 號
NO55, Sin-Sing road,
Pa Te City, Taoyuan Hsien, Taiwan
TEL : 886-3-3629889 FAX : 886-3-3664917

SLIM D-SUB MALE AND FEMALE CONNECTOR

1.0 SCOPE

This Product Specification covers the performance requirements for slim d-sub male and female connector series.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER(S)

Slim D-SUB male and FEMALE connector (FOR BOARD LOCK) ROHS VERSION:

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See appropriate sales drawings for details on dimensions, materials, plating and markings.

2.3 SAFETY AGENCY APPROVALS

See appropriate sales drawings

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

Please refer to the Sales Drawings, and other sections of this Specification for specific references to applicable documents and specifications. In cases where the Product Specification differs from the Sales Drawings, the Sales Drawing will take precedence

EIA-364 TEST METHODS FOR ELECTRICAL CONNECTORS

4.0 RATINGS

4.1 VOLTAGE

300 Volts DC

4.2 CURRENT

1.0 ADC

4.3 TEMPERATURE

Operating Temperature Range: -55℃ to + 85℃
Storage Temperature Range: -55℃ to + 105℃

5.0 ELECTRICAL PERFORMANCE

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	**Examination of Product**	Meets requirements of product drawing. No physical damage	Specimens shall be investigated by 10x (or higher) microscope.

5.1 ELECTRICAL REQUIREMENTS

2	**Contact Resistance**	Subject mated contacts assembled in housing: apply 20mV maximum open circuit at 100mA current maximum. PER EIA 364-23	30 milliohms Max (initial)
3	**Insulation Resistance**	After 500 VDC for 2 minute, measure the insulation resistance between the adjacent contacts of mated and unmated connector assemblies. PER EIA 364-21	**1000**Megohms Min
4	**Dielectric Withstanding Voltage**	Test between adjacent contacts of mated and unmated connector. PER EIA 364-20	The dielectric shall withstand 500VAC for 1minute
5	**Temperature Rise**	Apply the rated current 1.5A per pin of connector. PER EIA 364-70	Temperature rise: **+30**℃ maximum

5.2 MECHANICAL PERFORMANCE

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
6	**Durability**	Mate connector with its mating pare, other conditions follow EIA-364-09	50 MILLIOHMS Max after 1000 cycles
7	**Insertion Force Per contact**	Measure the force: using a plug pin (shown as appendex1) to mate the Connector assemblies at a max. Rate of 25+/-6mm per minute. Other conditions follow EIA-364-13	**340.5 GRAMS** MAX
8	**Extraction Force Per contact**	Measure the force: unmating the plug pin (shown as appendex1) from Connector assemblies at a max. rate of 25+/-6mm per minute. Other conditions follow EIA-364-13	**20 GRAMS** MIN
9	**Mating And Unmating Force**	Mating/Unmating the connector with its mating part at a max. rate of 25+/-6mm per minute, and measure the force.	

CKT'S	MATE FORCE (MAX)	UNMATE FORCE (MIN)
9	4.54kg	0.34kg
15	7.72kg	0.45kg
25	12.71kg	0.9kg
37	17.71kg	1.14kg

10	**Terminal retention Force**	Apply a pull out force in the axial direction of the contact PER EIA 364-29	**1.36 kgf** Minimum retention force
11	**Physical Shock**	Subject mated connectors to 50 g's half-Sine shock pulses of 11 ms duration. Three shocks in each direction applied Along three mutually perpendicular Planes for a total of 9 shocks. PER EIA 364-27 Condition H	Contact Resistance: **50 milliohms Max** **&** **Appearance: no damage**

5.3 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
12	**Shock (Thermal)**	Mate connectors; expose to 5 cycles of: Temperature℃ Duration(Minutes) **-40 +0/-3 15** **+25 ±10 5 MAXIMUM** **+85 +3/-0 15** **+25 ±10 5 MAXIMUM** PER EIA 364-32	Contact Resistance: **50 Milliohms Max** **&** **Appearance: no damage**
13	**Vibration (Random)**	Mate connectors up to **10~55** HZ,**3** mutually perpendicular planes, **1** minute per plane (Random) PER EIA 364-28; Test condition V	Contact Resistance: 50 Milliohms Max & Discontinuity < **1** microsecond
14	**Static Humidity**	Expose to a temperature of **50±2**℃ with a relative humidity of **90-95**% for **96** hours. Note: Remove surface moisture and air dry for **1** hour prior to measurements. PER EIA 364-31	Contact Resistance: **50 Milliohms Max** **&** **Appearance: no damage**
15	**Solder ability**	SMT tails into the molten solder (held at **245±5**℃ for 5±0.5 sec. PER EIA 364-52	Solder coverage: **95**% MINIMUM
16	**Salt Spray**	Duration: 48 hours exposure; Atmosphere: salt spray form a 5% solution; Temperature: **35 +1/-2**℃ PER EIA 364-26	Contact Resistance: 50 **Milliohms Max**
17	**Temperature Life**	85℃ for 500 hours PER EIA 364-17	Contact Resistance: 50 Milliohms Max & Appearance: no damage
18	**Heat resistance test**	Place connector to applicable P.C.B footprint and float on solder bath at **260+0/-5**℃ for required seconds. (See Fig1) PER EIA 364-56	Visual: No Damage to insulator material

6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage. See packaging appropriate drawings

7.0 RECOMMENDED REFLOW PROFILE

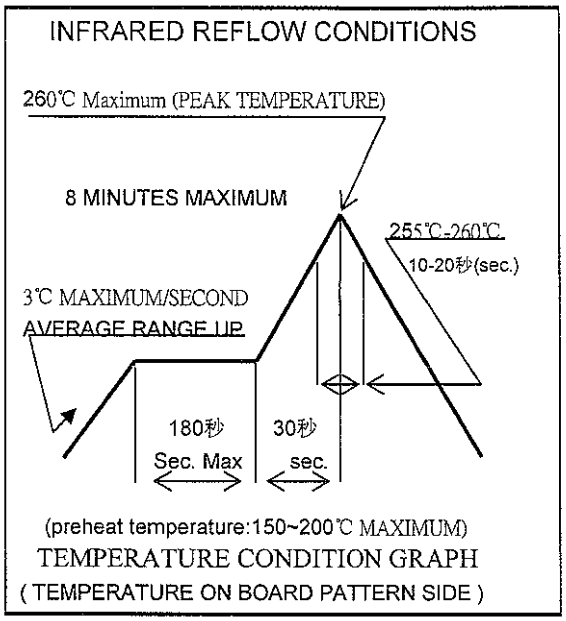
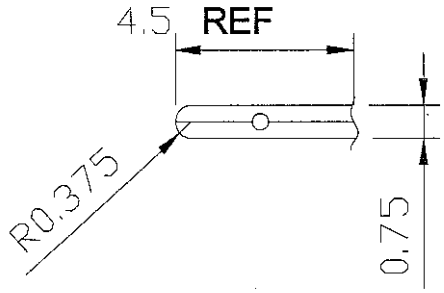


FIG1

APPEDEX 1:

For test gage dimension:



8.0 TEST GROUPINGS

ITEM	DESCRIPTION	A	B	C	D	E	F	G	H
1	Examination of product	1,14	1,7	1,6	1,9	1,9	1	1,9	
2	Contact Resistance Per contact (LLCR)	2,13	2,6	2,7	2,8	2,8	2,8	2,8	
3	Insulation Resistance Per Contact	3,12	3	3,8	3,7	3,7	3,7	3,7	
4	Dielectric Withstanding Voltage	4,11	4	4,9	4,6	4,6	4,6	4,6	
5	Temperature Rise								★
6	Durability	8							
7	Insertion Force	5,9							
8	Extraction Force	6,10							
9	Mating and Unmmating force	7							
10	Retention force								★
11	Physical shock		5						
12	Shock (Thermal)								
13	Vibration			5		5			
14	Static Humidity				5				
15	Solder Spray								★
6	Temperature Life						5		
17	Heat resistance test							5	
18	Heat resistance test								★
Sample Size		5	5	5	5	5	5	5	5
		Pcs	Pcs	Pcs	Pcs	Pcs	Pcs	Pcs	pcs