SPECIFICATION

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SPEC. NO.: PS-52733-XXXXX-XXX **REVISION:** 1

PRODUCT NAME: SFF-TA-1002 0.6 MM PITCH VERTICAL SMT TYPE.

PRODUCT NO: 52733 SERIES

PREPARED:	CHECKED:	APPROVED:
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DATE: **2023/03/24**	DATE: **2023/03/24**	DATE: **2023/03/24**

1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
1	ECN-009070	NEW PRODUCT RELEASE	WY.HUANG	2023/03/24

2 SCOPE

This specification covers performance, tests and quality requirements for
0.6mm PITCH EDGE CARD CONN. VERTICAL D/R S/T TYPE CONNECTOR

3 APPLICABLE DOCUMENTS

UL94 V-0: Test for Flammability for Plastic Materials in Devices and appliances.
EIA-364: Electrical connector/Socket Test Procedures Including Environmental Classifications.
SFF-TA-1002: Protocol Agnostic Multi-Lane High Speed Connector.

4 REQUIREMENTS

4.1 Design and Construction

4.1.1 Product shall be of design, construction and physical dimensions specified on applicable product drawing.
4.1.2 All materials conform to R.o.H.S. and the standard depends on TQ-WI-140101.

4.2 Materials and Finish

4.2.1 Contact: High performance copper alloy (Titanium Copper)
Finish: (a) Contact area: Refer to the drawing.
(b) Under plate: Refer to the drawing.
(c) Solder area: Refer to the drawing.
4.2.2 Housing: Thermoplastic or Thermoplastic High Temp., UL94V-0
4.2.3 Fit Nail: High performance alloy (Brass or Stainless Steel)
Finish: (a) Under plate: Refer to the drawing.
(b) Solder area: Refer to the drawing.

4.3 Ratings

4.3.1 Operating Temperature : -40°C to +85°C
4.3.2 Storage conditions: -5°C to +30°C and 20% RH to 75% RH;
4.3.3 Current rating: 1.1A

5 Performance

5.1. Test Requirements and Procedures Summary

Item	Requirement	Standard
Examination of Product	Product shall meet requirements of applicable product drawing and specification.	Visual, dimensional and functional per applicable quality inspection plan.
ELECTRICAL		
Item	**Requirement**	**Standard**
Low Level Contact Resistance	Initial: 30 mΩ Max. After test: △15 mΩ Max	Mate connectors, measure by dry circuit, 20mV Max., 100mA Max. (EIA-364-23)
Insulation Resistance	1000 MΩ Min.	After 100 VDC for 1 minute, measure the insulation resistance between the adjacent contacts of unmated connector assemblies. (EIA-364-21)
Dielectric Withstanding Voltage	No discharge, flashover or breakdown. Current leakage: 0.5 mA max.	300 VAC Min. at sea level for 1 minute. Test between adjacent contacts of unmated connectors. (EIA-364-20C Method B)
Temperature Rise	30˚C Max. Change allowed	Voltage Rating: 30V Current Rating: 1.1A Mate connectors: measure the temperature rise at rated current until temperature stable. The ambient condition is still air at 25˚C. Total 12 pins must be tested. Meanwhile, the test positions are A1 to A6 and B1 to B6. (EIA-364-70)

MECHANICAL

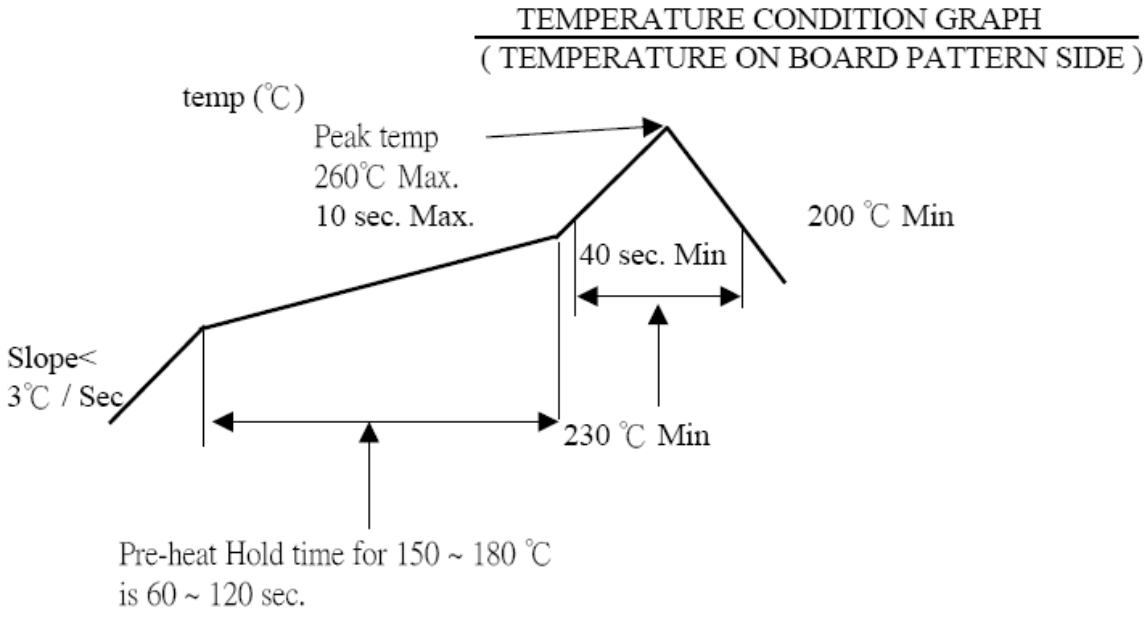
Item	Requirement	Standard
Durability	200 Cycles for 30u" Au 100 Cycles for 15u" Au 50 Cycles for Gold flash After test: △15 mΩ Max. change allowed	The sample should be mounted in the tester and fully mated and unmated the number of cycles. (EIA-364-09)
Durability(precondition)	Perform 5 mate/un-mate cycles.	No evidence of physical damage (EIA-364-09)
Mating Un-mating Force (Module only)	Mating Force: 1.1N Max. per pair pin Un-mating Force: 0.1N Min. per pair pin	Measure the force required to mate/un-mate connector. (EIA-364-13)
Fit Nail Retention	Retention Force: 3.0 N minimum	Measure the retention force of contact and Fit Nail in the housing. (EIA-364-29)
Vibration	No discontinuities of ≧ 1 microsecond electrical, mechanical and environmental criteria	Random profile: 5 Hz @ 0.01 g2/Hz to 20Hz @ 0.02 g2/Hz(slope up) 20 Hz to 500 Hz @ 0.02 g2/Hz (flat) Input acceleration is 3.13 g RMS 10 minutes per axis for all 3 axes on all samples Random control limit tolerance is ± 3 dB (EIA-364-28 Test Condition VII / Letter D)
Mechanical Shock	No discontinuity longer than 1 microsecond allowed.	Subject mated specimens to 50G's half-sine shook pulses of 11 milliseconds duration 3 shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks. (EIA-364-27)
Resistance to Reflow Soldering Heat	No discharge	Pre Heat: 150°C~180°C, 60~120sec. Heat: 230°C Min., 40 sec Min. Peak Temp.: 260°C Max, 10 sec Max.
Reseating	Appearance: No damage	Manually mated/unmated the connector or socket perform 3 cycles.

ENVIRONMENTAL		
Item	**Requirement**	**Standard**
Thermal Shock	See Product Qualification and Test Sequence Group 2	Mate module and subject to follow condition for 100 cycles. 1 cycles: -55°C and +85°C each 30 min. (EIA-364-32,Test condition I)
Temperature Life	No physical damage	60°C field temperature. Test Temperature and Test Duration per EIA 364-1000 Table 8 (105°C/120 hour) (EIA-364-17)
Temperature Life (precondition)	No physical damage	60°C field temperature. Test Temperature and Test Duration per EIA 364-1000 Table 9 (105°C/72 hour) (EIA-364-17)
Thermal Disturbance	No physical damage	Test condition: Cycle the connector between 15ºC ±3ºC and 85ºC ±3ºC, Humidity is not controlled Test Duration: Ramps should be a minimum of 2ºC per minute, and dwell times should insure that the contacts reach the temperature extremes(a minimum of 5 minutes) Number of cycles: Perform 10 such cycles (EIA-364-1000)
Salt Spray	See Product Qualification and Test Sequence Group 8	Subject mated connectors to 5% salt-solution concentration, 35ºC Gold plating 30 u" for 96 hours. (EIA-364-26)
Humidity-Temperature Cycling	No Physical damage	Test condition: Method III without conditioning Cycle the connector between 25°C ± 3°C at 80% ± 3% RH and 65°C ± 3°C at 50% ± 3% RH. Ramp times should be 0.5 hour and dwell times should be 1.0 hour Test Duration: 24 hours per cycle Number of cycles: Perform 24 continuous cycles (EIA-364-31)
Solder Ability	Tin plating: Solder able area shall have minimum of 95% solder coverage. Gold plating: Solder able area shall have minimum of 75% solder coverage	Add then into solder bath, Temperature at 245ºC ± 5ºC, for 4-5 sec. (EIA-364-52)

Mix Flowing Gas (MFG)	Electrical, mechanical and environmental criteria	The following details shall apply: a) Reference: EIA 364-65, Class IIA b) Gas Concentration: Cl_2 10± 3ppb, NO_2 200± 50ppb, H_2S 10± 5ppb, SO_2 100± 20ppb c) Temperature: 30± 1°C d) Humidity: 70± 2% RH e) Test Duration: exposed 160 hours un-mating with applicable AIC card and 80hours mating with applicable AIC card. (EIA-364-65)

Note. Flowing Mixed Gas shall be conduct by customer request.

6 INFRARED REFLOW CONDITION



7 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test or Examination	Test Group									
	1	2	3	4	5	6	7	8	9	10
	Test Sequence									
Examination of Product	1,8	1,18	1,10	1,12	1,6	1,3	1,3	1,4	1,3	1,3
Low Level Contact Resistance	2,5,7	2,7,11,15	2,5,7,9	2,5,7,9,11	2,7			2,5		
Insulation Resistance		3,8,12,16								
Dielectric Withstanding Voltage		4,9,13,17								
Temperature Rise						2				
Durability					4					
Durability(precondition)	3	5	3	3						
Mating / Un-mating Forces					3,5					
Contact & Fit Nail Retention							2			
Vibration			6							
Mechanical Shock			8							
Resistance to Reflow Soldering Heat										2
Reseating	6	14		10						
Thermal Shock		6								
Thermal Disturbance				8						
Temperature Life	4									
Temperature Life(precondition)			4	4						
Salt Spray								3		
Humidity-Temperature Cycling		10								
Solder Ability									2	
Mix Flowing Gas (MFG)				6						
Sample Size	5	5	5	5	5	5	5	5	5	5