

SPEC. NO.: PS-52708-XXXXX-XXX

REVISION: A

PRODUCT NAME: 0.6mm PITCH EDGE CARD CONN.

VERTICAL D/R S/T TYPE.

PRODUCT NO: 52708 SERIES

PREPARED: LIN, CHIA ANN DATE: 2021/07/23	CHECKED: LEE, I HUNG DATE: 2021/07/23	APPROVED: WANG, CHUN SHENG DATE: 2021/07/23
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TITLE: **0.6MM PITCH EDGE CARD CONN. VERTICAL D/R S/T TYPE.**

RELEASE DATE: [2021/07/23](#)

REVISION: **A**

ECN No: [ECN-003139](#)

PAGE: **2** OF **9**

1	REVISION HISTORY	3
2	SCOPE.....	4
3	APPLICABLE DOCUMENTS	4
4	REQUIREMENTS	4
5	PERFORMANCE.....	5
6	INFRARED REFLOW CONDITION	8
7	PRODUCT QUALIFICATION AND TEST SEQUENCE.....	9

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PAGE: **3** OF **9**

1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
A	ECN-003139	NEW PRODUCT RELEASE	CA.LIN	2021/07/23

TITLE: **0.6MM PITCH EDGE CARD CONN. VERTICAL D/R S/T TYPE.**RELEASE DATE: **2021/07/23**REVISION: **A**ECN No: **ECN-003139**PAGE: **4 OF 9**

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 (**Phosphor Bronze**)
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 Mylar: Polyester., UL94V-0
- 4.2.4 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;**

TITLE: **0.6MM PITCH EDGE CARD CONN. VERTICAL D/R S/T TYPE.**RELEASE DATE: **2021/07/23**REVISION: **A**ECN No: **ECN-003139**PAGE: **5** OF **9**

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: Δ15 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)

TITLE: **0.6MM PITCH EDGE CARD CONN. VERTICAL D/R S/T TYPE.**

RELEASE DATE: 2021/07/23

REVISION: A

ECN No: ECN-003139

PAGE: 6 OF 9

MECHANICAL

Item	Requirement	Standard
Durability	200 Cycles for 30u" Au 100 Cycles for 15u" Au 50 Cycles for Gold flash After test: Δ 15 m Ω 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/unmate 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 pin	Measure the force required to mate/unmate connector. (EIA-364-13)
Active Latch Retention Strength	50 N minimum	EIA-364-13 Rate: 25.4 mm/minute
Wrenching strength (W/ mated Cable- Passive Latch)	25 N minimum	Bend cable 90° at minimum bend radius. Pull in 4 axis directions for round cable. Pull in 2 axis directions for flat cable. No damage to plug/ cable assembly.
Wrenching strength (W/ mated Cable- Active Latch)	40 N minimum	Bend cable 90° at minimum bend radius. Pull in 4 axis directions for round cable. Pull in 2 axis directions for flat cable. No damage to plug/ cable assembly.
Contact & Fit Nail Retention	Retention Force: 3.0 N Min.	Measure the retention force of contact and Fit Nail in the housing. (EIA-364-29)
Vibration	No discontinuities of \geq 1 microsecond electrical, mechanical and environmental criteria	Random profile: 5 Hz @ 0.01 g ² /Hz to 20Hz @ 0.02 g ² /Hz(slope up) 20 Hz to 500 Hz (EIA-364-28)
Mechanical Shock	No discontinuity longer than 1 microsecond allowed.	Subject mated specimens to 50G's half-sine shock pulses of 11milliseconds 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., 40sec Min. Peak Temp. : 260°C Max, 10sec Max.
Reseating	Appearance: No damage	Manually mated/unmated the connector or socket perform 3 cycles.

TITLE: **0.6MM PITCH EDGE CARD CONN. VERTICAL D/R S/T TYPE.**

RELEASE DATE: 2021/07/23

REVISION: A

ECN No: ECN-003139

PAGE: 7 OF 9

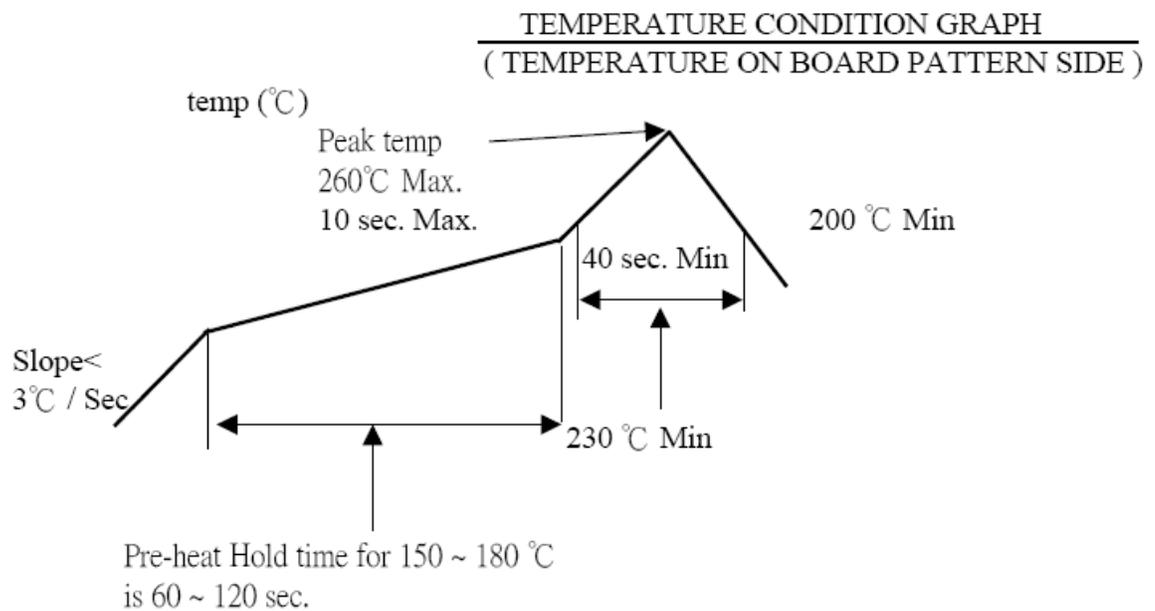
ENVIRONMENTAL

Item	Requirement	Standard
Thermal Shock	See Product Qualification and Test Sequence Group 5	Mate module and subject to follow condition for 100 cycles. 1 cycles: -55°C and +85 °C each 30min. (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 (EIA-364-17)
Temperature Life (precondition)	No physical damage	60 °C field temperature. Test Temperature and Test Duration per EIA 364-1000 Table 9 (EIA-364-17)
Thermal Disturbance	No physical damage	Test condition : Cycle the connector between 15°C ±3°C and 85°C±3°C, Humidity is not controlled Test Duration : Ramps should be a minimum of 2 °C per minute, and dwell times should insure that the contacts reach the temperature extremes (a minimum of 5 inutes) Number of cycles: Perform 10 such cycles (EIA-364-1000)
Salt Spray	See Product Qualification and Test Sequence Group 1	Subject mated connectors to 5% salt-solution concentration, 35°C 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 245 ±5°C, for 4-5 sec. (EIA-364-52)
Mix Flowing Gas (MFG)	Electrical, mechanical and environmental criteria	EIA-364-65, class IIA, Option 4. Expose all specimens in the mated

		condition for the total mixed flowing gas exposure duration per Table 4. (EIA-364-65)
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Note. Flowing Mixed Gas shall be conduct by customer request.

6 INFRARED REFLOW CONDITION



TITLE: **0.6MM PITCH EDGE CARD CONN. VERTICAL D/R S/T TYPE.**

RELEASE DATE: 2021/07/23

REVISION: A

ECN No: ECN-003139

PAGE: 9 OF 9

7 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test or Examination	Test Group											
	1	2	3	4	5	6	7	8	9	10	11	12
Examination of Product	1,8	1,10	1,10	1,12	1,8,12	1,3	1,3	1,3	1,3	1,3	1,3	1,3
Low Level Contact Resistance	2,5,7	2,5,7,9	2,5,7,9	2,5,7,9,11	2,9							
Insulation Resistance					3,10							
Dielectric Withstanding Voltage					4,11							
Temperature Rise						2						
Durability					6							
Durability(precondition)	3	3	3	3								
Mating / Unmating Forces					5,7							
Contact & Fit Nail Retention							2					
Vibration			6									
Mechanical Shock			8									
Resistance to Reflow Soldering Heat										2		
Reseating	6	8		10								
Thermal Shock		4										
Thermal Disturbance				8								
Temperature Life	4											
Temperature Life (precondition)			4	4								
Salt Spray								2				
Humidity-Temperature Cycling		6										
Solder Ability									2			
Mix Flowing Gas (MFG)				6								
Wrenching strength (W/mated cable-passive Latch)											2	
Wrenching strength (W/mated cable-active Latch)												2
Sample Size	5	5	5	5	5	5	5	5	5	5	3	3