SPECIFICATION

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SPEC. NO.: PS-50238-XXXXX-XXX **REVISION:** G

PRODUCT NAME: 1.00 mm PITCH SMT WIRE TO BOARD DUAL ROW CONNECTOR

PRODUCT NO: 50238 50425 51439 52254 52276 SERIES

PREPARED:	CHECKED:	APPROVED:
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DATE: 2022.01.14	DATE: 2022.01.14	DATE: 2022.01.14

1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
O	ECN-0812248	NEW SPEC	JASON	2008/12/6
A	ECN-0909088	FOR ADW0909031 ADD HAND SOLDERING	JASON	2009/09/10
B	ECN-1012021	ADD 50425	YUXIANG	2010/11/25
C	ECN-1401156	ADD WORKING VOLTAGE	XUFEI	2014/01/09
D	ECN-1612295	ADD 14PIN Mating / Unmating Forces	ZHOUQUAN	2016/12/13
E	ECN-1906232	ADD 51439 SERIES	TIANYING HONG	2019/05/30
F	ECN-003965	ADD 52254 SERIES	ZHOUQUAN	2021/08/16
G	ECN-006722	ADD 52276 SERIES	Huang,Shun Sen	2022.1.14

2 SCOPE

This specification covers performance, tests and quality requirements for 1.00 mm Pitch SMT Wire to Board Dual Row Connector.

P/N ： 50238 50425 51439 52254 52276 series

3 APPLICABLE DOCUMENTS

EIA-364: ELECTRONICS INDUSTRIES ASSOCIATION

4 REQUIREMENTS

4.1 Design and Construction

Product shall be of design, construction and physical dimensions specified on applicable product drawing.

4.2 Materials and Finish

4.2.1 Contact: High performance copper alloy
Finish: Refer to the drawing.
4.2.2 Housing: Thermoplastic or Thermoplastic High Temp., UL94V-0
4.2.3 Cover: Thermoplastic or Thermoplastic High Temp., UL94V-0

4.3 Ratings

4.3.1 Working voltage less than 36 volts (per pin)
4.3.2 Voltage: 50 Volts AC (per pin)
4.3.3 Current: 1 Amperes (per pin)
4.3.4 Operating Temperature : -40℃ to +80℃

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	55 m Ω Max.(initial)per contact 20 m Ω Max. Change allowed	Mate connectors, measure by dry circuit, 20mV Max., 10mA Max. (EIA-364-23)
Insulation Resistance	100 M Ω Min.	Unmated connectors, apply 500 V DC between adjacent terminals. (EIA-364-21)
Dielectric Withstanding Voltage	No discharge, flashover or breakdown. Current leakage: 1 mA max.	250 VAC Min. at sea level for 1 minute. Test between adjacent contacts of unmated connectors. (EIA-364-20)
Temperature rise	30℃ Max. Change allowed	Mate connector: measure the temperature rise at rated current until temperature stable. The ambient condition is still air at 25℃ (EIA-364-70,METHOD1,CONDITION1)
MECHANICAL		
Item	**Requirement**	**Standard**
Durability	30 cycles.	The sample should be mounted in the tester and fully mated and unmated the number of cycles specified at the rate of 25.4 ± 3mm/min. (EIA-364-09)
Mating / Unmating Forces	Mating Force: See the table Unmating Force: See the table	Operation Speed：25.4 ± 3 mm/minute.. Measure the force required to mate/Unmate connector. (EIA-364-13)
Terminal / Housing Retention Force	0.2kgf MIN.	Apply axial pull out force at the speed rate of 25.4 ± 3 mm/minute. On the terminal assembled in the housing.

Vibration	1 μs Max.	The electrical load condition shall be 100 mA maximum for all contacts. Subject to a simple harmonic motion having amplitude of 0.76mm (1.52mm maximum total excursion) in frequency between the limits of 10 and 55 Hz. The entire frequency range, from 10 to 55 Hz and return to 10 Hz, shall be traversed in approximately 1 minute. This motion shall be applied for 2 hours in each of three mutually perpendicular directions. (EIA-364-28 Condition I)
Crimping Terminal / Housing Retention Force (Cable Side)	0.5 Kgf Min.	Apply axial pull out force at the speed rate of 25.4 ± 3 mm/minute. On the terminal assembled in the housing.
Shock (Mechanical)	1 μs Max.	Subject mated connectors to 50 G's (peak value) half-sine shock pulses of 11 milliseconds duration. Three shocks in each direction shall be applied along the three mutually perpendicular axes of the test specimen (18 shocks). The electrical load condition shall be 100mA maximum for all contacts. (EIA-364-27, test condition A)

ENVIRONMENTAL

Item	Requirement	Standard
Resistance to **Reflow** Soldering Heat	See Product Qualification and Test Sequence Group 4 **(Lead Free)**	Pre Heat：150℃~180℃, 60~120sec. Heat：230℃ Min., 40sec Min. Peak Temp.：260℃Max, 10sec Max.
Thermal Shock	See Product Qualification and Test Sequence Group 4	Mate module and subject to follow condition for 5 cycles. 1 cycles: -40 +0/-3 ℃, 30 minutes +85 +3/-0 ℃, 30 minutes (EIA-364-32, test condition A)
Humidity	See Product Qualification and Test Sequence Group 4	Mated Connector 40℃, 90~95% RH, 96 hours. (EIA-364-31,Condition A, Method II)

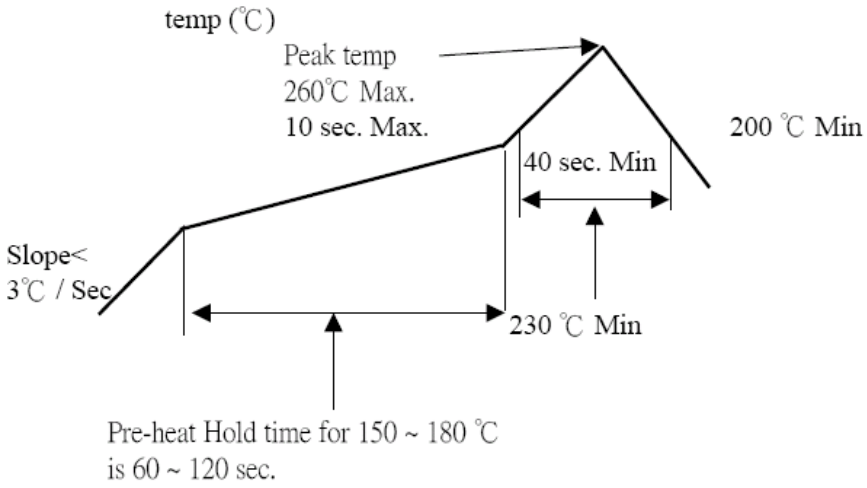
Temperature life	See Product Qualification and Test Sequence Group 8	Subject mated connectors to temperature life at 85℃ for 96 hours. (EIA-364-17, Test condition A)
Salt Spray	See Product Qualification and Test Sequence Group 5	Subject mated/unmated connectors to 5% salt-solution concentration, 35℃ for 8 hours. (EIA-364-26,Test condition B)
Hand Soldering	Appearance: No Damage	T≧350℃, 3sec at least.
Solder ability	Solder able area shall have minimum of 95% solder coverage.	Subject the test area of contacts into the flux for 5-10 sec. And then into solder bath, Temperature at 245 ±5℃, for 4-5 sec. (EIA-364-52)

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

6 INFRARED REFLOW CONDITION

6.1. Lead-free Process

TEMPERATURE CONDITION GRAPH
(TEMPERATURE ON BOARD PATTERN SIDE)



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、7	1、6	1、4			1	1
Low Level Contact Resistance		1、5	1、4	2、10	2、9	2、5			3	
Insulation Resistance				3、9	3、8					
Dielectric Withstanding Voltage				4、8	4、7					
Temperature rise	1									
Mating / Unmating Forces		2、4								
Durability		3								
Vibration			2							
Shock (Mechanical)			3							
Thermal Shock				5						
Humidity				6						
Temperature life					5					
Salt Spray						3				
Solder ability							1			
Terminal / Housing Retention Force								1		
Resistance to Soldering Heat									2	
Hand Soldering										2
Sample Size	2	4	4	4	4	4	2	4	4	4

8 INSERTION & WITHDRAWAL FORCE (Mating / Unmating Forces)

Number of	At initial		At 30th
Circuits	I.F.(max)	W.F.(min)	W.F.(min)
8	15	4	4
10	15	4	4
12	25	4	4
14	25	4	4
16	25	4	4
18	25	4.5	4.5
20	25	5	5
22	25	5	5
24	35	6	6
30	35	6	6
40	50	7	7
50	65	8	8
60	70	9	9

Unit: N