SPECIFICATION

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SPEC. NO.: PS-50264-XXXXX-XXX **REVISION:** D

PRODUCT NAME: 1.0mm pitch WTB Wafer SMT R/A S/R TYPE

PRODUCT NO: 50264 series

PREPARED:	CHECKED:	APPROVED:
TIANYINGHONG	XUZHIYONG	XUZHIYONG
DATE: 2020.06.08	DATE: 2020.06.08	DATE: 2020.06.08

1 Revision History

Rev.	ECN #	Revision Description	Approved	Date
O	ECN-0812248	NEW SPEC	Jason	2008.12.4
A	ECN-1401172	ADD WORKING VOLTAGE	XUFEI	2014.01.09
B	ECN-1808078	RENEWING ELECTROPLATING STANDARD	ZHANGHAO	2018/08/07
C	ECN-1907260	RENEWING Operating Temperature	HUANGYAN	2019/07/11
D	ECN-2006225	RENEWING 4.3.3&4.3.4	YINGHONG	2020/06/08

2 SCOPE

This specification covers performance tests and quality requirements for 1.0mm pitch WTB Wafer SMT R/A S/R TYPE . (Lead free product)
ACES …. P/N ： 50264 Series
P/N ： JST-SHLP-( )V-S-B Wire Housing
P/N ： JST-SSHL-003T-P0.2 Crimping Terminal

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: Plating pls. see the product drawing.
4.2.2 Housing: Thermoplastic High Temp., UL94V-0
4.2.3 Fitting Nail: Copper Alloy, Plating pls. see the product drawing.

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： AWG#28 : 1.0 Amperes (per pin)
AWG#30 : 1.0 Amperes (per pin)
AWG#32 : 1.0 Amperes (per pin)
4.3.4 Operating Temperature : -40℃ to +85℃

5 Performance

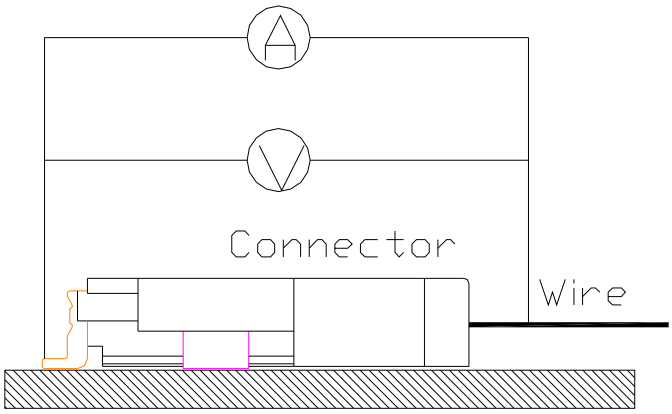
5.1. Test Requirements and Procedures Summary

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		
Low-signal Level Contact Resistance	20 mΩ Max.(initial)per contact 40 mΩ Max. After tests	Mate connectors, measure by dry circuit, 20mV Max., 1mA(DC) (EIA-364-23)
Insulation Resistance	100 MΩ Min.	Unmated connectors, apply 500 V DC between adjacent terminals. (EIA-364-21)
Dielectric Withstanding Voltage	250V AC Min. at sea level for 1 minute. No discharge, flashover or breakdown.	Test between adjacent contacts of unmated connectors. (EIA-364-20)
Temperature rise	30℃ Max.	Mate connector: measure the temperature rise at rated current after:0.5 A/Power contact. The temperature rise above ambient shall not exceed 30℃ The ambient condition is still air at 25℃ (EIA-364-70 METHOD 2)
MECHANICAL		
Durability	30 cycles. Contact resistance shall be 40 mΩ Max. After the tests	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 Force	Please See Mating / Unmating Forces Tab	Operation Speed：25.4 ± 3 mm/minute.. Measure the force required to mate/Unmate connector. (EIA-364-13)
Contact Retention Force	300gf Min.	Operation Speed：25.4 ± 3 mm/minute. Measure the contact retention force with Tensile strength tester.

MECHANICAL		
Item	**Requirement**	**Standard**
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)
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		
Resistance to **Reflow** Soldering Heat	See Product Qualification and Test Sequence Group 8 **(Lead Free)**	Pre Heat：150℃~180℃, 60~120sec. Heat：230℃ Min., 40sec Min. Peak Temp.： 260℃Max, 10sec Max. See 6.1 process
Hand Soldering heat		Solder Temperature：350 ± 5℃ Cycle of soldering: Within 3 seconds
ENVIRONMENTAL		
Item	**Requirement**	**Standard**

Thermal Shock	See Product Qualification and Test Sequence Group 4	Mate module and subject to follow condition for 10 cycles. 1 cycles: -25 +0/-3 ℃, 30 minutes +85 +3/-0 ℃, 30 minutes (EIA-364-27, test condition A)
Humidity-Temperature Cycle	See Product Qualification and Test Sequence Group 4	Mated Connector 25~65℃, 90~95% RH, 10 Cycles Reefer to Method IV. (EIA-364-31, Test condition A)
Temperature life	See Product Qualification and Test Sequence Group 5	Subject mated connectors to temperature life at 85℃ for 96 hours. Measure Signal. (EIA-364-17, Test condition A)
Salt Spray	See Product Qualification and Test Sequence Group 6	Subject mated/unmated connectors to 5% salt-solution concentration, 35℃ , Under the condition that the electroplating layer on the metal surface is not destroyed (I)Gold flash for 8 hours (II)Gold plating 3 u" for 48 hours. (III) Gold plating 5 u" for 96 hours. (EIA-364-26,Test condition B)
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 260 ±5℃, for 10 sec. (EIA-364-52)

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

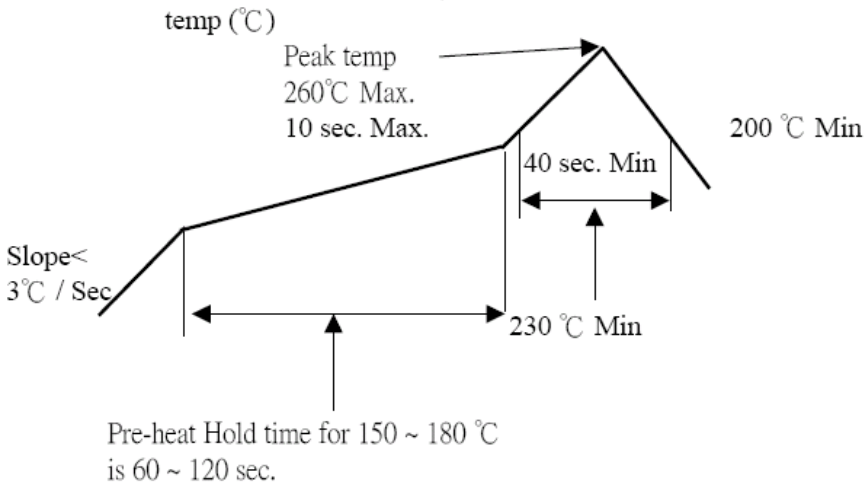


Contact Resistance Measuring Point

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

Sample Size	**2**	**4**	**4**	**4**	**4**	**4**	**2**	**4**		

8 Mating / Unmating Forces Tab

NO. OF Ckt.	Initial		After 30th Cycle
	Insertion Force (Max.)	Withdrawal Force (Min.)	Withdrawal Force (Min)
2	2.0Kgf	0.35Kgf	0.25Kgf
3			
4			
5			
6			
7			
8			
9			
10			
11	2.5Kgf	0.45Kgf	0.35Kgf
12			
13			
14			
15			
16			
17			
18			
19			
20			
21	3.0Kgf	0.55Kgf	0.45Kgf
22			
23			
24			
25			
26			
27			
28			

29 30			