



SPECIFICATION

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SPEC. NO.: PS-50318-xxxxx-xxx REVISION: C

PRODUCT NAME: 2.0MM PITCH WTB(WAFER) CONNECTOR

PRODUCT NO: 50318series、 50319series

PREPARED: David DATE: 2015.07.10	CHECKED: Frank DATE: 2015.07.10	APPROVED: Jason DATE: 2015.07.10
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RELEASE DATE: 2015/07/10

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ECN No: 1507133

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Aces P/N: **50318 series**

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1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
O	ECN-0812218	NEW RELEASE	Jason	2008.12.25
A	ECN-1005190	REVISE SPEC	Violet	2010.05.12
B	ECN-1401223	ADD WORKING VOLTAGE	XUFEI	2014.01.13
C	ECN-1507133	ADD 6PIN MATING/UMATING FORCE SPEC	David	2015.07.10

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2 SCOPE

This specification covers performance, tests and quality requirements for **2.0mm pitch Wire to Board wafer SMT T/H Type**. This Product SPEC refer to Aces's P/N:50318;50319 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 (**Brass**)

- Finish: (a) Contact Area: **Gold plated based on order information**
 (b) Under plate: **Nickel-plated all over**
 (c) Solder area: **Tin-Lead plated**

4.2.2 Housing: 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: **250 Volts AC ,DC**

4.3.3 Current: **3 Amperes AC,DC**

4.3.4 Operating Temperature : **-25°C to +85°C**

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.

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ELECTRICAL

Item	Requirement	Standard
Low-signal Level Contact Resistance	10 m Ω Max.(initial)per contact 20 m Ω Max. Change allowed	Mate connectors, measure by dry circuit, 20mV Max., 100mA Max. (EIA-364-23)
Insulation Resistance	500 M Ω Min.	Unmated connectors, apply 500 V DC between adjacent terminals. (EIA-364-21)
Dielectric Withstanding Voltage	500 VAC Min. at sea level for 1 minute. No discharge, flashover or breakdown. Current leakage: 1 mA max.	Test between adjacent contacts of unmated connectors. (EIA-364-20)
Temperature rise	30°C Max. Change allowed	Mate connector: measure the temperature rise at rated current until temperature stable. The ambient condition is still air at 25°C (EIA-364-70 METHOD 1,CONDITION 1)

MECHANICAL

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)
Lock Retention Forces	other pins: Mating Force: 2.0 Kg Min. 6pin: With lock mating force 2.0 Kgf Max. Without lock Umating force 0.8kgf Min.	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.
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)

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MECHANICAL

Item	Requirement	Standard
Shock (Mechanical)	1 μ s 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)

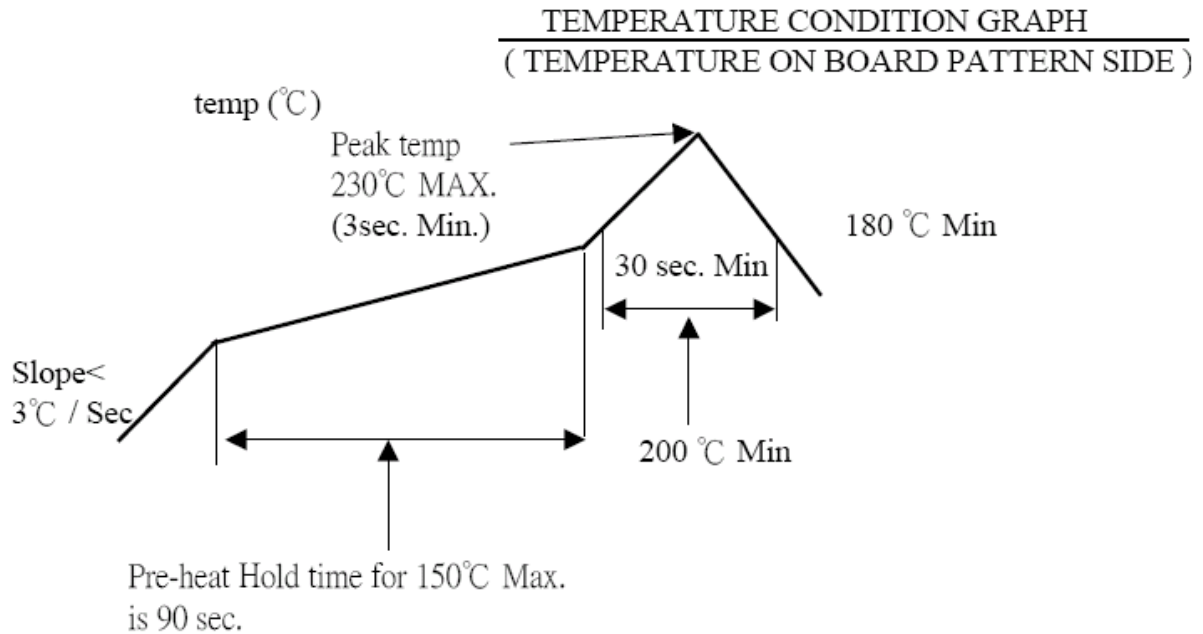
ENVIRONMENTAL

Resistance to Wave Soldering Heat	See Product Qualification and Test Sequence Group 4	Solder Temp. : 240 \pm 5 $^{\circ}$ C, 10 \pm 0.5sec.
Resistance to Wave Soldering Heat	See Product Qualification and Test Sequence Group 4 (Lead Free)	Solder Temp. : 265 \pm 5 $^{\circ}$ C, 10 \pm 0.5sec.
Thermal Shock	See Product Qualification and Test Sequence Group 4	Mate module and subject to follow condition for 5 cycles. 1 cycles: -25 +0/-3 $^{\circ}$ C, 30 minutes +85 +3/-0 $^{\circ}$ C, 30 minutes (EIA-364-32, test condition A)
Humidity	See Product Qualification and Test Sequence Group 4	Mated Connector 40 $^{\circ}$ C, 90~95% RH, Reefer to Method II. (EIA-364-31, Test condition A)
Temperature life	See Product Qualification and Test Sequence Group 8	Subject mated connectors to temperature life at 85$^{\circ}$C for 96 hours . Measure Signal. (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 $^{\circ}$ C for 8 hours . (EIA-364-26, Test condition B)
Solder ability	Solder able area shall have minimum of 75% solder coverage.	Subject the test area of contacts into the flux for 5-10 sec. And then into solder bath, Temperature at 245 \pm5 $^{\circ}$C , for 4-5 sec. (EIA-364-52)

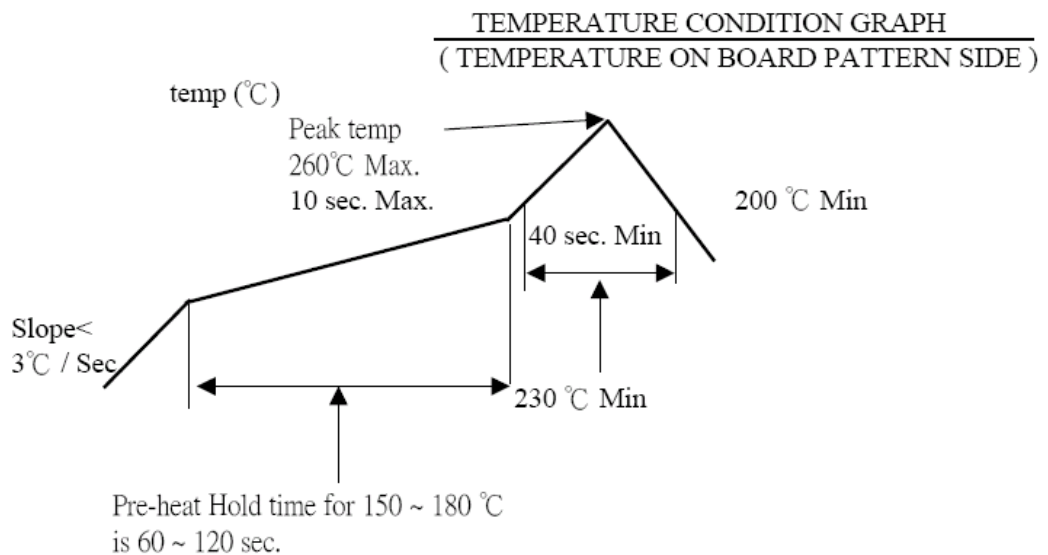
Note. Flowing Mixed Gas shall be conduct by customer request.

6 INFRARED REFLOW CONDITION

6.1. General Process



6.2. Lead-free Process



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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	
Low-signal 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									
Lock Retention Forces		2、4								
Durability		3								
Contact Retention Force								1		
Vibration			2							
Shock (Mechanical)			3							
Thermal Shock				5						
Humidity				6						
Temperature life					5					
Salt Spray						3				
Solder ability							1			
Resistance to Wave Soldering Heat									2	
Sample Size	2	4	4	4	4	4	2	4	4	