



SPECIFICATION

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SPEC. NO.: PS-51352-XXXXX-XXX REVISION: 0

PRODUCT NAME: 2.0mm WTB Wafer

PRODUCT NO: 51351 51352 SERIES

PREPARED: STEVEN DATE: 2017/01/05	CHECKED: CARL DATE: 2017/01/05	APPROVED: SEAN DATE: 2017/01/05
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TITLE: 1.5MM LIGHT BAR BTB CONNECTOR

RELEASE DATE: 2017/01/05

REVISION: 1

ECN No: 1701090

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Aces P/N: 51352 series

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1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
1	1701090	NEW	STEVEN	2017/01/05

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2 SCOPE

This specification covers performance, tests and quality requirements for [2.0mm WTB Wafer T/H D/R S/T type](#).

3 APPLICABLE DOCUMENTS

EIA-364: ELECTRONICS INDUSTRIES ASSOCIATION

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.
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

4.3 Ratings

- 4.3.1 Working Voltage Less than 36 Volts (per pin)
- 4.3.2 Voltage: [125 Volts AC /DC](#)
- 4.3.3 Current:
 - AWG#24: 2.0 Amperes (per pin)
 - AWG#26: 1.5 Amperes (per pin)
 - AWG#28: 1.0 Amperes (per pin)
 - AWG#30: 0.5 Amperes (per pin)
- 4.3.4 Operating Temperature : [-55°C to +105°C](#)

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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	40 m Ω Max.	Mate connectors, measure by dry circuit, 20mV Max., 10mA Max. (EIA-364-23)
Insulation Resistance	1000 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.	500 VAC Min. at sea level for 1 minute. 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,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 \pm 3mm/min. (EIA-364-09)
Mating/Unmating Forces	Mating 1.96 N Max. (per pin) Unmating 0.392 N Min. (per pin)	Operation Speed : 25.4 \pm 3 mm/minute.. Measure the force required to mate/unmate connector. (EIA-364-13)
Contact Retention Force (Board Side)	8.5N Min..	Operation Speed : 25.4 \pm 3mm/minute. Measure the contact retention force with tester.

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Vibration	1 μ s 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 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

Item	Requirement	Standard
Resistance to Reflow Soldering Heat (Board Side)	See Product Qualification and Test Sequence Group 10 (Lead Free)	Pre Heat : 150°C~180°C, 60~120sec. Heat : 230°C Min., 40sec Min. Peak Temp. : 260°C Max, 10sec Max.
Thermal Shock	See Product Qualification and Test Sequence Group 4	Mated Connector to follow condition for 5 cycles. 1 cycles: -55 +0/-3 °C, 30 minutes +105 +3/-0 °C, 30 minutes (EIA-364-32, test condition I)
Humidity	See Product Qualification and Test Sequence Group 4	Mated Connector 40°C, 90~95% RH, 120 hours. (EIA-364-31, Condition A, Method II)
Temperature Life	See Product Qualification and Test Sequence Group 5	Mated connectors to temperature life at 85°C for 96 hours. (EIA-364-17, Test condition A)

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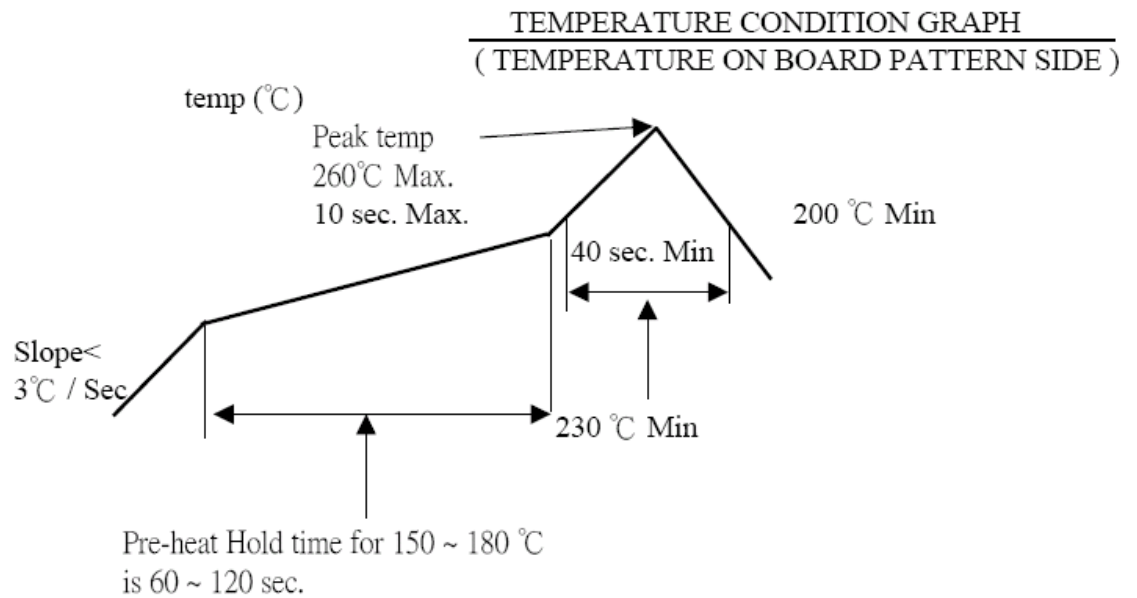
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Salt Spray (Only For Gold Plating)	See Product Qualification and Test Sequence Group 6	Mated connectors to 5% salt-solution concentration, 35°C (I) Gold flash for 8 hours (II) Gold plating 5 u" for 96 hours. (EIA-364-26)
Solder ability (Board Side)	Tin plating: Solder able area shall have minimum of 95% solder coverage. Gold plating: Solder able area shall have minimum of 75% solder coverage	And then into solder bath, Temperature at 260 ±5°C, for 4-5 sec. (EIA-364-52)
Hand Soldering Temperature Resistance (Board Side)	Appearance: No damage	T ≥ 350°C, 3sec at least.
S02 Gas	Appearance: No damage. Contact Resistance: 60mohm Max.	Mate connectors and expose to 50+/-5 ppm S02 gas, ambient temperature 40+/-2 deg. C for 24 hours.

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

6 INFRARED REFLOW CONDITION

6.1. 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	1,3	1	1	1、7	1、6	1、4			1	1
Low Level Contact Resistance		2、6	2、5	2、8	2、7	2、5			3	
Insulation Resistance				3、9	3、8					
Dielectric Withstanding Voltage				4、10	4、9					
Temperature Rise	2									
Mating / Unmating Forces		3、5								
Durability		4								
Contact Retention Force (Board Side)								1		
Vibration			3							
Shock (Mechanical)			4							
Thermal Shock				5						
Humidity				6						
Temperature Life					5					
Salt Spray(Only For Gold Plating)						3				
Solder ability (Board Side)							1			
Resistance to Soldering Heat (Board Side)									2	
Hand Soldering Temperature Resistance (Board Side)										2
Sample Size	2	4	4	4	4	4	2	4	4	4