SPECIFICATION

宏致電子股份有限公司

桃園縣中壢市東園路13號

No.13, Dongyuan Rd., Jhongli City,

Taoyuan County 320, Taiwan (R.O.C.)

TEL: +886-3-463-2808
FAX: +886-3-463-1800

SPEC. NO.: PS-50532-XXXXX-XXX **REVISION:** A

PRODUCT NAME: 0.5 mm PITCH ZIF FPC CONN.
SMT R/A TOP CONTACT

PRODUCT NO: 50532 Series

PREPARED:	CHECKED:	APPROVED:
XUFEI	JERRY	JASON
DATE: 2014.01.15	DATE: 2014.01.15	DATE: 2014.01.15

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1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
O	ECN-0811117	New SPEC	Jason	2008.11.17
A	ECN-1401253	ADD WORKING VOLTAGE	XUFEI	2014.01.15

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2 SCOPE

This specification covers performance, tests and quality requirements for 0.5 mm pitch FPC CONN SMT R/A TOP CONTACT

Aces' P/N: 50532-XXXXX-XXX;

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 (Phosphor Bronze)
Plated: (a) Finish: Matt Tin-plated overall
(b) Under plate: Nickel-plated all over
4.2.2 Housing: Thermoplastic, High temp. UL94V-0
4.2.3 Actuator: Thermoplastic, High temp. UL94V-0
4.2.4 Ear: High performance copper alloy (Phosphor Bronze)
Plated: (a) Finish: Matt Tin-plated overall
(b) Under plate: Nickel-plated all over

4.3 Ratings

4.3.1 Working voltage less than 36 volts (per pin)
4.3.2 Voltage: 50 Volts AC
4.3.3 Current: DC 0.5 Amperes
4.3.4 Operating Temperature : -25℃ to +85℃
4.3.5 Operating Humidity: 95% Max.

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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		
Low-signal Level Contact Resistance	20 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	50 M Ω Min.	Unmated connectors, apply 500 V DC between adjacent terminals. (EIA-364-21)
Dielectric Withstanding Voltage	AC 250 VAC 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. Change allowed	Mate connector: measure the temperature rise at rated current after: 0.4 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)

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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 10 ± 3mm/min. (EIA-364-09)
FPC Retention Force	0.3kgf MIN.	Insert the actuator, pull the FPC at the speed rate of 25± 3 mm/min.
Terminal / Housing Retention Force	0.3kgf MIN.	Apply axial pull out force at the speed rate of 25 ± 3 mm/minute. On the terminal assembled in the housing.
Fitting Nail /Housing Retention Force	0.3kgf MIN.	Apply axial pull out force at the speed rate of 25.4 ± 3 mm/minute. On the fitting nail assembled in the housing.
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 DC 100mA maximum for all contacts. (EIA-364-27, test condition A)

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ENVIRONMENTAL		
Resistance to **Hand** Soldering Heat	Excessive pressure shall not be applied to the terminals. See Product Qualification and Test Sequence Group 11	Soldering iron：350±5℃ Duration：2.5~3.5 sec.
Resistance to **Reflow** Soldering Heat	Second Reflow process must be taken after the product temperature has down to room condition. See Product Qualification and Test Sequence Group 11	Pre Heat：150℃~180℃, 60~90sec. Heat：230℃ Min., 40sec Min. Peak Temp.：260℃Max, 10sec Max. Reflow number cycle：2 times
Thermal Shock	See Product Qualification and Test Sequence Group 4	Mate module and subject to follow condition for 5 cycles. 1 cycles: -55 ℃, 30 minutes +85 ℃, 30 minutes (EIA-364-32, test condition A)
Humidity	See Product Qualification and Test Sequence Group 4	Mated Connector 60℃, 90~95% RH, Reefer to Method II. (EIA-364-31, Test condition A)
Temperature life-Heat	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)
Temperature life-Cold	See Product Qualification and Test Sequence Group 6	Subject mated connectors to temperature life at -55℃ for 48 hours. Measure Signal. (EIA-364-17, Test condition A)
Salt Spray	See Product Qualification and Test Sequence Group 7	Subject mated/unmated connectors to 5±1% salt-solution concentration, 35±2℃ 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 230 ±5℃, for 2.5~3.5 sec. (EIA-364-52)

Note 1. Flowing Mixed Gas shell be conduct by customer request.

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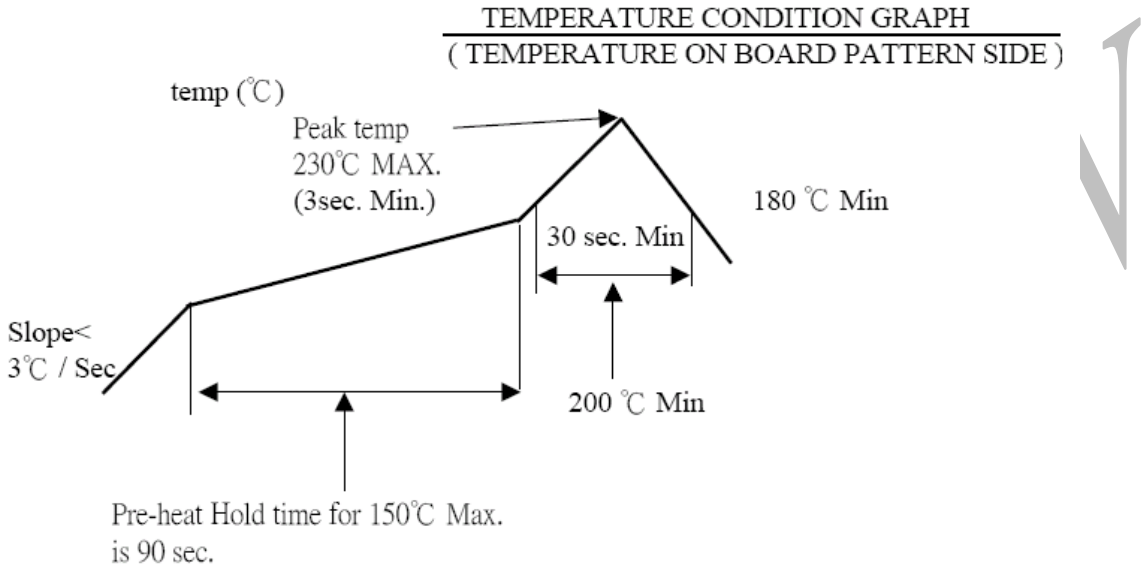
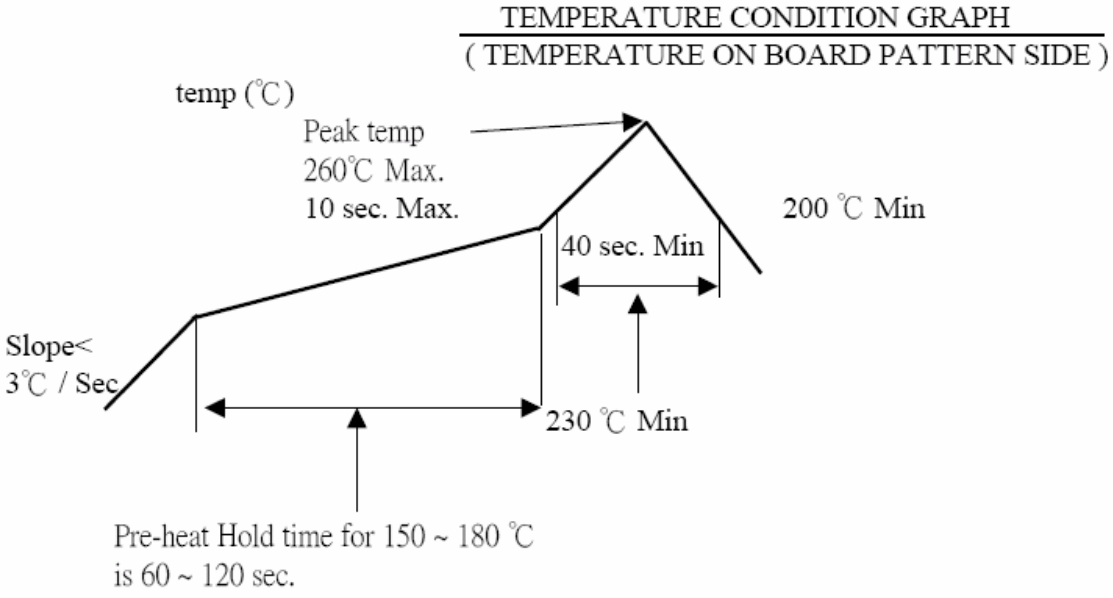
6 INFRARED REFLOW CONDITION

6.1. General Process



6.2. Lead-free Process



7 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test or Examination	Test Group										
	1	2	3	4	5	6	7	8	9	10	11
	Test Sequence										
Examination of Product		1、4		1、7	1、4	1、4	1、4				
Low-signal Level Contact Resistance		2、5	1、4	2、10	2、5	2、5	2、5				1、3
Insulation Resistance				3、9							
Dielectric Withstanding Voltage				4、8							
Temperature rise	1										
Durability		3									
Vibration			2								
Shock (Mechanical)			3								
Thermal Shock				5							
Humidity				6							
Temperature life-Heat					3						
Temperature life-Cold						3					
Salt Spray							3				
Solder ability								1			
FPC Retention Force									1		
Terminal / Housing Retention Force								2			
Actuator insertion / separation Force										2	
Resistance to Soldering Heat											2
Sample Size	2	4	4	4	4	4	4	2	4	4	4

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