SPEC. NO.: PS - 50100-XXXXX-XXX **REVISION:** C

PRODUCT NAME: 0.8mm pitch Board To Board CONN

PRODUCT NO: 50100 series ; 50105 series; 50106 series; 50101series 50102 series; 50103 series ;

PREPARED: **FENGXIAO** **DATE:** **2014.01.18**	**CHECKED:** **ERIC** **DATE:** **2014.01.18**	**APPROVED:** **SIMON** **DATE:** **2014.01.18**

1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
O	ECN-0812038	NEW DRAWING	JASON	2008/11/25
A	ECN-1304398	ADD PLATED SALT SPRAY REQUIREMENT	TANGENHUI	2013/04/27
B	ECN-1310352	DELETE 50104 SERIES	FENGXIAO	2013/10/27
C	ECN-1401248	UPDATE WORKING VOLTAGE	FENGXIAO	2014/01/18

2 SCOPE

This specification covers performance, tests and quality requirements for 0.8mm pitch Board To Board CONN.

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 (Phosphor Bronze)
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 AC (per pin)
4.3.2 Voltage: 100 Volts AC (per pin)
4.3.3 Current: 0.5 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		
Item	**Requirement**	**Standard**
Low Level Contact Resistance	40 m Ω Max.(initial)per contact △R 20 m Ω Max.	Mate connectors, measure by dry circuit, 20mV Max., 100mA Max. (EIA-364-23)
Insulation Resistance	1000 M Ω Min.	Unmated connectors, apply 250 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	50 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 and Un-mating Forces	Mating Force: 70gf(0.69N) Max./CKT. Unmating Force: 12gf(0.118N) Min./CKT.	Operation Speed： 25.4 ± 3 mm/minute.. Measure the force required to mate/unmate connector. (EIA-364-13)
Terminal / Housing Retention Force	0.20kgf (1.96N) Min.	Operation Speed： 25.4 ± 3 mm/minute. Measure the contact retention force with tester

Fitting Nail / Housing Retention Force	0.15Kgf Min.	Operation Speed： 25.4 ± 3 mm/minute. Measure the contact retention force with Tensile strength tester.at a rate of 25± 3 mm/min.
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

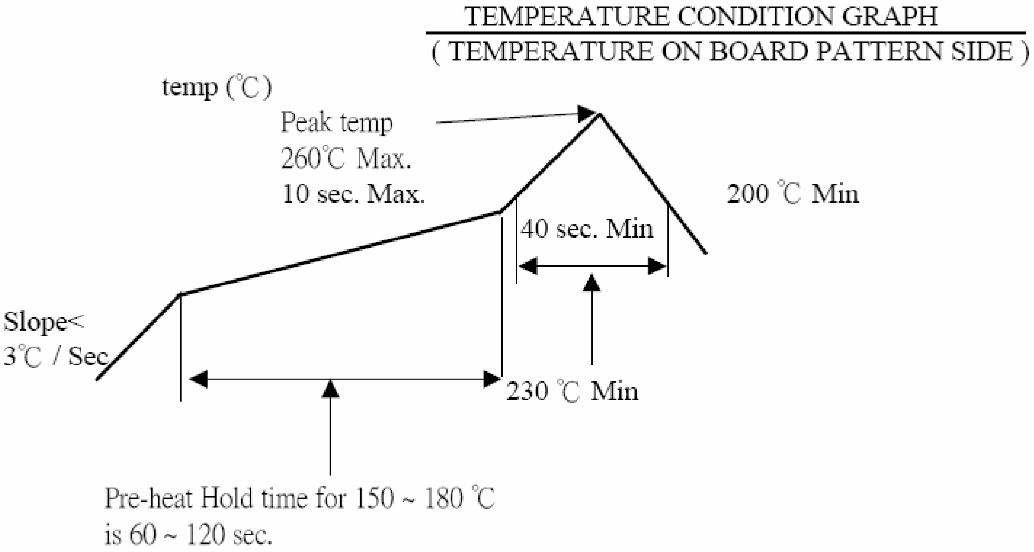
Item	Requirement	Standard
Resistance to Reflow Soldering Heat	See Product Qualification and Test Sequence Group 9 **(Lead Free)**	Pre Heat：150℃~180℃, 60~120sec. Heat：230℃ Min., 40sec Min. Peak Temp.：260℃Max, 10sec Max.
Thermal Shock	See Product Qualification and Test Sequence Group 3	Mate module and 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 3	Mated Connector 40℃, 90~95% RH, 96 hours. (EIA-364-31,Condition A, Method II)
Temperature life	See Product Qualification and Test Sequence Group 4	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℃ (I) Gold flash for 8 hours (II) Gold plating 5 u" for 96 hours. (III) Gold plating 15 u" for 96 hours. (EIA-364-26)
Solderability	Solder Wetting： (a) Tin Lead & others: 95% of immersed area must show no voids, pin holes (a) Gold Flash: 75% of immersed area must show no voids, pin holes	And then into solder bath, Temperature at 245 ±5℃, for 4-5 sec. (EIA-364-52)
Hand Soldering Temperature Resistance	Appearance: No damage	T≧350℃, 3sec at least.

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

6. INFRARED REFLOW CONDITION

Lead-free Process : DURATION = 2 TIMES

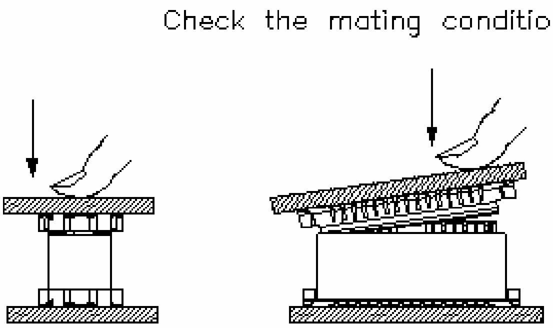


7. PRODUCT QUALIFICATION AND TEST SEQUENCE

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						
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			
Fitting Nail /Housing Retention Force							2			
Resistance to Soldering Heat								2		
Hand Soldering Temperature Resistance									2	
Sample Size	4	4	4	4	4	2	4	4	4	

8. CONNECTOR USAGE

MATING PROCEDURE



UNMATING PROCEDURE