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

PRODUCT NAME: 0.8mm pitch Board To Board CONN.

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

50103 series 50104 series

PREPARED:	CHECKED:	APPROVED:
	WGCH	**Jason Chen**
DATE: **2008/11/15**	DATE: **2008/11/18**	DATE: **2008/11/25**

1 Revision History

Rev.	ECN #	Revision Description	Approved	Date
O	ECN-0812038	NEW SPEC	JASON	2008/11/25

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

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)
Finish: (a) Finish: SEE ORDER INFORMATION
(b) Under plate: Nickel-plated all over
4.2.2 Housing: Thermoplastic, high temp. UL94V-0
4.2.3 Ear: Copper Alloy, Tin-plated overall

4.3 Ratings

4.3.1 Voltage: 100 V 〔AC(rms)/DC〕
4.3.2 Current: 0.5 A〔AC(rms)/DC〕
4.3.3 Operating Temperature : -55℃ 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-signal Level Contact Resistance	40 m Ω Max.(initial)per contact △R 10 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	250 VAC Min. at sea level for 1 minute.No discharge, flashover or breakdown.Current leakage: 0.5 mA max.	Test between adjacent contacts of unmated connectors. (EIA-364-20)

MECHANICAL		
Item	**Requirement**	**Standard**
Mating and Un-mating Forces	0.69 N〔70gf〕Max./CKT. 0.118 N〔12gf〕Min./CKT.	Mate and un-mate connectors at a rate of 25± 3 mm/min.
Terminal / Housing Retention Force	1.96 N〔0.2Kgf〕Min. 3.9 N〔0.4Kgf〕Min.	Apply axial pull out force on the terminal assembled in the housing at a rate of 25± 3 mm/min.
Fitting Nail / Housing Retention Force	0.15Kgf Min.	Apply axial pull out force on the terminal assembled in the housing at a rate of 25± 3 mm/min.
Temperature Rise	30℃ Max. Change allowed	Mate connector: measure the temperature rise at rated current after:0.5A/Power contact. The temperature rise above ambient shall not exceed 30℃ The ambient condition is still air at 25℃ (EIA-364-70 METHOD 2)
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)

MECHANICAL		
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)

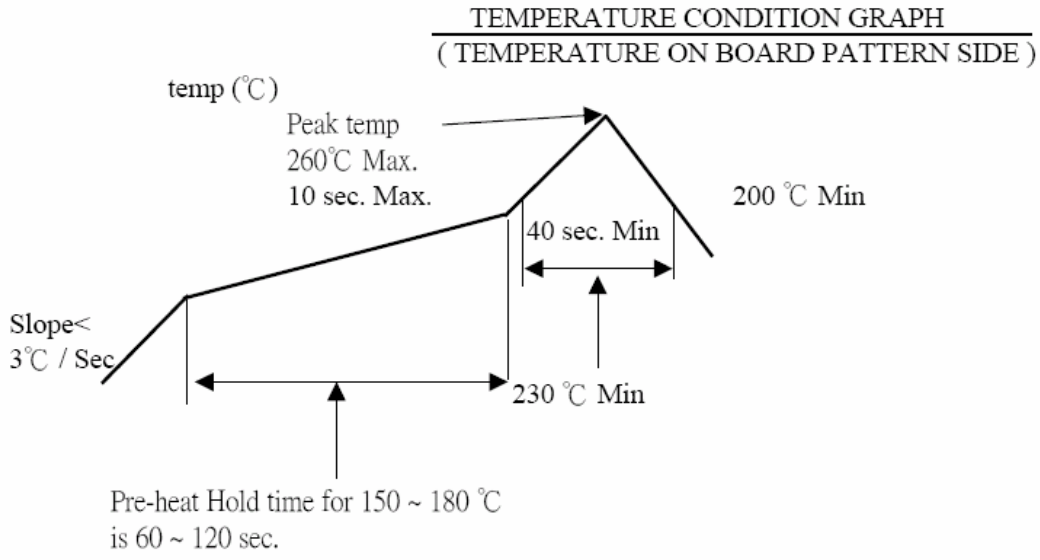
ENVIRONMENTAL		
Item	**Requirement**	**Standard**
Repeated Mate/ Un-mate	Contact Resistance：20 m Ω MAX.change from initial requirement：20 m Ω	When mate/un-mated up to 50 cycles repeatedly at a rate of 10 cycles/min .
Heat Resistance	Appearance：No damage Contact Resistance：40 m Ω Max. change from initial requirement：20 m Ω Must meet Dielectric Strength Insulation Resistance：100 M Ω Max.	Mate connectors and expose to 85±2 ℃ for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. (Based upon JIS C0021/MIL- STD-202 method 108A Cond.A) Mate connectors and expose to -55±3 ℃ for96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. (Based upon JIS C0020)
Humidity	Appearance：No damage Contact Resistance：40 m Ω Max. change from initial requirement：20 m Ω Must meet Dielectric Strength Insulation Resistance：100 M Ω Max.	Mate connectors and expose to 60±2 ℃relative humidity 90 to 95% for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. (Based upon JIS C0022.MIL STD-202 method 103B Cond.B)
Temperature Cycling	Appearance：No damage Contact Resistance：20 m Ω Max. change from initial requirement：20 m Ω	5 cycles of： (a) -55 ℃ ± 3 ℃ 30 minutes (b) ＋85 ℃ ± 2 ℃ 30 minutes (Based upon JIS C0025)

ENVIRONMENTAL		
Salt Spray	Contact Resistance：20 m Ω Max. MAX.change from initial requirement：20 m Ω	(a) Gold Flash: 8 hrs exposure to salt spray from 5±1% solution at 35 ± 2℃
Repeated Mate/ Un-mate	Contact Resistance：20 m Ω MAX.change from initial requirement：20 m Ω	When mate/un-mated up to 50 cycles repeatedly at a rate of 10 cycles/min.
Solderability	Solder Wetting： Gold Flash: 75% of immersed area must show no voids, pin holes	Dip soldertails into the molten solder (held at 230± 5℃) up to 0.5mm from the bottom of the housing for 3± 0.5 sec.

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

6 INFRARED REFLOW CONDITION

6.1. 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					
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						
Mating / Unmating Forces	2、4									
Durability(Repeated Mate/ Un-mate)	3									
Contact Retention Force										
Vibration(Random) / 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			
Sample Size	4	4	4	4	4	2	4			