SPECIFICATION

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SPEC. NO.: PS-91060-XXXXX **REVISION:** O

PRODUCT NAME: 3.48MM PITCH BTB CONN.

PRODUCT NO: 91060-0202L-001

PREPARED:	CHECKED:	APPROVED:
GUKEQING	**SIMON**	**JASON**
DATE: **14'/01/17**	DATE: **14'/01/17**	DATE: **14'/01/17**

1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
1	1008027	PROPOSAL	BINRU	10'/03/04
O	1401263	ADD Working Voltage	GUKEQING	14'/01/17

2 SCOPE

This specification covers performance, tests and quality requirements for 3.48mm pitch BTB conn. These connectors are used in cars.

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: Tin plated
(b) Under plate: Nickel-plated all over
(c) Solder area: Tin plated

4.2.2 Housing: Thermoplastic High Temp., UL94V-0

4.3 Ratings

4.3.1 Working Voltage Less than 36 Volts AC (per pin)
4.3.2 Voltage: 80 Volts AC (per pin)
4.3.3 Current: 5 Amperes (per pin)
4.3.4 Operating Temperature : -40℃ to +105℃

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	20 m Ω Max.(initial)per contact △R (after test)15 m Ω Max.	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	No discharge, flashover or breakdown. Current leakage: 1 mA max.	300 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-364-70METHOD1,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)
Mating / Unmating Forces	Mating Force: 8.0 Kg Max. Unmating Force: 3.0 Kg Min.	Operation Speed： 25.4±3mm/minute. Measure the force required to mate/Unmate connector. (EIA-364-13)
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 20 to 57.17 Hz and 98.1m/s^2(10g$_n$) between 57.17 to 200Hz . The entire frequency range, from 20 to 200

		Hz and return to 20 Hz, shall be traversed in approximately 1 minute. This motion shall be applied for 4 hours in each of three mutually perpendicular directions. (EIA-364-28 Condition I, II)
Terminal / Housing Retention Force	2.0kgf Min.	Apply axial pull out force at the speed rate of 25.4 ± 3 mm/minute. On the terminal assembled in the housing.
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 **Wave** Soldering Heat	See Product Qualification and Test Sequence Group 6 **(Lead Free)**	Solder Temp.： 265±5℃, 10±0.5sec.
Resistance to **Reflow** Soldering Heat	See Product Qualification and Test Sequence Group 6 **(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 4	Mate module and subject to follow condition for 100 cycles. 1 cycles: -40 +0/-5 ℃, 30 minutes +105 +3/-0 ℃, 30 minutes (EIA-364-32, test condition VIII)
Humidity	See Product Qualification and Test Sequence Group 4	Mated Connector 85℃, 85% RH, 1000 hours. (EIA-364-31)
Solder ability	Solder able area shall have minimum of 95% solder coverage.	And then into solder bath, Temperature at 245 ±5℃, for 4-5 sec. (EIA-364-52)
Low Temperature test	See Product Qualification and Test Sequence Group 7	Subject mated connectors to temperature life at -40℃ for 96 hours. Measure Signal. (EIA-364-59)
Temperature life(Heat)	See Product Qualification and Test Sequence Group 8	Subject mated connectors to temperature life at 105℃ for 96 hours. Measure Signal.

		(EIA-364-17, Test condition A)

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

6 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test or Examination	Test Group							
	1	2	3	4	5	6	7	8
	Test Sequence							
Examination of Product				1、7		1	1、6	1、6
Low-signal Level Contact Resistance		1、5	1、4	2、10		4	2、9	2、9
Insulation Resistance				3、9			3、8	3、8
Dielectric Withstanding Voltage				4、8			4、7	4、7
Temperature rise	1							
Mating / Unmating Forces		2、4						
Terminal / Housing Retention Force					1			
Durability		3						
Vibration			2					
Shock (Mechanical)			3					
Thermal Shock				5				
Humidity				6				
Solder ability					2			
Resistance to Wave Soldering Heat						2		
Resistance to Reflow Soldering Heat						3		
Low Temperature test							5	
Temperature life (Heat)								5
Sample Size	2	4	4	4	4	4	4	4