SPECIFICATION

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SPEC. NO.: PS-50203-XXXXX-XXX **REVISION:** C

PRODUCT NAME: 0.5MM COAX. RCPT. SMT R/A S/R TYPE

PRODUCT NO: 50203 / 50204 SERIES

PREPARED:	CHECKED:	APPROVED:
XUFEI	**JERRY**	**JASON**
DATE: **2014/01/09**	DATE: **2014/01/09**	DATE: **2014/01/09**

1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
O	ECN-0901080	PROJECT OF HALOGEN FREE PLASTIC	JASON	2009.01.20
A	ECN-1001205	REVISED MANUAL SOLDERING HEAT METHOD OF LVDS SERIES	JASON	2010.01.28
B	ECN-1112340	DELETE AWG28#~AWG34#	CANDY	2011/12/20
C	ECN-1401156	ADD WORKING VOLTAGE	XUFEI	2014/01/09

2 SCOPE

This specification covers performance, tests and quality requirements for 0.5mm COAX. Rcpt. SMT R/A S/R Type connector.

ACES Part/Number :
50203 Series; 50204 Series

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
Finish: (a) Contact Area: Gold plated based on order information
(b) Under plate: Nickel-plated all over
(c) Solder area: Gold Flash plating
4.2.2 Housing: Halogen free plastic, UL94V-0 High Temp., UL94V-0
4.2.3 Shell: High performance copper alloy

4.3 Ratings

4.3.1 Working voltage less than 36 volts (per pin)
4.3.2 Voltage: 100 Volts AC (per pin)
4.3.3 Current: 0.3A AC/DC (AWG#40) (per pin)
0.6A AC/DC (AWG#38) (per pin)
0.8A AC/DC (AWG#36) (per pin)

4.3.4 Operating Temperature : -20℃ 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	Refer to 8. Contact resistance table-1	Mate connectors, measure by dry circuit, 20mV Max., 100mA Max. (EIA-364-23) Figure 1.
Insulation Resistance	Initial : 1000 MΩ Min. After test : 500 MΩ 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.	250 VAC(rms) 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
Mating/UnmatingForces		Mating Force:	Unmating Force:	Operation Speed： 25.4 ± 3 mm/minute.. Measure the force required to mate/Unmate connector. (EIA-364-13)
	20 pin	2.55kgf MAX.	0.36 kgf MIN.	
	30 pin	3.06kgf MAX.	0.46 kgf MIN.	
	40 pin	3.57kgf MAX.	0.56 kgf MIN.	
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)
Terminal / Housing Retention Force	0.15kgf MIN.			Operation Speed： 25.4 ± 3 mm/minute. Measure the contact retention force with Tensile strength tester.
Cable Retention Force	20 pin :1.00Kgf MIN. 30 pin :1.50Kgf MIN. 40 pin :2.00Kgf MIN.			Operation Speed： 25.4 ± 3 mm/minute. Measure the cable retention force with Tensile strength tester.
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)

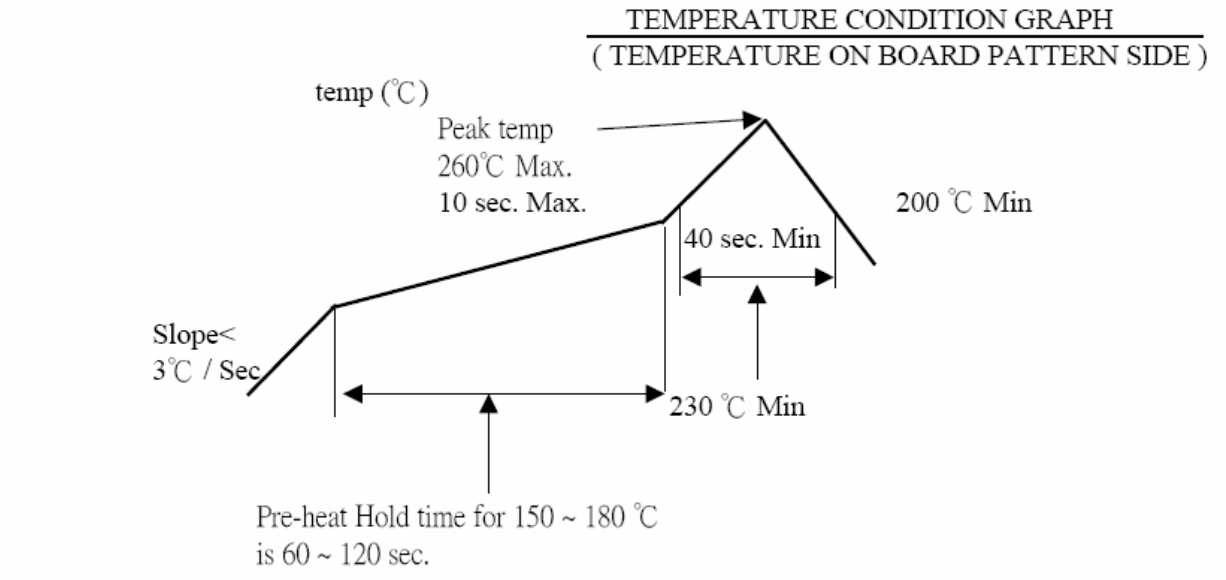
ENVIRONMENTAL

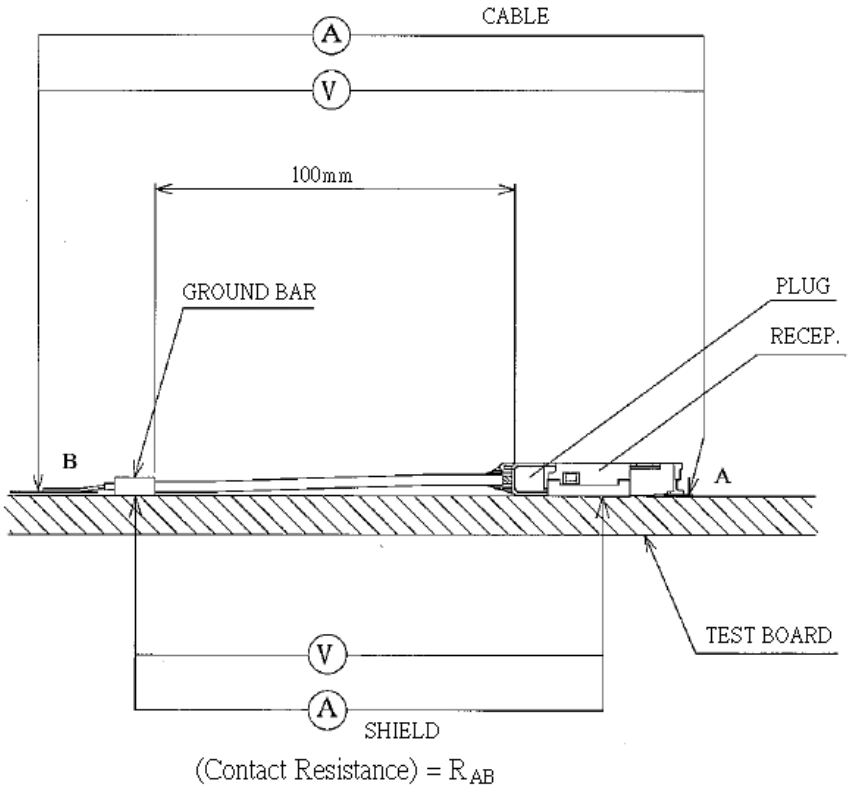
Item	Requirement	Standard
Resistance to Reflow Soldering Heat	See Product Qualification and Test Sequence Group 4 **(Lead Free)**	Pre Heat：150℃~180℃, 60~90sec. Heat：230℃ Min., 40sec Min. Peak Temp.：260℃Max, 10sec Max.
Thermal Shock	See Product Qualification and Test Sequence Group 4	Mate module and subject to follow condition for 5 cycles. 1 cycles: -55 +0/-3 ℃, 30 minutes +85 +3/-0 ℃, 30 minutes (EIA-364-32, test condition I)
Humidity	See Product Qualification and Test Sequence Group 4	Mated Connector 40℃, 90~95% RH, 96 hours. (EIA-364-31,Condition A, Method II)
Temperature life	See Product Qualification and Test Sequence Group 8	Subject mated connectors to temperature life at 85℃ for 250 hours. Measure Signal. (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℃ for 8 hours. (EIA-364-26,Test condition B)
Solder ability	Solder able area shall have minimum of 95% solder coverage.	Subject the test area of contacts into the flux for 5-10 sec. And then into solder bath, Temperature at 245 ±5℃, for 4-5 sec. (EIA-364-52)
Soldering Heat Resistance	See Product Qualification and Test Sequence Group 10 **(Lead Free)** *No abnormality adversely affecting the performance shall occur	Pre Heat:150℃~180℃, 60~120sec. Heat：230℃ Min., 40sec Min. PeakTemp.:260℃ Max10sec Max. (The number of times of reflow is within 2)
Manual Soldering Heat	No deformation of components affecting performance.	350±5℃ for 3~5 seconds

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

6 INFRARED REFLOW CONDITION

Lead-free Process





(Fig.1 Contact Resistance)

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
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					
Temperature rise	1									
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	
Resistance to Soldering Heat										2
Sample Size	2	4	4	4	4	4	2	4	4	4

8 CONTACT RESISTANCE

Table-1

Initial	Contact	AWG#36---235 mΩ Max. AWG#38---380 mΩ Max. AWG#40---560 mΩ Max.
	Ground Shell	50 mΩMax.(Stainless Steel)
		40 mΩMax(Phosphor Bronze)
After Testing	Contact	40 mΩ Max.(△R)
	Ground Shell	40 mΩ Max. (△R)

Initial contains the conductor resistance:160~195 mΩ(AWG#36)
305~340 mΩ(AWG#38)
485~520 mΩ(AWG#40)