

CRS Precision Electronic Co., LTD		Control NO	EI055
		Issued BY	ED
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Approval By	Check By	Originator By
Shen Zhi Jin	He FuNing	Wang Pin

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1.0 SCOPE

1.1 CONTENTS

THIS SPECIFICATION COVERS THE REQUIREMENTS FOR PRODUCT PERFORMANCE, TEST PROGRAM AND QUALITY ASSURANCE PROVISIONS OF PITCH 2.54mm HEADER VERTICAL TYPE

1.2 INITIAL ELECTRICAL AND MECHANICAL SPECIFICATION

1.2.1 INSULATOR MATERIAL: THERMOPLASTIC,UL94V-0 RATED

1.2.2 CONTACT MATERIAL: BRASS.

1.2.3 CURRENT RATING: 1.0 A

1.2.4 VOLTAGE RATING : 125V MAX.

1.2.5 INSULATION RESISTANCE: 1000 MΩ MIN.

1.2.6 CONTACT RESISTANCE: 30 mΩ MAX

1.2.7 DIELECTRIC WITHSTANDING VOLTAGE: 500V AC FOR 1 MINUTE.

1.2.8 TERMINAL RETENTION FORCE: 1000g MIN.

1.2.9 OPERATING TEMPERATURE: -55°C TO +105°C.

1.2.10 INSERTION/WITHDRAWAL FORCE: REFERENCE VALUE.

2.0 APPLICABLE DOCUMENTS

THE FOLLOWING DOCUMENTS OF THE ISSUE IN EFFECT ON THE DATE OF THE LATEST REVISION OF THIS SPECIFICATION, SHALL BE A PART OF THIS SPECIFICATION AND SPECIFICATIONS TO THE EXTENT.

2.1 MILITARY STANDARDS

EIA-364 TEST METHODS FOR ELECTRICAL AND ELECTRONIC COMPONENT PARTS.

2.2 CRS SPECIFICATION

2.2.1 PRODUCT DRAWING WB2545H-XXXXX

3.0 REQUIREMENTS

THE SUBJECT PRODUCTS SHOULD BE OF THE DESIGN, CONSTRUCTION, AND MECHANICAL DIMENSIONS SPECIFIED IN THE APPLICABLE PRODUCT DRAWING.

3.1 MATERIAL

3.1.1 CONTACTS

THE CONTACT MATERIAL SHALL BE BRASS.

3.1.2 INSULATOR

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INSULATOR SHALL BE MOLDED OF THERMOPLASTIC,UL94V-0 RATED.

3.2 FINISH

3.2.1 CONTACTS:

CONTACT AREA:

Gold flash MIN over Ni 50~150 μ "(1.27~3.81 μ m).

SOLDERING AREA

Gold flash MIN over Ni 50~150 μ "(1.27~3.81 μ m).

3.2.2 USING LEAD-FREE PLATING .

3.3 DESIGN AND CONSTRUCTION

3.3.1 MATING

THE PLUG SHELL BE CAPABLE OF MATING AND UNMATING MANUALLY WITH RECEPTACLE WITHOUT THE USE OF SPECIAL TOOLS.

3.3.2 CONFIRMATION OF PRODUCT

THE PITCH 2.54mm HEADER VERTICAL TYPE SHALL BE UNIFORM IN QUALITY AND SHELL BE FREE OF BURRS, SCRATCHES, CRACKS, VOIDS, CHIPS,BLISTERS, PIN HOLES, SHARP EDGES, AND OTHER DEFECTS THAT WILL ADVERSELY AFFECT LIFE OR SERVICEABILITY.

4.0 Electrical Requirement

Test Item		Requirement	Procedure
4.1	Contact Resistance	30 m Ω MAX.	Subject mated contacts assembled in housing to 25mV Max open circuit at 100mA Max. (EIA-364-21)
4.2	Dielectric withstanding Voltage	No creeping discharge or flashover shall occur. Current leakage: 1 A Max.	500 VAC for 1minute Test between adjacent circuits of unmated connector. (EIA-364-20)
4.3	Insulation Resistance	1000 M Ω MIN.	Impressed voltage 500 VDC. Test between adjacent circuits of unmated connector. (EIA-364-21)

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4.4	Temperature Rating	powered at 1A or one contact is powered at 1A. shall not exceed 30°C	Ambient Conditions still air at 25°C (EIA-364-70)
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5.0 MECHANICAL REQUIREMENT

Test Item		Requirement	Procedure
5.1	Terminal Retention Force	1000g Min.	Use in 1.04mm gage insertion connector at a contact Operation Speed: 7.5+3 mm/min. (EIA 364-29)
5.2	Durability	Mate and un-mate each connector shall be made with the mating plug and Heard for 500 cycles repeatedly at maximum rate of 200/ hour.	Mate the connector with its mating part; Mate connector at a rate of:25±6mm per minute. (EIA-364-09)
5.3	Insertion force/withdrawal force	INSERTION/WITHDRAWAL FORCE: REFERENCE VALUE.	Operation Speed: 25.4mm/min. (EIA 364-13)

6.0 ENVIRONMENTAL REQUIREMENTS

Test Item		Requirement		Procedure
6.1	Humidity	Appearance	No damage	25°C to 65°C in temperature and 90~95% RH for 10 cycles. After testing connector shall be left alone for 1 to 2 hours in a room ambient. (EIA-364-31)
		Contact Resistance	30mΩ Max	
		Withstanding Voltage	500 V AC	
6.2	Heat resistance	Appearance	No damage	105°C in temperature 250hours. After testing connector shall be left alone for 1 to 2 hours in a room ambient. (EIA-364-17)
		Contact Resistance	30mΩ Max	
		Terminal Retention Force	1000g Min.	

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6.3	Thermal shock	Appearance	No damage	Temperature: high temperature 70 C, low temperature - 40 C Time: Each cycle lasts for 16 hours, and 2 cycles are carried out. The maximum value at high and low temperatures should be kept for at least 4 hours, and the time from high temperature to low temperature or from low temperature to high temperature should not exceed 4 hours.	
		Contact Resistance	30mΩ Max		
6.4	Cold Resistance	Appearance	No damage	-40±2°C in temperature 96hours. After testing connector shall be left alone for 1 to 2 hours in a room ambient. (EIA-364-59)	
		Contact Resistance	30mΩ Max		
6.5	Solder ability	95%min. of solder area		Wet solder coverage: 95% Min. Solder Temperature: 245+/-5°C Duration: 5+/- 0.5 sec. (EIA-364-52)	
6.6	Vibration	Discontinuity 1 μ sec Max.		Mate connectors and subject to the following vibration conditions, for period of 2 hours in each of 3 mutually perpendicular axes, passing DC 1mA during the test. Acceleration:20gn Frequency:10-2000-10Hz in 20 minute. (EIA-364-28)	
6.7	Shock	Discontinuity 1 μ sec Max.		Accelerated Velocity: 490 m/s ² (50g) waveform: half-sine shock pulse Duration: 11msec. Number of Drops: 3 drops each to normal and reversed directions of X,Y and Z axes, (EIA-364-27)	
6.8	Salt Spray	Appearance	No damage	Subject mated connectors to 35+/-2 °C and 5+/-1% salt condition for 24 hours. After test, rinse the sample with water and recondition the room temperature for 1 hour. EIA-364-26.	
6.9	Heat resistance	No physical damage shall occur.		◆ Wave soldering Temp.: 260±5°C For 10sec.	

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			Operation times: 3 times
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TABLE I-QUALIFICATION TESTING

TEST / OPERATION

TEST GROUP	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Sample Size	2	2	2	2	2	2	5	5	5	5	5	5	5	5	5
Examination of product	1,3	1,3	1,3	1,3	1,3	1,3	1,5	1,5	1,4	1,4	1,3	1,3	1,3	1,3	1,3
Contact Resistance	2						3	3	3	3					
Dielectric Withstanding Voltage		2					4								
Insulation Resistance			2												
Terminal Retention Force				2				4							
Durability					2										
Humidity							2								
Heat resistance								2							
Thermal shock									2						
Cold resistance										2					
Solder ability						2									
Vibration											2				
Shock												2			
Salt Spray													2		
Temperature Rating														2	
Insertion force/withdrawal force															2