



SINGATRON ENTERPRISE CO.,LTD

信音企業股份有限公司

PRODUCT SPECIFICATION

PRODUCT NAME : 3.5ΦPHONEJACK

PRODUCT NO : 2SJ2296-000111

DATE : 2013.10.09 REVISION : B1

Revisions Control

Rev.	Revised	Originator	Issue Date
A	INITIAL RELEASE	孫一中	2009.05.26
B	Modify Storage temperature	Longjiang	2011.11.04
B1	Increase Soldering heat Resistance define	JUNKANG	2013.10.09

Approved By :

Checked By :

Originator :

LIAO	ZJZ	JUNKANG2013.10.09
------	-----	-------------------

TABLE OF CONTENT

1. Scope.....	3
2. Reference Documents	3
3. Material and Components	3
4. Design and Construction	3
5. Rating	3
6. Performance and Test Descriptions	3
7. Test Requirements and Procedures Summary	4
8. Product Qualification and Requalification Test Sequence.....	8

1. Scope :

This specification covers the requirements for product performance, test methods and quality assurance provisions of 3.5Φ Phone Jack Connector.

2. Reference Documents :

The following documents form a part of this specification to the extent specified herein.

Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

EIA-364 : The Test Sequence and Test Procedures for Electrical Connectors and Sockets.

3. Material of Components :

A. A. Housing : THERMOPLASTIC HIGH TEMP ; Color: Black

B. Contact : Copper Alloy

4. Design and Construction :

Product shall be of the design, construction and physical dimensions specified in the applicable product drawing.

5. Ratings :

A. Current Rating : 1.0A DC Max.

B. Operating temperature : —40°C to +85°C

C. Storage temperature : —40°C to +85°C

D. Humidity : 90% max. non condensing

E. Voltage Rating : 36V AC (Max.)

6. Performance and Test Descriptions :

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in paragraph 7. Unless otherwise specified, All tests are performed at ambient environmental conditions.

7. Test Requirements and Procedures Summary :

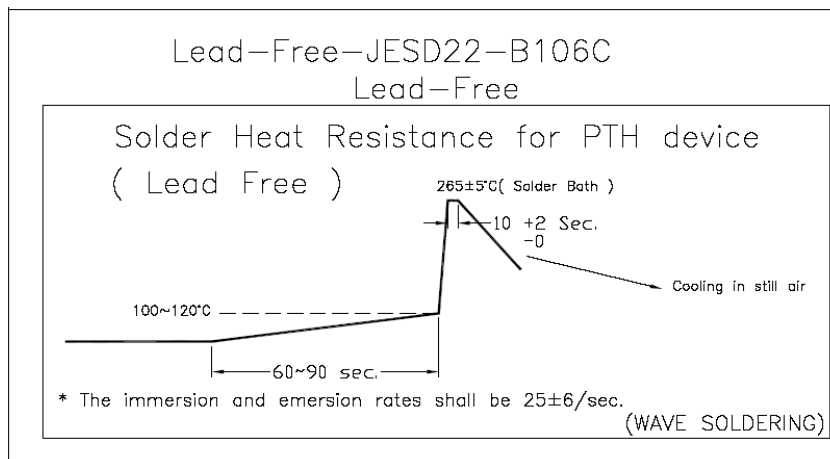
Electrical Performance		
Test Description	Test Procedures & Condition	Requirements
Temperature Rise vs Current Rating	EIA 364- 70 Method B The object of this procedure is to detail a standard method to assess the current carrying capacity of mated connector contacts. Measure temperature rise vs current at 10A when measured at an ambient temperature of $23\pm3^{\circ}\text{C}$.	The Temp rise shall not exceed $+30^{\circ}\text{C}$ at any point in the connector under test.
Low Level Contact Resistance	EIA 364- 23 The object of this test procedure is to detail a standard method to measure the electrical resistance across a pair of mated contacts such that the insulating films, if present, will not be broken or asperity melting will not occur. Subject mated contacts assembled in housing to closed circuit current of 100 mA maximum at open circuit at 20 mV maximum.	Initial: Contact to Shunt 30 mΩ Max. Plug to contact 50 mΩ Max. Final: Contact to Shunt 50 mΩ Max. Plug to contact 100 mΩ Max.
Insulation Resistance	EIA 364- 21 The object of this test procedure is to detail a standard method to assess the insulation resistance of connectors. This test procedure is used to determine the resistance offered by the insulation materials and the various seals of a connector to a DC potential tending to produce a leakage of current through or on the surface of these members. Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector assemblies. Test Voltage : 500 V DC.	100MΩ Min. initial 50MΩ Min. final
Dielectric Withstanding Voltage	EIA 364- 20 The object of this test procedure is to detail a test method to prove that a connector can operate safely at its rated voltage and withstand momentary over potentials due to switching, surges and/or other similar phenomena. Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector assemblies. Test Potential : 250V AC at sea level, 60Hz Test Duration : 60 seconds	1.No flashover, No spark over No excess leakage, No breakdown 2.Current leakage:<0.5mA

Mechanical Performance		
Test Description	Test Procedures & Condition	Requirements
Mating and Unmating force	EIA 364- 13 The object of this test is to detail a standard method for determining the mechanical forces required for inserting connector. Subject connector to mate and unmate to measure the mechanical forces required to engage and disengage at a rate of 12.5mm per	1. Mating force : 0.3~3.0Kg 2. Unmating force : 0.3~3.0Kg
Durability	EIA 364-09 The object of this test procedure is to detail a uniform test method for determining the effects caused by subjecting a connector to the conditioning action of insertion and extraction, simulating the expected life of the connectors. Durability cycling with a gauge is intended only to produce mechanical stress. Durability performed with mating components is intended to produce both mechanical and wear stress.	Mate and unmate connector assemblies for 5,000 cycles at a maximum rate of 12.7 mm/minute. Contact Resistance: Contact to Shunt 50 mΩ Max. Plug to contact 100 mΩ Max. No damage,cracks,or part Dislocation

Environmental Performance		
Test Description	Test Procedures & Condition	Requirements
Humidity (Temperature Cycling)	EIA 364-31 Method III Test Condition A The object of this test procedure is to detail a standard test method for the evaluation of the properties of materials used in connectors as they are influenced by the effects of high humidity and heat. Subject mated and unmated connectors should be tested according to the condition listed below : Temperature : 25 ~ 65°C Humidity : 90 ~ 95% (R.H) Duration : 96 hours	1. No evidence of damage. 2. The electrical performances should meet the spec. specified.
Thermal Shock	EIA 364-32 The object of this test is to determine the resistance of a connector to exposure at extremes of high and low temperatures and to the shock of alternate exposures to these extremes, simulating the worst case conditions for storage, transportation and application. Subject mated and unmated connectors should be tested according to the condition listed below : Temperature : -55 ~ 105°C Cycles : 5 cycles Exposure time at temp. extremes : 30 minutes	1. No evidence of damage. 2. The electrical performances should meet the spec. specified.

Test Description	Test Procedures & Condition	Requirements																			
Salt Spray	EIA 364-26 Test Condition A The object of this test procedure is to detail a standard test method to assess the effects of a controlled salt laden atmosphere on connector components, finishes and mechanisms. Subject mated and unmated connectors should be tested according to the condition listed below : Temperature : 35±1.1℃ Humidity : 95 ~ 98% (R.H.) PH Value : 6.5 ~ 7.2 Duration : 48 hours	1.Contact resistance shall be less than 30mΩ after the test. 2.There should be no corrosion detrimental to contact connection.																			
Temperature Life	EIA 364-17 Test Condition 3 Method A The object of this test is to detail a standard test method to assess the ability of a connector to withstand elevated temperatures with or without electrical loading. Subject mated connectors should be tested according to the condition listed below : Temperature : 85±2℃ Duration : 96 hours	1. No evidence of damage. 2. The electrical performances should meet the spec. specified.																			
Soldering heat Resistance	For reflow lead-free soldering condition : Follow IPC/JEDECJ-STD-020C Solder Heat Resistance (Lead-Free) <table><tr><th rowspan="2">Package Thk</th><th colspan="3">Tp Volume mm³</th></tr><tr><th><350</th><th>350~2000</th><th>>2000</th></tr><tr><td><1.6mm</td><td>260 +0℃ -5℃</td><td>260 +0℃ -5℃</td><td>260 +0℃ -5℃</td></tr><tr><td>1.6~2.5mm</td><td>260 +0℃ -5℃</td><td>250 +0℃ -5℃</td><td>245 +0℃ -5℃</td></tr><tr><td>≥2.5mm</td><td>250 +0℃ -5℃</td><td>245 +0℃ -5℃</td><td>245 +0℃ -5℃</td></tr></table> * Time 25°C to Peak Temp. ----- 8 Minutes Max. * Time within 5°C of Actual Peak Temp. --- 20~40 Seconds (REFLOW SOLDERING CONDITION) For waving lead-free soldering condition:	Package Thk	Tp Volume mm³			<350	350~2000	>2000	<1.6mm	260 +0℃ -5℃	260 +0℃ -5℃	260 +0℃ -5℃	1.6~2.5mm	260 +0℃ -5℃	250 +0℃ -5℃	245 +0℃ -5℃	≥2.5mm	250 +0℃ -5℃	245 +0℃ -5℃	245 +0℃ -5℃	
Package Thk	Tp Volume mm³																				
	<350	350~2000	>2000																		
<1.6mm	260 +0℃ -5℃	260 +0℃ -5℃	260 +0℃ -5℃																		
1.6~2.5mm	260 +0℃ -5℃	250 +0℃ -5℃	245 +0℃ -5℃																		
≥2.5mm	250 +0℃ -5℃	245 +0℃ -5℃	245 +0℃ -5℃																		

Follow JESD22-B106C



Note : Shall meet visual requirements, show no physical damage, and shall meet requirements of additional tests as specified in Test Sequence in paragraph 8.

8. Product Qualification and Requalification Test Sequence :

A. Sample Selection :

Test samples shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production.

B. Test Sequence :

The following is an example of how the test sequence works : In Test Group 8, the first test is (1), examination of product, followed by test (2), temperature rise vs current, followed by test (3), examination of product. Six samples are tested in this test group

Test of Examination	Test Group (a)									
	1	2	3	4	5	6				
	Test Sequence									
Examination of product	1,5	1,5	1,7	1,11	1,3	1,3				
Contact Resistance	2,4	2,4		2,9						
Insulation resistance			2,5							
Dielectric Withstanding Voltage			3,6	5,10						
Humidity	3		4							
Salt Spray		3								
Connector Mating Force				3,8						
Connector Unmating Force				4,7						
Durability				6						
Solder ability						2				
Resistance to reflow Solder Heat					2					