



## SPECIFICATION

宏致電子股份有限公司

桃園縣中壢市東園路13號

No.13, Dongyuan Rd., Zhongli City,

Taoyuan County 320, Taiwan (R.O.C.)

TEL: +886-3-463-2808

FAX: +886-3-463-1800

SPEC. NO.: PS-50984-002XX-XXX REVISION: 0

PRODUCT NAME: 3.5mm Pitch SPEAKER CONN. SMT TYPE

PRODUCT NO: 50984-XXXXXX-XXX

PREPARED:  <b>JAMESLEN</b>  DATE: <b>2009/06/30</b>	CHECKED:  <b>RYAN</b>  DATE: <b>2009/06/30</b>	APPROVED:  <b>JASON</b>  DATE: <b>2009/06/30</b>
--	---	---



TITLE: 3.5mm Pitch SPEAKER CONN. SMT TYPE

RELEASE DATE: 2009/10/05

REVISION: 0

ECN No: ECN0910004

PAGE: **2** OF **8**

1	REVISION HISTORY .....	3
2	SCOPE .....	4
3	APPLICABLE DOCUMENTS.....	4
4	REQUIREMENTS .....	4
5	PERFORMANCE .....	4
6	INFRARED REFLOW CONDITION .....	7
7	PRODUCT QUALIFICATION AND TEST SEQUENCE.....	8



Aces P/N: **50984-xxxxx-xxx series**

TITLE: 3.5mm Pitch SPEAKER CONN. SMT TYPE

RELEASE DATE: 2009/10/05

REVISION: 0

ECN No: ECN0910004

PAGE: **3** OF **8**

### 1 Revision History

Rev.	ECN #	Revision Description	Approved	Date
0	ECN-0910004	RELEASED	JASON	2009/10/05



TITLE: 3.5mm Pitch SPEAKER CONN. SMT TYPE

RELEASE DATE: 2009/10/05

REVISION: 0

ECN No: ECN0910004

PAGE: 4 OF 8

## 2 SCOPE

This specification covers performance, tests and quality requirements for [SPEAKER connector](#).

## 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 ([Phosphor Bronze](#))  
Finish: (a) Contact Area: [Gold plated based on order information](#)  
(b) Under plate: [Nickel-plated all over](#)  
(c) Solder area: [Gold plated based on order information](#)
- 4.2.2 Housing: Thermoplastic or Thermoplastic High Temp., UL94V-0

### 4.3 Ratings

- 4.3.1 Voltage: [60 Volts AC \(per pin\)](#)
- 4.3.2 Current: [1.0 Amperes \(per pin\)](#)
- 4.3.3 Operating Temperature : [-40°C to +105°C](#)

## 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.



Aces P/N: **50984-xxxxx-xxx series**

TITLE: 3.5mm Pitch SPEAKER CONN. SMT TYPE

RELEASE DATE: 2009/10/05

REVISION: O

ECN No: ECN0910004

PAGE: 5 OF 8

### ELECTRICAL

Item	Requirement	Standard
Low-signal Level Contact Resistance	30 m $\Omega$ Max. (initial) per contact 40 m $\Omega$ Max. (Final) per contact $\Delta R$ 10 m $\Omega$ Max.	Mate connectors, measure by dry circuit, 20mV Max., 1mA Max. (EIA-364-23)
Insulation Resistance	1000 M $\Omega$ Min.	Unmated connectors, apply 500 V DC between adjacent terminals. (EIA-364-21)
Temperature rise	30°C Max. Change allowed	Mate connector: measure the temperature rise at rated current after: 1 A/Power contact. The temperature rise above ambient shall not exceed 30°C The ambient condition is still air at 25°C (EIA-364-70 METHOD 2)
Dielectric Withstanding Voltage	300 VAC Min. at sea level for 1 minute. No discharge, flashover or breakdown. Current leakage: 1 mA max.	Test between adjacent contacts of unmated connectors. (EIA-364-20)

### 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 $\pm$ 3mm/min. (EIA-364-09)
Normal Forces	0.7N MIN.	Mate connector with a suitable gauge for each pin at rate of 25.4mm/min. Measure force when the height 1.0mm from mount side. (EIA-364-04)
Vibration	1 $\mu$ s 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 200 Hz. The entire frequency range, from 10 to 200 Hz and return to 10 Hz, shall be traversed in approximately 20 minute. Acceleration: each direction 2.5G This motion shall be applied for 3 hours in each of three mutually perpendicular directions. (EIA-364-28 Condition I)

TITLE: 3.5mm Pitch SPEAKER CONN. SMT TYPE

RELEASE DATE: 2009/10/05

REVISION: O

ECN No: ECN0910004

PAGE: 6 OF 8

### MECHANICAL

Item	Requirement	Standard
Terminal / Housing Retention Force	0.15kgf 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 Hand Soldering Heat	See Product Qualification and Test Sequence Group 9	Soldering iron : 350°C±10°C Duration:3~4sec Max.
Resistance to Reflow Soldering Heat	No deformation of components Affecting performance.	Pre Heat : 150°C~180°C, 60~120sec. Heat : 230°C Min., 40sec Min. Peak Temp. : 260°C Max, 10sec Max.
Thermal Shock	See Product Qualification and Test Sequence Group 3	Mate module and subject to follow condition for 5 cycles. 1 cycles: -40 +0/-3 °C, 30 minutes +105 +3/-0 °C, 30 minutes (EIA-364-32, test condition A)
High Humidity Storage	See Product Qualification and Test Sequence Group 3	Mated Connector to follow condition for 7 cycles. 1 cycles: 40°C, 95%RH, 24H (EIA-364-31, Test condition A)
High Humidity Operation	See Product Qualification and Test Sequence Group 3	Mated Connector 60°C, 90%, 96H Reefer to Method II. (EIA-364-31, Test condition A)
Cold Resistance	See Product Qualification and Test Sequence Group 4	Subject mated connectors to temperature life at -30°C for 96 hours. Measure Signal. (EIA-364-17, Test condition A)
Hot Resistance	See Product Qualification and Test Sequence Group 10	Subject mated connectors to temperature life at 85°C for 96 hours. Measure Signal. (EIA-364-17, Test condition A)

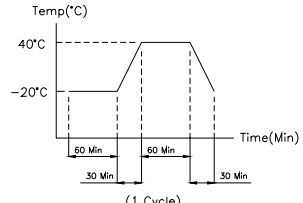
TITLE: 3.5mm Pitch SPEAKER CONN. SMT TYPE

RELEASE DATE: 2009/10/05

REVISION: O

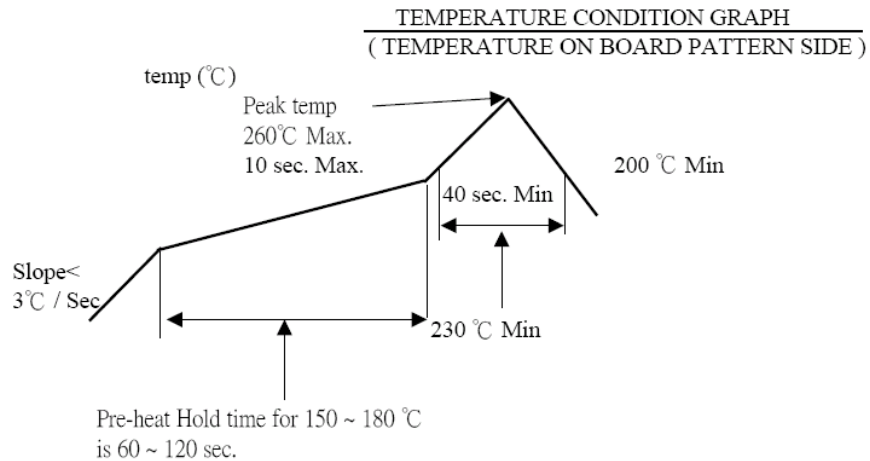
ECN No: ECN0910004

PAGE: **7** OF **8**

Damp heat cycling	See Product Qualification and Test Sequence Group <b>8</b>	Subject specimens to continuous 20cycles.(60H) 1 cycle: -20°C 0%, 1H→ 30min(ramp time) →40°C 40%, 1H 
Salt Spray	See Product Qualification and Test Sequence Group <b>5</b>	Subject mated/unmated connectors to 5% salt-solution concentration, 35°C for <b>8 hours</b> . (EIA-364-26, Test condition B)
Solder ability	Solder able area shall have minimum of 95% solder coverage See Product Qualification and Test Sequence Group <b>6</b>	And then into solder bath, Temperature at <b>245 ±5°C</b> , for <b>4-5 sec</b> . (EIA-364-52)

## 6 INFRARED REFLOW CONDITION

Lead-free Process





TITLE: 3.5mm Pitch SPEAKER CONN. SMT TYPE

RELEASE DATE: 2009/10/05

REVISION: 0

ECN No: ECN0910004

PAGE: **8** OF **8**

## 7 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test or Examination	Test Group										
	1	2	3	4	5	6	7	8	9	10	11
	Test Sequence										
Examination of Product	1、7	1、6	1、7	1、4	1、3			1、3	1、3	1、4	1、3
Low-signal Level Contact Resistance	2、6	2、5	2、10	2、5						2、5	
Insulation Resistance			3、9								
Dielectric Withstanding Voltage			4、8								
Normal Forces	3、5										
Durability	4										
Terminal / Housing Retention Force							1				
Vibration		3									
Shock (Mechanical)		4									
Thermal Shock			5								
High Humidity Storage / High Humidity Operation			6								
Cold Resistance				3							
Salt Spray					2						
Solder ability						1					
Resistance to Soldering Heat									2		
Damp heat cycling								2			
Hot Resistance										3	
Temperature rise											2
Sample Size	4	4	8	4	4	2	4	4	4	4	2