SPECIFICATION

SPEC. NO.： SPEC0396 **REV：** C

DATE： 2008.04.31

PRODUCT NAME： Switchable Receptacle Connector

PRODUCT NO： C90-101-XXXX

S P E E D T E C H C O R P.

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Product Number:	C90-101-XXXX
Product Description:	Switchable Receptacle Connector

1. SCOPE

1.1. Content

This specification covers performance, tests and quality requirements for switchable receptacle connector. These connectors are used to switch signal between internal antenna and external inspection equipment.

2. APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, latest edition of the specification applies. In the event of conflict between requirements of this specification and product drawing, product drawing shall take precedence.

2.1. Commercial standards, specifications and report

2.1.1. MIL-STD-1344A

3. REQUIREMENTS

3.1. Design and Construction

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

3.2. Green product requirement

All of GP product shall be mated ROHS notices and substances (Level 1) forbidden.

3.3. Materials and Finish

3.3.1. Contact : High performance copper alloy
Finish : (a) Contact Area: Gold 5u" min. on contact area
(b) Other area: Gold flush
(c) Underplate: 50u" min. Nickel plated all over
3.3.2. Housing : Nylon, color in black, UL94V-0 rated
3.3.3. Cover : High performance copper alloy
Finish : (a) Contact Area: Gold 5u" min. on contact area
(b) Other area: Gold flush
(c) Underplate: 50u" min. Nickel plated all over

3.4. Ratings

3.4.1. Rated Voltage: AC 36 Vrms

3.4.2. Nominal Characteristic Impedance: 50Ω
3.4.3. Frequency: DC~6GHz
3.4.4. VSWR: 1.2 max. under 3GHz, 1.3 max. 3GHz~6GHz,
3.4.5. Service Temperature: -40~+90℃

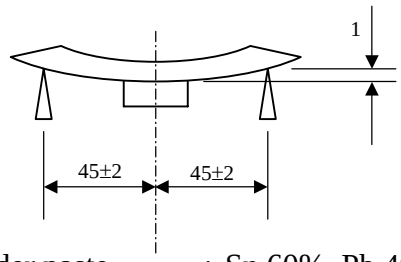
3.5. Performance and Test Description

Product is designed to meet electrical, mechanical and environmental performance requirements specified in Paragraph 3.6. All tests are performed at ambient environmental conditions per MIL-STD-1344A unless otherwise specified.

3.6. Test Requirements and Procedures Summary

Test Description	Requirement	Procedure
Examination of Product	Product shall meet requirements of applicable product drawing and specification.	Visual, dimensional and functional per applicable quality inspection plan.
ELECTRICAL		
Low-Signal Level Contact Resistance	Point1 to point2: 50 mΩ Max. initial 120 mΩ Max. final	MIL-STD-1344A, Method 3002.1 Frequency: 1kHz Current: 100mA max. Voltage drop: 20mV max.
Insulation Resistance	500 MΩ minimum initial	MIL-STD-1344A, Method 3003.1 Apply DC 250±10% Volts between the inner contacts and the outer contact for one minute.
Dielectric Withstanding Voltage	No discharge, flashover or breakdown. Current leakage: 0.5 mA max.	MIL-STD-1344A, Method 3001.1, Test Condition I Apply AC 300+/-20V Vrms between the signal contacts and the ground contact for one minute.
VSWR	1.2 max. DC~3GHz, 1.3 max. 3GHz~6GHz,	Measurement method refer Fig. 1 See Note (a).
Isolation	20dB (DC~3GHz), 15dB (3GHz~6GHz)	Measurement method refer Fig. 2 See Note (a).
Insertion Loss	0.1dB max. (DC~3GHz), 0.2dB max. (3GHz~6GHz)	Measurement method refer Fig. 3 See Note (a).
MECHANICAL		

Mating / Unmating Force	Mating: 30N Max. Unmating: 3N Min. 40N Max.	Mate connector with a suitable gauge at rate of 25 mm/min. Measure force when gauge reaches surface of connector. MIL-STD-1344A, Method 2012.1
Durability	500 cycles. See Note (b).	The sample should be mounted in the tester and fully mated and unmated the number of cycles specified at the rate of 12 cycles/min MIL-STD-1344A, Method 2016
Vibration, Random	No electrical discontinuity greater than 1 μ second. See Note (b).	The electrical load condition shall be 100 mA maximum for all contacts. Subject to a simple harmonic motion having an amplitude of 1.5mm (3mm 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 2 hours. This motion shall be applied for 1 cycles in each of three mutually perpendicular directions. MIL-STD-1344A, Method 2005.1
Physical Shock	No electrical discontinuity greater than 1 μ second. See Note (b).	Subject mated receptacle connectors to 75 G's (peak value) half-sine shock pulses of 6 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. MIL-STD-1344A, Method 2004.1, Condition E

Intensity of bend	No excoriation of electrode terminal	Soldering test sample with test PCB, Measurement as follows. 1. Thickness of PCB :1.6mm 2. Speed :1.0mm/s 3. Bend :1.0mm 4. Time :30s 5. Direction of force  6. Solder paste : Sn 60%, Pb 40% 7. Thickness of solder paste :150 μ m
ENVIRONMENTAL		
Temperature Cycling	See Note (b).	Apply the following environment to the mating connector -40℃(30min.) → +20~35℃(5min.) → +85℃(30min.) → +20~35℃(5min.) Transition time: 5min., 50 cycles MTL-STD-1344A, Method 1003.1
Humidity	See Note (b).	Subject mated receptacle connectors to humidity of +60℃ and 95% RH for 96 hours. Measurements should be done within 2 hours after removal from humidity. MIL-STD-1344A, Method 1002.2
Solderability	Solderable area shall have minimum of 95% solder coverage.	Subject the test area of contacts into flux for 5~10 seconds and then into solder bath, controlled at 260±5℃, for 3±0.5 seconds. EIA-364-52.
Resistance to Soldering Heat	No physical abnormalities shall be present after the test.	Convection reflow condition: Refer to Fig. 4
		Work done by hand: Subject the test area of contacts into flux for 5~10 seconds and then into solder bath, controlled at 350±5℃, for 3±0.5 seconds. EIA-364-56.

(a) It must using reflow soldering to mount DUT on the PCB, the detail of soldering condition refer to Fig. 4

(b) Shall meet visual requirements, show no physical damage and shall meet requirements of additional tests as specified in Test Sequence in Figure 1.

3.7. Product Qualification and Test Sequence

Test or Examination	Test Group							
	1	**2**	**3**	**4**	**5**	**6**	**7**	
	Test Sequence							
Examination of Product	1,7	1,6	1,10	1	1,3	1,3	1,3	
Low-Signal Level Contact Resistance	2,6	2,5	2,7					
Insulation Resistance			3,8					
Dielectric Withstanding Voltage			4,9					
VSWR				2				
Isolation				4				
Insertion Loss				3				
Vibration		3						
Physical Shock		4						
Mating / Unmating Force	3,5							
Durability	4							
Temperature Cycling			5					
Humidity			6					
Intensity of bend							2	
Solderability					2			
Resistance to Soldering Heat						2		
Sample Size	**5**	**5**	**5**	**5**	**3**	**5**	**5**	

Figure 1

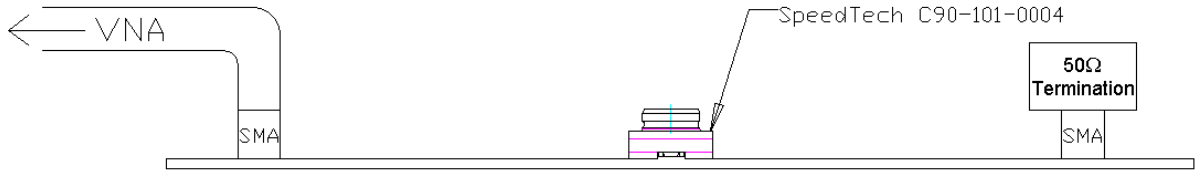


Fig. 1 VSWR Test

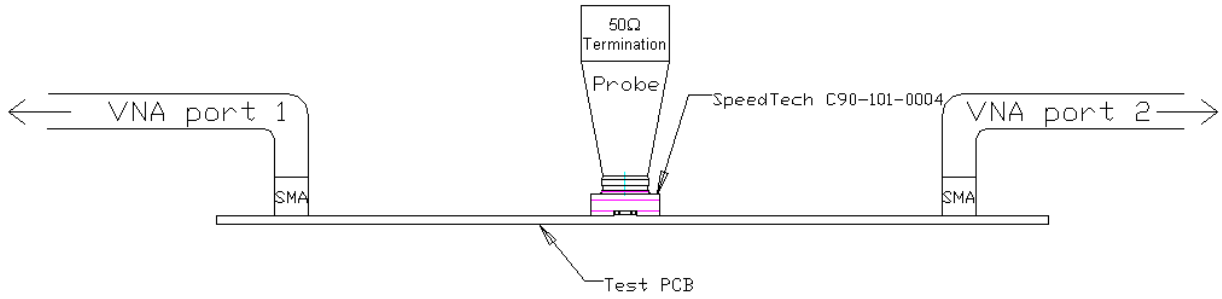


Fig. 2 Isolation Test

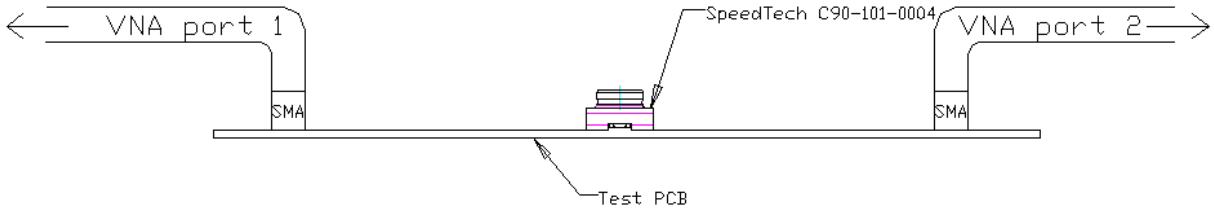


Fig. 3 Insertion Loss Test

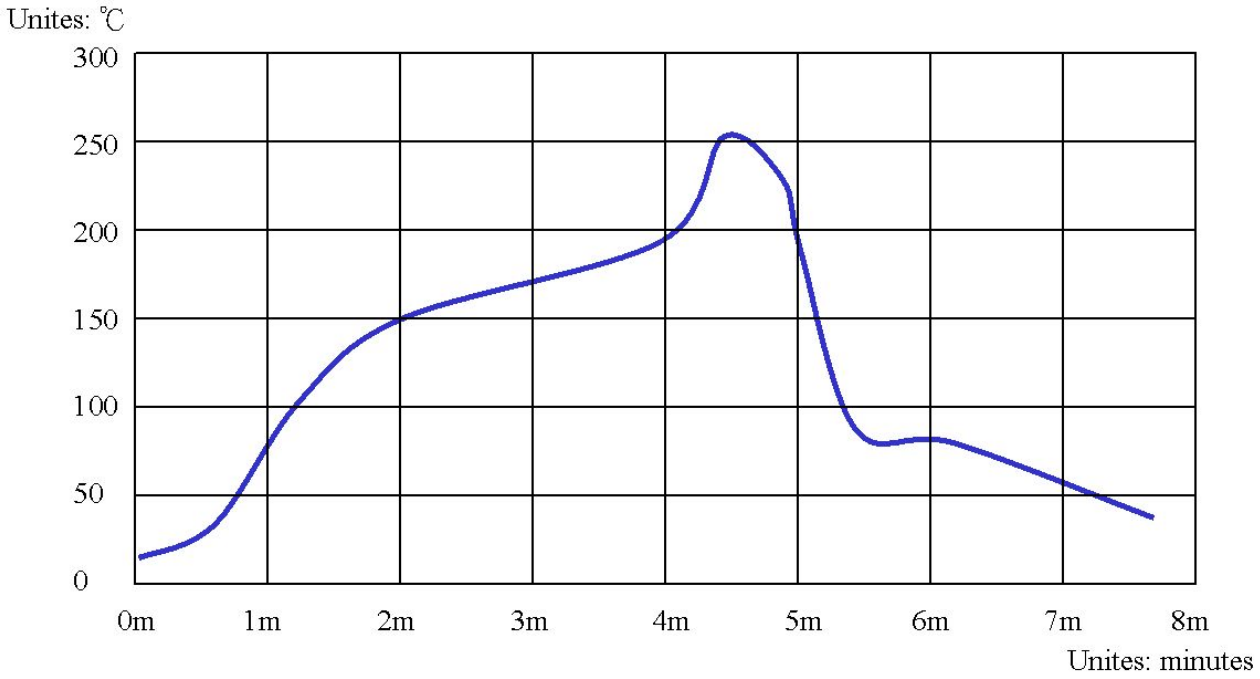
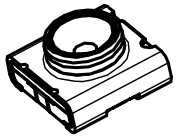


Fig. 4 Soldering Condition

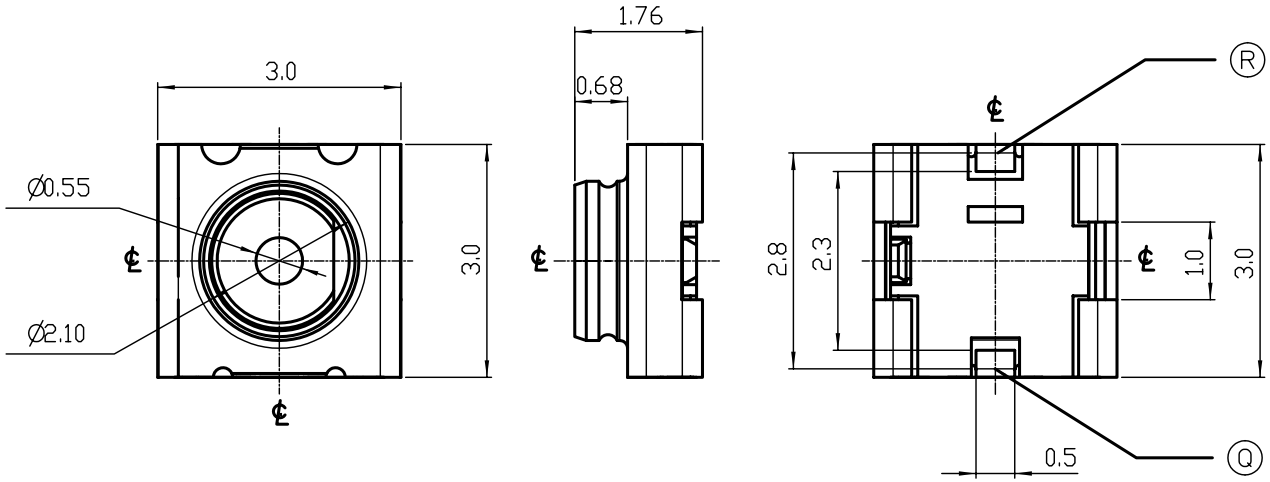
DCC ISSUE	REV	MODIFICATION	DATE	DRAW	APPROVE
Speed Tech MAR 24 2006 D.C.C. 發行	A	EN0408025	10-Aug-04	Jerome	Y.J.
	B	EN0603082	22-Mar-06	Jerome	Y.J.

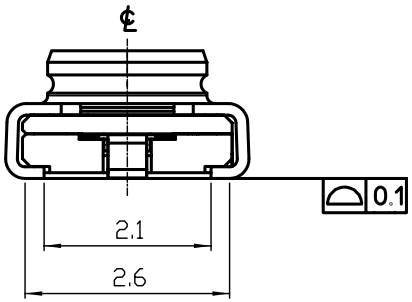


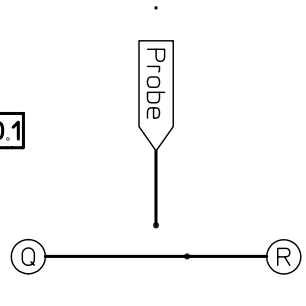
Notes:
1.Material:
Contact: High Performance Copper Alloy
Shielding Cover: High Performance Copper Alloy
Housing: Engineering Plastic, UL94V-0 Rated
2.Finish:
Contact: 50u" Nickel Underplating Overall.
5u" Gold on Contact Area
Gold Flash on Soldering Area

Shielding Cover: 50u" Nickel Underplating Overall.
5u" Gold on Contact Area
Gold Flash on Soldering Area
P/N:C90-101-00X4

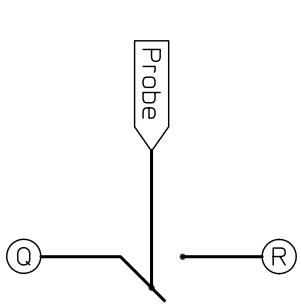
Package:
0 Without Cap
1 With Cap



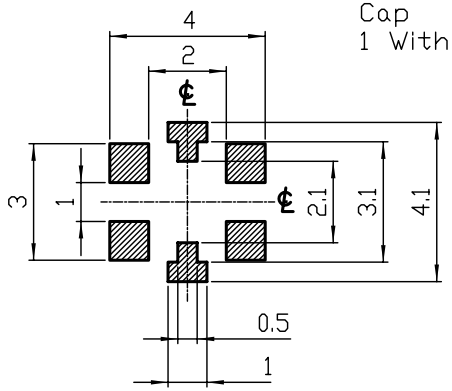




Normal State



Probe Plug in State



Recommand PCB Layout

DIMENSION IN mm [Inch]	PROD. SPEC.	SPEED TECH CORP.		
TOLERANCE UNLESS OTHERWISE SPECIFIED	SPEC0396			
.X± 0.25 X.°± 5°	PKG. SPEC.	FILE NO.	DWG NO.	
.XX± 0.10 .X°± 3°	AAA-C90-0101		C90-101	
.XXX±				
TITLE Switchable Receptacle Connector			CUSTOMER DRAWING	
APPROVE Y.J.	CHECK Jerome	DRAW Jerome	PROJ.	SHEET 1 / 1
			SCALE 10:1	SIZE A4 REV B

单击下面可查看定价，库存，交付和生命周期等信息

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