



PRODUCT SPECIFICATION

PRODUCT SPECIFICATION FOR SMT SHIELDED JACKS

1.0 SCOPE

This specification covers the Molex shielded product line which comprises a shield plug (male) and a jack (female) I/O type connector. This system contains internal shield to provide enhanced ESD protection. Where applicable, tests are in accordance with, or in excess of, all the requirements specified in standard CEI/IEC 60603-7-1, FCC Part 68, PE-76.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME.

SMT R/A Shielded jack with side solder tabs.	95540-****
SMT R/A Shielded jack with thru-hole solder pegs.	95540-****
Top Entry Shielded jack with thru-hole solder pegs	95552-****

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate Sales Drawings for information on materials, platings and markings.

2.3 VISUAL INSPECTION

Visually inspect parts for cracks, flash, loose material and other imperfections.

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

See the appropriate Sales Drawings and the other sections of this Specification for the necessary referenced Documents and Specifications.

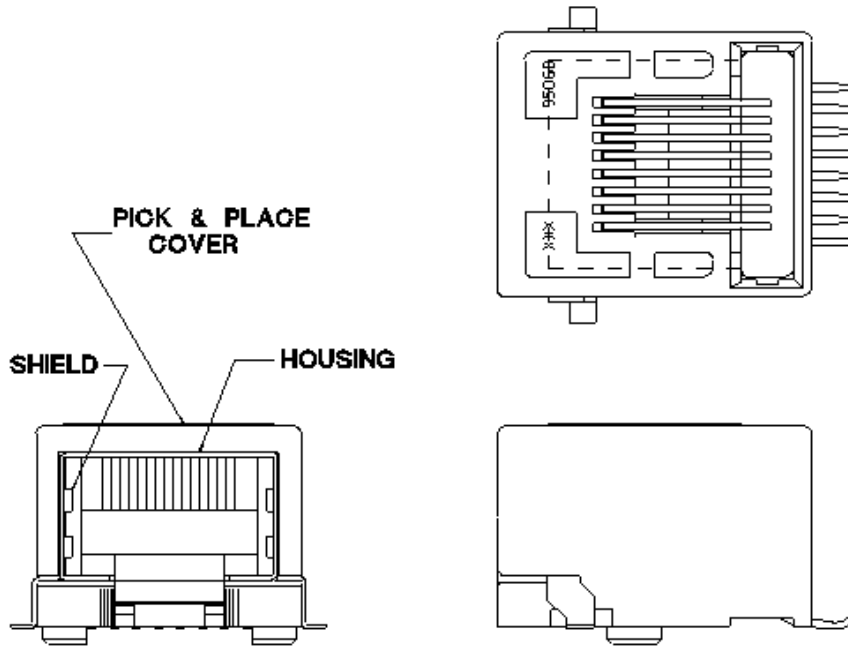
IEC 60603-7-1
FCC PART 68
TIA/EIA 568-C

REVISION: C	ECR/ECN INFORMATION: EC No: E2011-0159 DATE: 2011 / 01 / 15	TITLE: PRODUCT SPECIFICATION FOR SHIELDED JACKS SYSTEM	SHEET No. 1 of 9
DOCUMENT NUMBER: PS-95540-002		CREATED / REVISED BY: D.Byrnes	CHECKED BY: A.Higgins
		APPROVED BY: E.Folan	

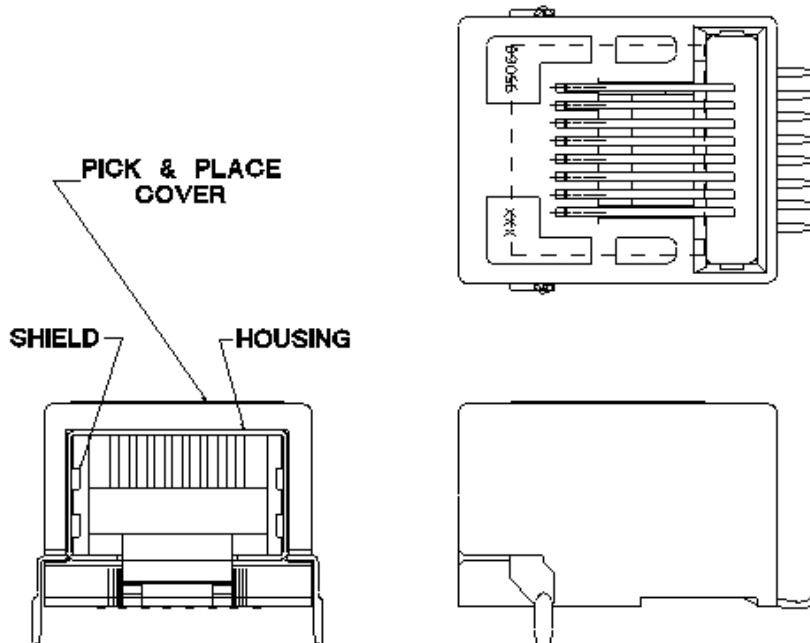


PRODUCT SPECIFICATION

SOLDER TABS VERSION SHOWN



THROUGH HOLE SOLDER PEGS VERSION SHOWN

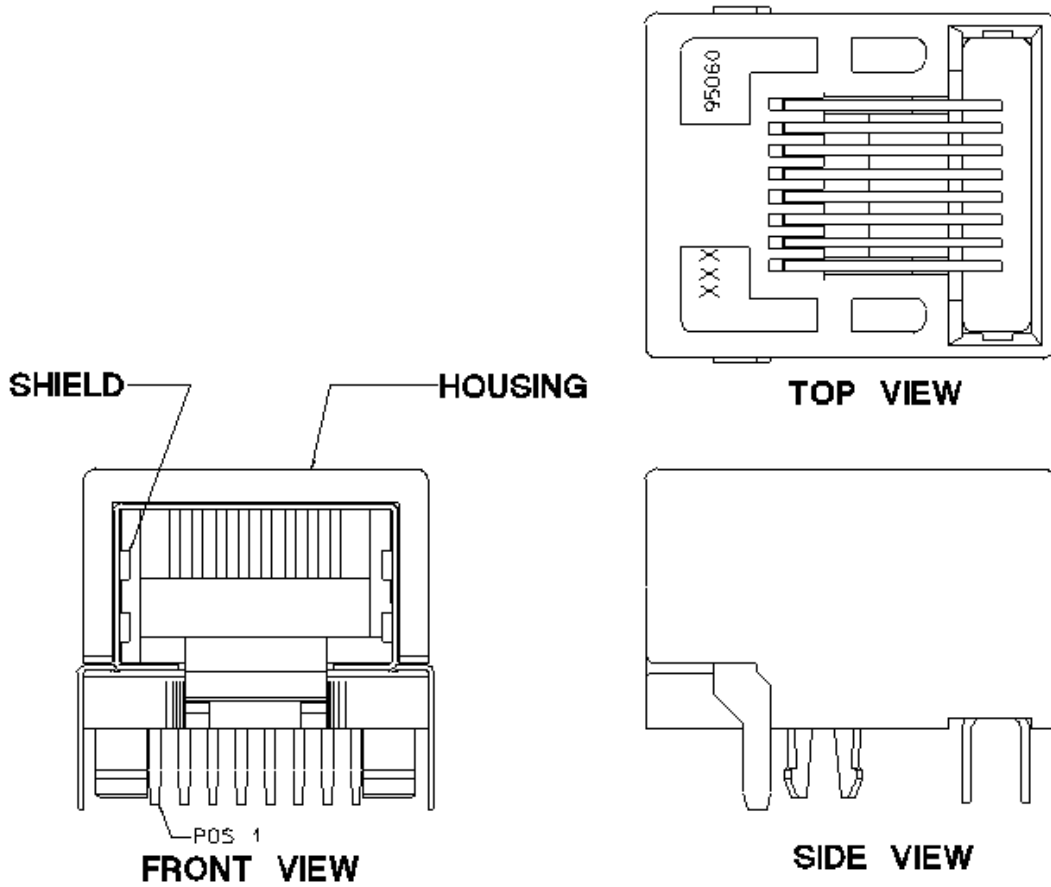


REVISION: C	ECR/ECN INFORMATION: EC No: E2011-0159 DATE: 2011 / 01 / 15	TITLE: PRODUCT SPECIFICATION FOR SHIELDED JACKS SYSTEM	SHEET No. 2 of 9
DOCUMENT NUMBER: PS-95540-002	CREATED / REVISED BY: D.Byrnes	CHECKED BY: A.Higgins	APPROVED BY: E.Folan



PRODUCT SPECIFICATION

THROUGH HOLE VERSION SHOWN.



4.0 RATINGS

4.1 VOLTAGE

125 Volts DC

4.2 CURRENT

1.5 Amps

4.3 TEMPERATURE

Operating: - 40° C to + 80° C

Non operating: - 40° C to + 80° C

REVISION: C	ECR/ECN INFORMATION: EC No: E2011-0159 DATE: 2011 / 01 / 15	TITLE: PRODUCT SPECIFICATION FOR SHIELDED JACKS SYSTEM	SHEET No. 3 of 9
DOCUMENT NUMBER: PS-95540-002	CREATED / REVISED BY: D.Byrnes	CHECKED BY: A.Higgins	APPROVED BY: E.Folan



PRODUCT SPECIFICATION

5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	CONTACT RESISTANCE. Conditions: IEC 60512, Test 2a	Mate connectors: Test at 100milli A max current, 20 milli V a.c. peak, max Open circuit voltage (see Section 7).	Initial 20 milli Ω max Final \leq 10 milli Ω max change from initial.
2	INSULATION RESISTANCE. Conditions: IEC 60512, Test 3a, Method A.	Mate connector: mounted to a PCB: apply a voltage of 500V d.c. in turn between each terminal being tested and all others connected together and ground.	500 Mega Ω minimum
3	DIELETRIC WITHSTAND VOLTAGE. Conditions: IEC 60512, Test 4a, Method A	Mate connectors: apply a voltage of 1000 V d.c or a.c Peak, for 1 minute between adjacent terminals and between terminals and ground.	No breakdown; current leakage < 5 milli A.

REVISION: C	ECR/ECN INFORMATION: EC No: E2011-0159 DATE: 2011 / 01 / 15	TITLE: PRODUCT SPECIFICATION FOR SHIELDED JACKS SYSTEM	SHEET No. 4 of 9
DOCUMENT NUMBER: PS-95540-002	CREATED / REVISED BY: D.Byrnes	CHECKED BY: A.Higgins	APPROVED BY: E.Folan



PRODUCT SPECIFICATION

5.2 MECHANICAL REQUIREMENTS

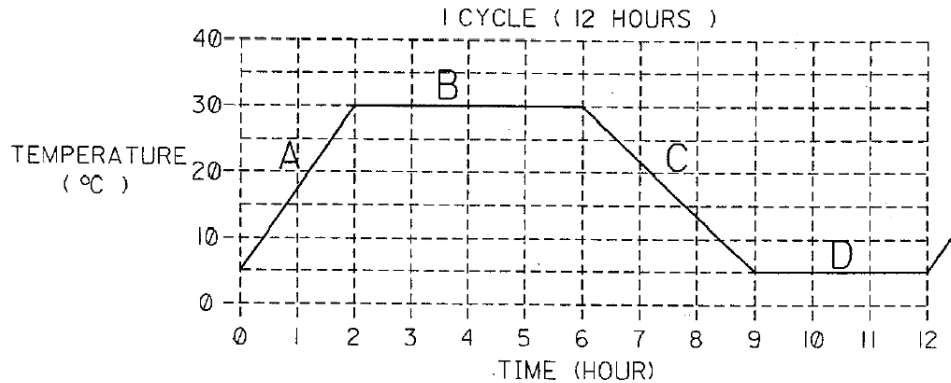
ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
4	CONNECTOR INSERTION AND WITHDRAWAL FORCES Conditions: IEC 60512, Test 13b Connector locking device depressed.	Insert and withdraw a plug at a rate of 25±6 mm per minute.	Insertion force 20 N maximum & Withdrawal force 20 N maximum
5	MODULE RETENTION FORCE (in Housing)	Axial pullout force on the terminal in the housing at a rate of 25 ± 6 mm (1 ± 1/4 Inch) per minute.	20 N (4.4 lbf) MINIMUM retention force
6	JACK RETENTION FORCE ON P.C BOARD	Axial pullout force on the Jack on the P.C. Board at a rate of 25 ± 6 mm (1 ± 1/4 inch) per minute.	Min. Retention Force 100 N (22 lb)
7	DURABILITY Conditions: IEC 60512-5, Test 9a.	Mate connectors up to 750 cycles(Au) or 2,500 cycles(PdNi) at a maximum rate of 20 cycles per minute. Cycle by hand.	Contact Resistance: 10 milli Ω MAXIMUM (change from initial)
8	VIBRATION Conditions: IEC 60512-6-4, Test 6d.	Amplitude: 1.50 mm peak to peak 10-55-10Hz in 60 sec cycles for 2 hours on each axis, X-Y-Z	Meets contact resistance test, Shall remain mated and show no sign of damage. No discontinuities ≤ 1µs.
9	SHOCK (MECHANICAL) Conditions: IEC 60068-2-27	50 g's with 3 saw tooth waveform shocks in each ±X, ±Y, ±Z axes, 11 ms pulse. (18 shocks in total)	Contact Resistance: 10 milli Ω Maximum (Change from initial) & Discontinuity < 1 microsecond

REVISION: C	ECR/ECN INFORMATION: EC No: E2011-0159 DATE: 2011 / 01 / 15	TITLE: PRODUCT SPECIFICATION FOR SHIELDED JACKS SYSTEM	SHEET No. 5 of 9
DOCUMENT NUMBER: PS-95540-002	CREATED / REVISED BY: D.Byrnes	CHECKED BY: A.Higgins	APPROVED BY: E.Folan



PRODUCT SPECIFICATION

5.3 ENVIRONMENTAL REQUIREMENTS



ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
10	HUMIDITY (Cyclic)	Mate connectors exposed for 10 cycles at 90 to 95% relative humidity with a transition time of 2 hours when increasing and of 3 hours when decreasing the temperature. Temperature Duration +5°C 3 hours +30°C 4 hours	Appearance: No damage Dielectric withstanding voltage: No Breakdown Insulation Resistance: 500 Mega Ω minimum
11	COLD RESISTANCE	-40 + -3°C for 96 hours.	Appearance: No damage Contact Resistance: 10 milli Ω max change from initial.
12	SOLDERABILITY Per IEC 60512-6 Test 12A	Solder Bath 260+0/-5°C Immersion Time 2,0 +/- 0.5s For recommended Reflow Profile (See Pg. 8)	The Dipped surface shall be covered with a smooth and bright solder coating. Some imperfections are acceptable but NOT concentrated in the same area.

REVISION: C	ECR/ECN INFORMATION: EC No: E2011-0159 DATE: 2011 / 01 / 15	TITLE: PRODUCT SPECIFICATION FOR SHIELDED JACKS SYSTEM	SHEET No. 6 of 9
DOCUMENT NUMBER: PS-95540-002	CREATED / REVISED BY: D.Byrnes	CHECKED BY: A.Higgins	APPROVED BY: E.Folan

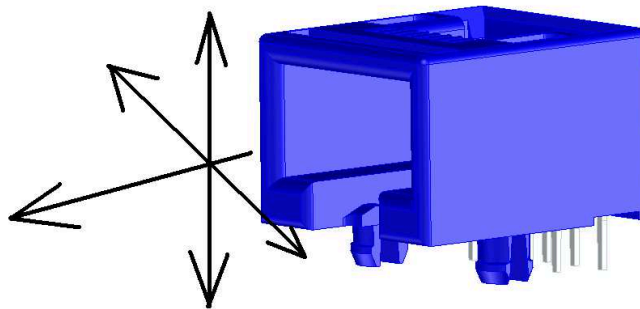
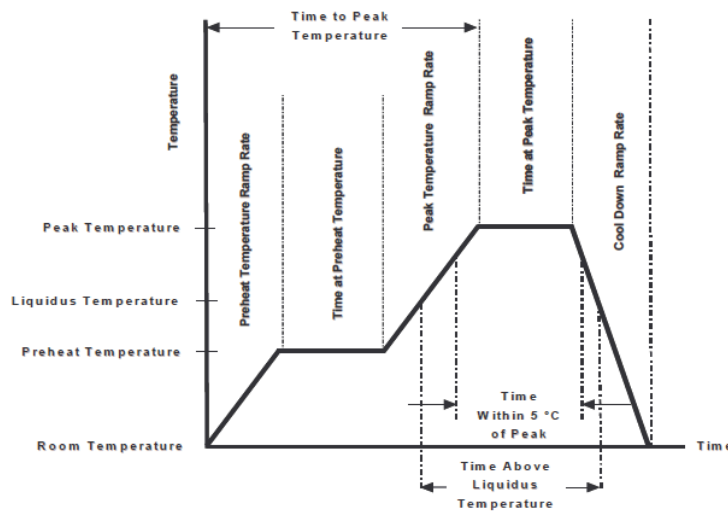


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RECOMMENDED

REFLOW SOLDERING SIMULATION PEAK PROFILE REFLOW AT 260 °C

DESCRIPTION	REQUIREMENT
Solder Type	None
Solder Flux Type	None
Paste Flux Type	None
Average Ramp Rate	3 °C/second maximum
Preheat Temperature	150 °C minimum; 200 °C maximum
Preheat Time	60 to 180 seconds
Ramp to Peak	3 °C/second maximum
Time over Liquidus (217 °C)	60 to 150 seconds
Peak Temperature	260 °C +0/-5 °C
Time within 5 °C of peak	20 to 40 seconds
Ramp – Cool Down	6 °C/second maximum
Time 25 °C to Peak	8 minutes maximum



JACK RETENTION ON P.C. BOARD (axial Pullout directions)

REVISION: C	ECR/ECN INFORMATION: EC No: E2011-0159 DATE: 2011 / 01 / 15	TITLE: PRODUCT SPECIFICATION FOR SHIELDED JACKS SYSTEM	SHEET No. 7 of 9
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6.0 TEST SEQUENCE

	I	II	III	IV	V	VI
	Sample size 10	Sample Size 10	Sample Size 20**	Sample Size 10	Sample Size 2	Sample Size 40***
INSPECTION OF PRODUCT	1	1	1	1	1	1
CONTACT RESISTANCE	2, 5, 7		2, 5	2, 4		
DIELECTRIC WITHSTAND VOLTAGE		2, 6				
INSULATION RESISTANCE		3, 7				
DURABILITY	4	4				
SHOCK (MECHANICAL)			4			
COLD RESISTANCE				3		
SOLDERABILITY					2	
VIBRATION			3			
HUMIDITY (CYCLIC)	6	5				
INSERTION & WITHDRAWAL FORCES	3, 8					
JACK RETENTION FORCE ON P.C. BOARD						2

NB: NUMBERS DENOTE THE ORDER IN WHICH THE TESTS ARE PERFORMED.

*10 connectors for Dielectric Withstand Voltage (DWV)

10 connectors for contact resistance, durability and temperature/humidity cycling.

** Vibration:

10 connectors for low level contact resistance,

10 connectors monitored for discontinuity

***Jack retention axial test – 5 direction x 8 connectors

REVISION: C	ECR/ECN INFORMATION: EC No: E2011-0159 DATE: 2011 / 01 / 15	TITLE: PRODUCT SPECIFICATION FOR SHIELDED JACKS SYSTEM	SHEET No. 8 of 9
DOCUMENT NUMBER: PS-95540-002	CREATED / REVISED BY: D.Byrnes	CHECKED BY: A.Higgins	APPROVED BY: E.Folan



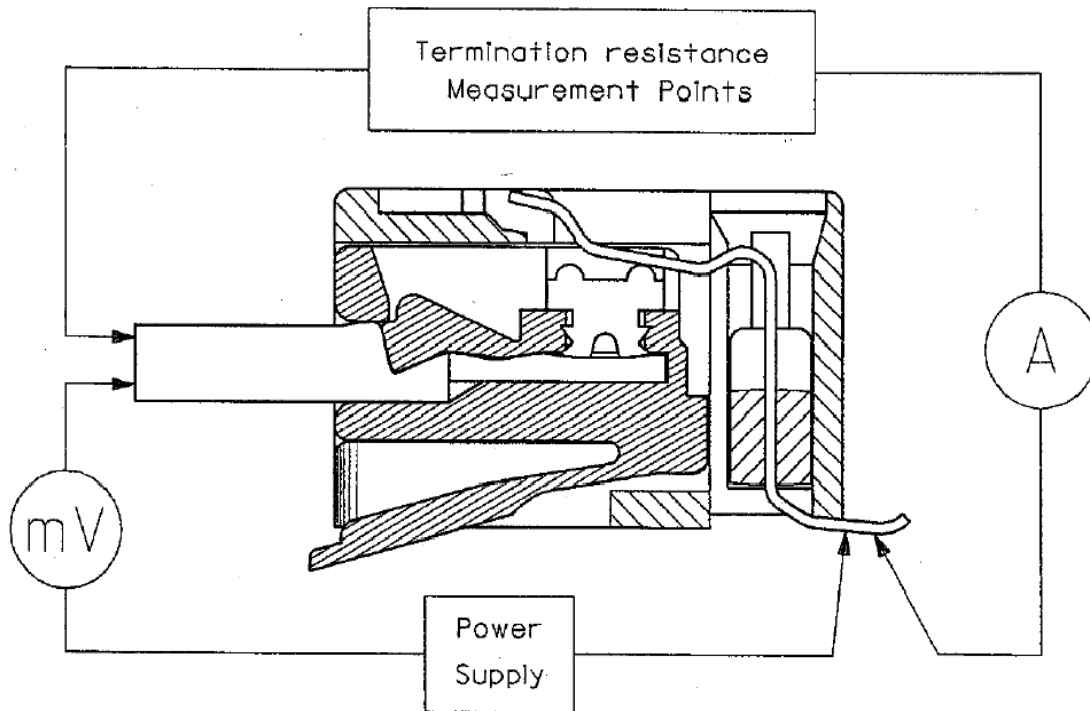
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7.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage. (Refer to sales drawings).

8.0 GAUGES AND FIXTURES

Termination Resistance Measurement Points



System resistance equals millivolt drop (mV) divided by test current (A)
(Conductor resistance will be deducted from measurement.)

9.0 QUALITY ASSURANCE PROVISIONS

The applicable Molex inspection plan specifies the sampling acceptable quality level to be used. Dimensioned and functional requirements shall be in accordance with applicable product drawings and this specification.

REVISION: C	ECR/ECN INFORMATION: EC No: E2011-0159 DATE: 2011 / 01 / 15	TITLE: PRODUCT SPECIFICATION FOR SHIELDED JACKS SYSTEM	SHEET No. 9 of 9
DOCUMENT NUMBER: PS-95540-002	CREATED / REVISED BY: D.Byrnes	CHECKED BY: A.Higgins	APPROVED BY: E.Folan