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Jameco Part Number 1962148



PRODUCT SPECIFICATION



LANGUAGE
ENGLISH

1.0 SCOPE

This specification covers the Molex 8981 series (2.13)/.084 diameter P.C. tail pin terminal and associated wafer for right angle and vertical printed circuit board mounted power connectors.

2.0 PRODUCT DESCRIPTION

2.1 Product Name and Part Numbers

The product is a 4 ckt printed circuit board mounted power connector, and is available in either a right angle or vertical mount configurations. The part numbers and product descriptions covered by this specification are as follows:-

Part Number	Product Description
8981-4V*	Vertical Mount 4 Circuit Power Plug Header
8981-4R*	Right Angle 4 Circuit Power Plug Header

2.2 Dimensions, Materials, Platings and Markings

Please refer to the appropriate Sales Drawings (No.s SDA-8981-4R* and SDA-8981-4V*) for information on dimensions and markings.

- 2.2.1 Pins : Phosphor bronze, pretinned
- 2.2.2 Housings : Thermoplastic Color : Natural

3.0 APPLICATION DOCUMENTS AND SPECIFICATIONS

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

REV	B3	B3	B3	B3															
SHT	1	2	3	4															
REVISE ON PC ONLY							TITLE												
							4 CKTS, POWER CONNECTORS,												
B3							VERTICAL AND R/A, 8981 SERIES												
Release per ECN# S2001-0257							THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION												
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DOCUMENT NO.																	FILE NAME	SHT NO.	
PS-8981-4V*																	PS8981.LWP	1 OF 4	
ES-40000-3996 REV. A SHEET 3 95/MAR/10 EC U5-0926 DCBRD03.SAM																			



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4.0 RATINGS

4.1 Vertical Mount Voltage/Current : 250 VAC @ 10 amps
Right Angle Mount Voltage/Current : 250 VAC @ 6.5amps

4.2 Operating Temperature Range : -40 to 105 degree C

5.0 PERFORMANCE

5.1 ELECTRICAL PERFORMANCE

	ITEM	TEST CONDITION	REQUIREMENT
5.1.1	Dielectric Withstanding Voltage	1500 VAC RMS between adjacent pins of header assembly for 1 minute.	No Breakdown
5.1.2	Insulation Resistance	250 VDC between adjacent pins of header assembly	500 Megaohms
5.1.3	Contact Resistance (Dry Circuit)	50 mV at 100mA max current is applied to a single circuit of two mated connectors. (See Figure 1)	1.5 milliohms maximum (initial value)

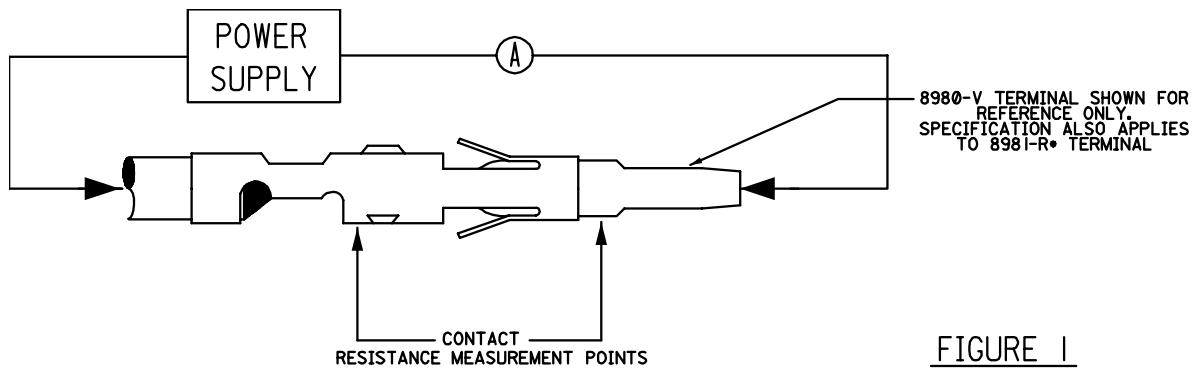


FIGURE 1

REVISE ON PC ONLY		TITLE	4 CKTS, POWER CONNECTORS, VERTICAL AND R/A, 8981 SERIES	
B3	SEE SHEET 1			
REV	DESCRIPTION	THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		
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5.2 MECHANICAL PERFORMANCE

	ITEM	TEST CONDITION	REQUIREMENT
5.2.1	Vibration	10-55-10 Hz is transferred in one minute at an amplitude of 1.5mm peak to peak for 2 hours in each of 3 mutually perpendicular axes.	No discontinuities exceeding 10 micro-seconds in duration
5.2.2	Mechanical Shock	Three 50 G sawtooth waveform shocks, 10 milliseconds in duration are applied to mated connectors in both positive and negative direction along 3 mutually perpendicular axes. Total 18 shocks.	No discontinuities exceeding 10 micro-seconds in duration
5.2.3	Durability	Connectors are mounted in appropriate fixture and subjected to 50 mating/unmating cycles.	1.7 milliohms contact resistance after testing
5.2.4	Mating Force	The connectors are mounted in appropriate fixtures and mated at a rate of 1.25mm per minute to a depth of 2.5mm. Force is measured only after initial mechanical engagement between terminals.	4.0 lbs maximum per contact (initial value) Note: Test results should not include forces generated by the housing detents.
5.2.5	Unmating Force	The connectors are unmated at the rate of 12.5mm per minute.	1.5 lbs minimum per contact after 50 mating/unmating cycles. Note: Test results should not include forces generated by the housing detents.
5.2.6	Contact Retention to Housing	Vertical Mount Housing Force is applied axially on the p.c. tail at a rate of 12.5mm per minute. Right Angle Mount Housing Force is applied axially on the p.c. tail at a rate of 12.5mm per minute.	Vertical Mount Housing 18 N minimum without dislodging the pin from the housing. Right Angle Mount Housing 22 N minimum without dislodging the pin from the housing
5.2.7	Receptacle Retention to P.C. Board (applies to 8981-4R* only)	Force is applied in the direction indicated in the figure 2 at a rate of 25mm per minute.	90 N minimum retention force.

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DOCUMENT NO. PS-8981-4V*		FILE NAME PS8981.LWP	SHEET 3	
ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.SAM				



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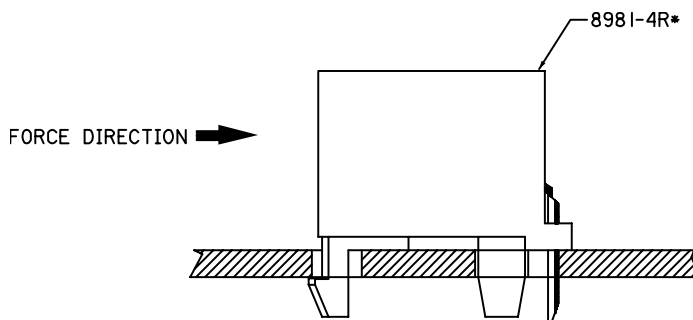


FIGURE 2

5.3 ENVIRONMENTAL PERFORMANCE

	ITEM	TEST CONDITION	REQUIREMENT
5.3.1	Temperature Rise	Measure the temperature rise at the maximum rated current and voltage	30° C max
5.3.2	Thermal Shock	Mated connectors are subject to 25 cycles from -40 to 80° C at 1/4 hour minimum per 1/2 cycle.	Dielectric Withstanding Voltage: 1500 VAC RMS Contact Resistance: 1.75 milliohms
5.3.3	Humidity	Receptacle and header connectors are subjected to 96 hours of 95-100% R.H. at a temperature of 40+/- 2° C	Insulation Resistance: 500 Megaohms Contact Resistance: 2.0 milliohms
5.3.4	Solderability	Dip soldertails into flux, followed by molten solder at 230+/- 5° C to within 1.2mm of the mounting surface for 3 seconds.	Minimum coverage of soldertails by fresh solder; 75%
5.3.5	Resistance to Solder Heat	Mount connector onto 1.2mm thick PCB and dip soldertail leads into molten solder at 260+/- 5° C for 5 seconds.	No loosening of the terminals nor deformation of the connector housing beyond any dimensions specified in the Sales Drawings.

REVISE ON PC ONLY

B3

SEE SHEET 1

TITLE

**4 CKTS, POWER CONNECTORS,
VERTICAL AND R/A, 8981 SERIES**

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REV

DESCRIPTION

DOCUMENT NO.

PS-8981-4V*

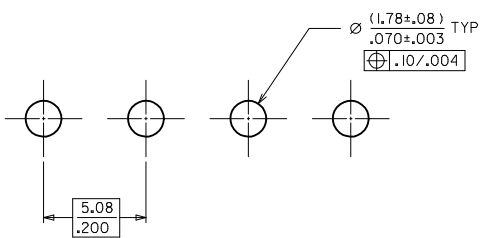
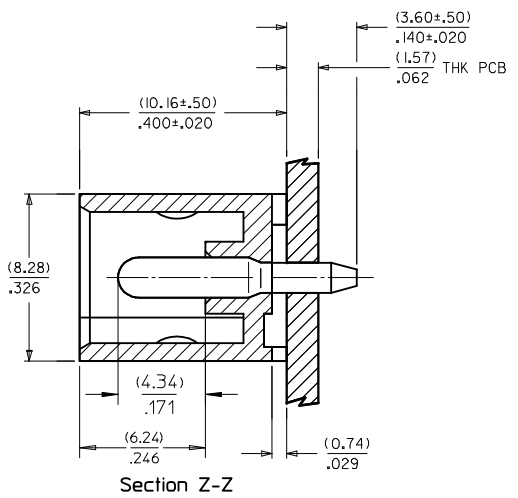
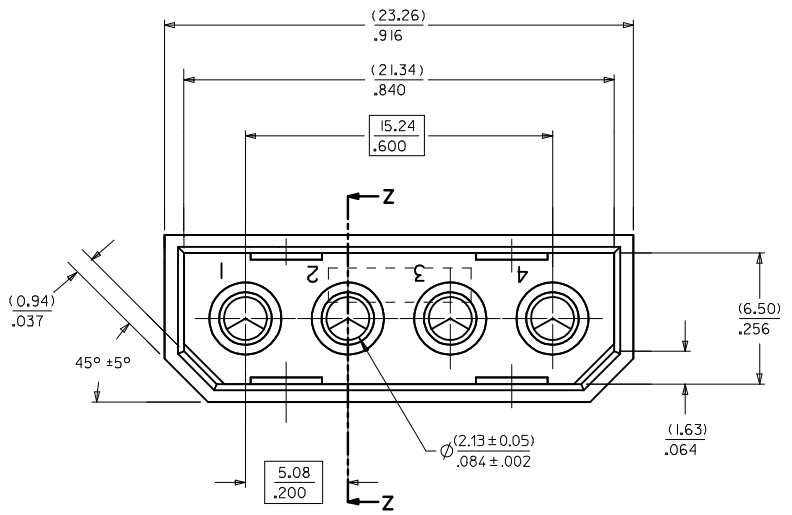
FILE NAME

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SHEET

4

MAT'L NO.	ENG NO.
15-24-4449	A-8981-4V-LF



RECOMMENDED P C B HOLE LAYOUT

NOTES:

- PART TO MATE WITH HOUSING 8981-4P AND TERMINAL 8980-3*.
- PRODUCT SPEC. PS -8981-4V* APPLIES

MATERIAL :

HOUSING : NYLON 6/6. UNFILLED, 94V-2. COLOR - BEIGE.
 TERMINAL : PHOSPHOR BRONZE, C51000
 PLATING : POSTPLATE (0.00254)/.000100 MIN. TIN OVER
 (0.00127)/.000050 MIN. NICKEL OVERALL

UPDATES VIEW EC NO: S2009-0150 DRWN:SKANG 2008/09/19 CHKD:ATSEE 2008/09/19 APPR:MLONG 2008/09/19	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
	▽=0 Ⓢ=0	mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± .008 2 PLACES ± 0.20 ± --- 1 PLACE ± --- ± --- ANGULAR ± 3 °	MM/IN	NTS	METRIC	
	DESCRIPTION	DRAWN BY DATE	TITLE	MOLEX INCORPORATED SDA-8981-4V		
	REV	CHECKED BY DATE	APPROVED BY DATE	MATERIAL NO.	DOCUMENT NO.	SHEET NO.