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Jameco Part Number 734688

MOLEX SINGAPORE PTE LTD

PRODUCT SPECIFICATION

POWER CONNECTOR
4 CIRCUITS , WIRE-TO-WIRE CONNECTION

ORIGINAL

24 Nov 1994

DOCUMENT
CONTROL

D	RE-WRITE SPECIFICATION	S50238	JWAN	941118	
C	REVISED	S1421	SK	900205	
B	REVISED	S1189	SK	890925	
A	RTM	S0074	CK	890925	
3	REVISED	0184	AT	870619	
2	REVISED	0078	AT	870115	
1	PRELIMINARY RELEASE	0075	AT	870106	
LTR	REVISION RECORD	ECN#	BY	DATE	
Prep'd By:	Chk'd By:	App'd By:	Product Spec. No.	Sheet	Rev
C.K.KHNG	T.AUYONG	R. KHNG	PS-8981-4M*/4P*	1 of 5	D

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PRODUCT SPECIFICATION

1.0 SCOPE

This specification covers the (2.13mm)/.084" diameter pin and socket terminal for UL1007 style cables and associated housings for a wire-to-wire power connector.

2.0 PRODUCT DESCRIPTION

2.1 The product is a 4-circuit wire-to-wire power connector. The product part number series covered by this specification are 8980 and 8981 followed by the following suffixes:-

<u>Part Number</u>	<u>Description</u>
8980-2*	Socket Terminal (Brass, Tin Over Copper Plating)
8980-3*	Socket Terminal (Phosphor Bronze, Tin Over Copper Plating)
8980-4*	Pin Terminal (Phosphor Bronze, Tin Over Copper Plating)
8980-6*	Pin Terminal (Phosphor Bronze, Tin/Lead Over Nickel Plating)
8980-4P*	Receptacle Housing
8980-4M*	Header Housing

2.2 For dimensions, materials, platings & markings, refer to the appropriate Sales Drawings.

3.0 APPLICATION DOCUMENTS AND SPECIFICATIONS

MIL-STD-202 Test Methods For Electronic And Electrical Component Parts.

MIL-STD-1344 Test Methods For Electrical Connectors

EIA Standard Electrical Connector Test Procedure

4.0 RATINGS

4.1 Voltage Rating: 250 VAC

4.2 Current Rating: 14 AWG - 10 AMPS
16 AWG - 10 AMPS
18 AWG - 8 AMPS
22 AWG - 6 AMPS



4.3 Operating Temperature: -10 to 85 degrees C

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5.0 PERFORMANCE

5.1 Electrical Performance

<u>Item</u>	<u>Test Condition</u>	<u>Requirement</u>
Contact Resistance	Mate connectors with a maximum voltage of 20 mV and a current of 100 mA	25 mOhms max. initial.
Insulation Resistance	Mate connectors with a voltage of 250 VDC between adjacent terminals.	1000 MOhms min.
Dielectric Withstand- ing Voltage	Mate connectors with a voltage of 250 VAC for 1 minute between adjacent terminals	No breakdown

5.2 Mechanical Performance

<u>Item</u>	<u>Test Condition</u>	<u>Requirement</u>
Connector Mate/Unmate Force	Mate and unmate a connector at a rate of 13+/-6mm per minute.	Mate Force: 10 Kg max. Unmate Force: 2.5 Kg min.
Terminal Retention Force in Housing	Apply an axial pull-out force on the terminal at a rate of 25+/-6mm per minute.	4.5 Kg min. without dislodging from housing.
Durability	Mate connectors up to 50 cycles at a rate of 25+/-6mm per minute.	Contact resistance: 25 mOhms max.
Vibration	Amplitude: 1.5mm peak to peak. Sweep: 10-55-10 Hz in 1 minute. Duration: 2 hours in each X-Y-Z axis.	Contact resistance: 25 mOhms max. Discontinuity not greater than 1 micro-second.



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5.2 Mechanical Performance (Continue...)

<u>Item</u>	<u>Test Condition</u>	<u>Requirement</u>
Mechanical Shock	50 G's with 3 saw-tooth wave-form shocks in each X-Y-Z axis	Contact Resistance: 25 mOhms max. Discontinuity not greater than 1 micro-second.

5.3 Environmental Performance

<u>Item</u>	<u>Test Condition</u>	<u>Requirement</u>
Thermal Shock	Mate connectors exposed to 10 cycles of -40 degrees C and 105 degree C with 30 minutes per cycle.	Appearance: No damage Contact Resistance: 25 mOhms max.
Thermal Aging	Mate connectors exposed to 96 hours at 105 degrees C	Appearance: No damage Contact Resistance: 25 mOhms max.
Humidity (Steady State)	Mate connectors exposed to a temperature of 85 +/-2 degrees C with a relative humidity of 90 to 95% for 96 hours	Appearance: No damage Contact Resistance: 25 mOhms max.
Humidity (Cyclic)	Mate connectors exposed for 10 cycles at 90 to 95% relative humidity with a transition time of 2.5 hours between extreme temperatures of 25 degrees C (for 5 minutes max.) and 85 degrees C (for 3 hours).	Appearance: No damage Contact Resistance: 25 mOhms max.

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PRODUCT SPECIFICATION

5.3 Environmental Performance (Continue...)

<u>Item</u>	<u>Test Condition</u>	<u>Requirement</u>
Temperature Rise and Current Cycling	Mate connectors and measure temperature rise at the rated current (45 minutes ON and 15 minutes OFF) for 96 and 240 hours.	Temperature Rise: 30 degrees C max.
Salt Spray	48 hours exposure to a salt spray from a 5% solution at 35 degrees C	Appearance: No damage Contact Resistance: 25 mOhms max.

6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage.

7.0 OTHER INFORMATION

Refer to Sales Drawing for other information.

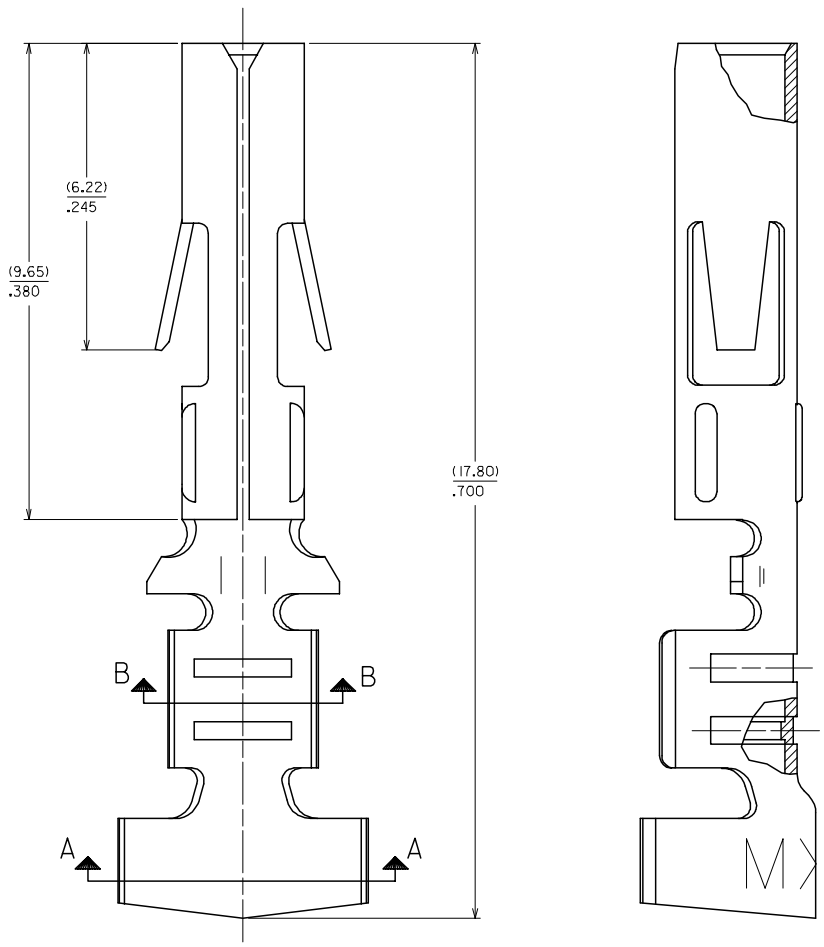
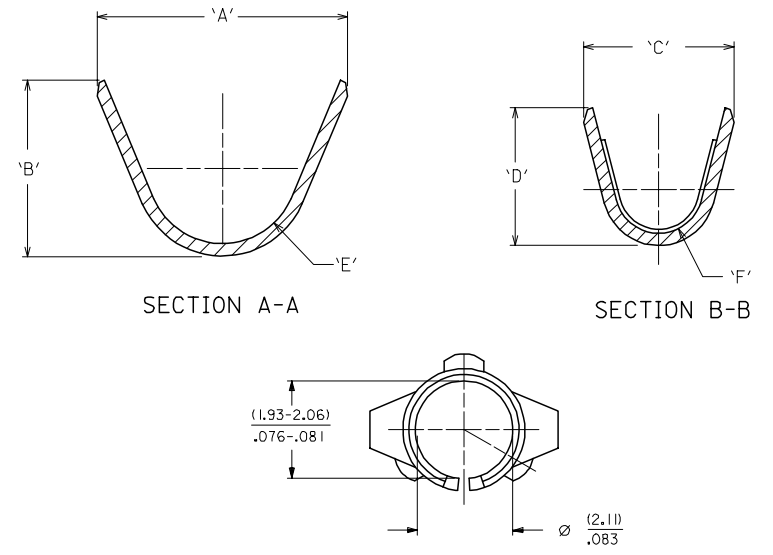


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EDP NO.	ENG NO.	FORM	'A'	'B'	'C'	'D'	'E'	'F'
02-08-1201	8980-3C	CHAIN, 14-20 AWG WIRE	(4.44)	(3.39)	(3.02)	(3.61)	(1.23)	(0.61)
02-08-1202	8980-3L	LOOSE, 14-20 AWG WIRE	.175	.133	.119	.142	.048	.024
02-08-1203	8980-3C1	CHAIN, 18-22 AWG WIRE	(3.28)	(2.58)	(2.44)	(2.58)	(0.91)	(0.53)
02-08-1204	8980-3L1	LOOSE, 18-22 AWG WIRE	.129	.102	.096	.102	.036	.021

- NOTES:
 1. FINISH: (.00089)/.000035 MIN. TIN OVER
 (.00051)/.000020 MIN COPPER (COPPER PLATE REFLOWED)
 2. MATERIAL: (.025)/.010 THK PHOS
 BRONZE, ALLOY CA 51000.



REV	DESCRIPTION	DATE	APPR
N	DRWNG:MG0H	2004/10/06	
	CHKD:PTLIM	2004/10/06	
	APPR:SKTOH	2004/10/08	

QUALITY SYMBOLS
=0
=0

GENERAL TOLERANCES (UNLESS SPECIFIED)	
	MM/INCH
4 PLACES	± --- ± ---
3 PLACES	± --- ± .010
2 PLACES	± 0.25 ± ---
1 PLACE	± --- ± ---
ANGULAR ± 1 °	

DIMENSION STYLE	
MM/IN	DATE
DRAWN BY TAY	1987/12/15
CHECKED BY AT	1987/12/15
APPROVED BY AB	1987/12/15

SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
NTS	METRIC	
TITLE		
TERMINAL SOCKET DIA. (2.096)/.0825		
MOLEX INCORPORATED		
MATERIAL NO.	DOCUMENT NO.	SHEET NO.
SEE TABLE	SD-8980-3*	1 OF 1

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

SIZE A3

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