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Jameco Part Number 1300021

FEATURES AND SPECIFICATIONS

Features and Benefits

- Meets UL 1086 Section 8 Electrical Probe and UL 1863 Section 20 Childs Finger Test
- No exposed leads to meet British Telecom 4000V test
- Contact tips guided within FCC-specified target zone—Positive alignment prevents shorting
- 100% tested for hi-pot and continuity
- .500" height is industry lowest

Reference Information

Product Specification: PS-42410
 Packaging: Tray
 UL File No.: E107635
 CSA File No.: LR19980
 Mates With: WE Co. and FCC 68 plugs
 Designed In: Inches

Electrical

Voltage: 125V
 Current: 1.5A
 Contact Resistance: 10mΩ max.
 Dielectric Withstanding Voltage: 1000V AC rms
 Insulation Resistance: 500 MΩ min.

Mechanical

Durability: 500 cycles min.

Physical

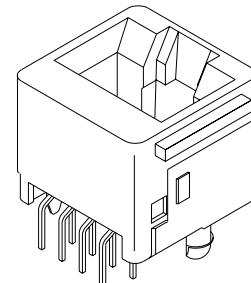
Housing: Black glass-filled polyester, UL 94V-0
 Contact: Phosphor Bronze
 Plating: 1.27μm (50μ") min. Gold in contact area and 1.27μm (50μ") Tin/Lead on solder tails both over Nickel overall
 Operating Temperature: -40 to +80°C



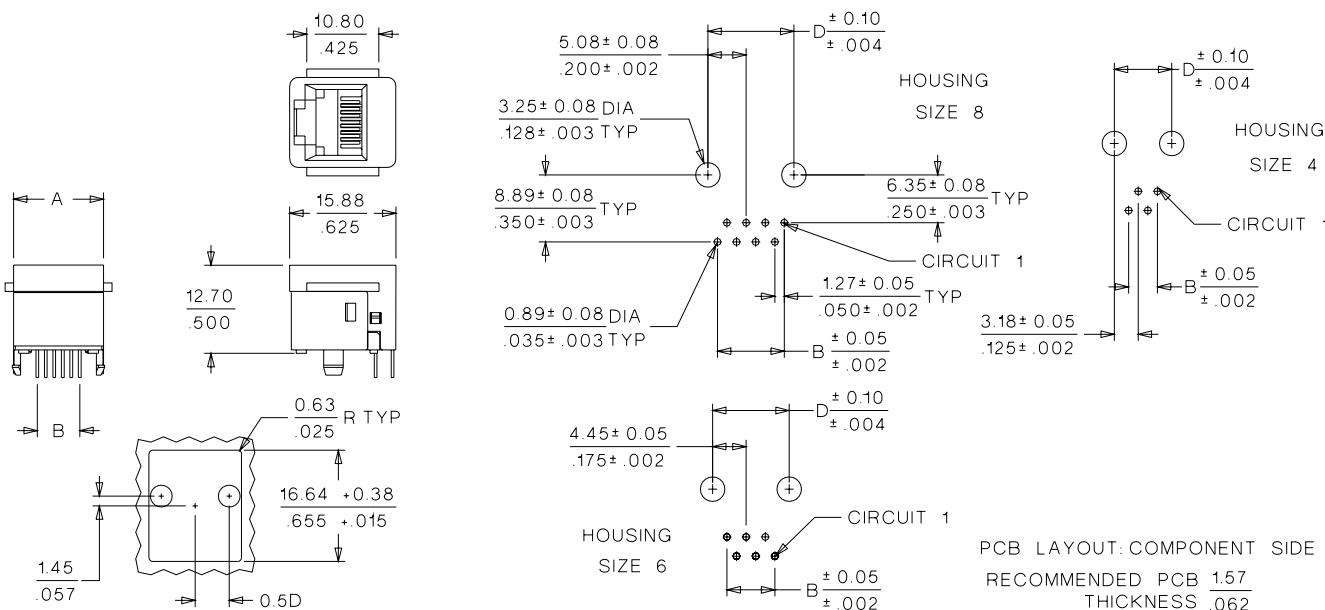
Modular Jack

42878

**Vertical, Low Profile
 For .062 and .125" PCB**



CATALOG DRAWING (FOR REFERENCE ONLY)



ORDERING INFORMATION AND DIMENSIONS

Circuits	Loaded Contacts	Order No.				Dimension		
		.062" PCB		.125" PCB				
		Flush Mount	Flangeless	Flush Mount	Flangeless	A	B	D
4	2	42878-4360	42878-4362	42878-4408	42878-4410	11.43 (.450)	1.27 (.050)	7.62 (.300)
4	4	42878-4216	42878-4218	42878-4264	42878-4266	11.43 (.450)	3.81 (.150)	7.62 (.300)
6	2	42878-6504	42878-6506	42878-6552	42878-6554	13.20 (.520)	1.27 (.050)	10.16 (.400)
6	4	42878-6360	42878-6362	42878-6408	42878-6410	13.20 (.520)	3.81 (.150)	10.16 (.400)
6	6	42878-6216	42878-6218	42878-6264	42878-6266	13.20 (.520)	6.35 (.250)	10.16 (.400)
8	2	42878-9272	42878-9274	42878-9368	42878-9370	15.20 (.600)	1.27 (.050)	11.43 (.450)
8	4	42878-8984	42878-8986	42878-9080	42878-9082	15.20 (.600)	3.81 (.150)	11.43 (.450)
8	6	42878-8696	42878-8698	42878-8792	42878-8794	15.20 (.600)	6.35 (.250)	11.43 (.450)
8	8	42878-8408	42878-8410	42878-8504	42878-8506	15.20 (.600)	8.89 (.350)	11.43 (.450)

Note: Contact Molex for keying order numbers RJ-45 only



PRODUCT SPECIFICATION

LOW PROFILE VERTICAL MODULAR JACKS

1.0 SCOPE

This Product Specification covers the 1.27 mm (.050 inch) centerline (pitch) printed circuit board (PCB) modular jack connector series with selective gold and tin-lead plating.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER(S)

Low Profile Vertical Modular Jacks 42878, 43090

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate sales drawings (SDA-42878-****, SDA-43090-****) for information on dimensions, materials, plating and markings.

2.3 SAFETY AGENCY APPROVALS

UL File Number.....E107635
CSA File Number.....LR19980

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

FCC Rules and Regulations, Part 68, Subpart F

REA Bulletin 345-81, PE-76; Specification for modular telephone set hardware

ANSI/EIA/TIA-568

IEC-60603-7

UL 1863

MIL-STD-202; General requirements for test specifications

4.0 RATINGS

4.1 VOLTAGE

56.5 V DC
150 V _{RMS} AC (Ringing voltage only)

4.2 CURRENT

1.5 Amps @ 25°C

4.3 TEMPERATURE

Operating: - 40°C to + 70°C

<u>REVISION:</u> B	<u>ECR/ECN INFORMATION:</u> <u>EC No:</u> UCR2002-0267 <u>DATE:</u> 2001 / 09/19	<u>TITLE:</u> PRODUCT SPECIFICATION LOW PROFILE VERTICAL MODULAR JACKS	<u>SHEET No.</u> 1 of 5
<u>DOCUMENT NUMBER:</u> PS-42878	<u>CREATED / REVISED BY:</u> MKAMAR 01/09/19	<u>CHECKED BY:</u> MKAMAR 01/09/19	<u>APPROVED BY:</u> BWIRKUS 01/09/19



PRODUCT SPECIFICATION

5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT
Contact Resistance (Low Level)	Mate connectors: apply a maximum voltage of 20 mV and a current of 15 mA. (Measurement locations in Section 7.0)	10 milliohms MAXIMUM [initial]
Insulation Resistance	Unmated connector, mounted to a PCB: apply a voltage of 500 VDC between adjacent terminals and between terminals to ground.	500 Megohms MINIMUM
Dielectric Withstanding Voltage	Mate connectors: apply a voltage of 1000 VAC for 1 minute between adjacent terminals and between terminals to ground.	No breakdown; current leakage < 5 mA
Temperature Rise	Mate connectors: measure the temperature rise at the rated current after: 96 hours	Temperature rise; +30°C MAXIMUM

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<i>TEMPLATE FILENAME: PRODUCT_SPEC(SIZE_A)(V.1).DOC</i>			



PRODUCT SPECIFICATION

5.2 MECHANICAL REQUIREMENTS

	DESCRIPTION	TEST CONDITION	REQUIREMENT
	Connector Mate Force	Mate connector at a rate of 25 ± 6 mm (1 ± 1/4 inch) per minute. (Gage dimensions in Section 7.0)	22 N (5 lbf) MAXIMUM insertion force
	Durability	Mate connectors up to 500 cycles at a maximum rate of 20 cycles per minute prior to Environmental Tests.	10 milliohms MAXIMUM (change from initial)
	Vibration (Random)	Mate connectors and vibrate per MIL-STD-202	10 milliohms MAXIMUM (change from initial) & Discontinuity < 1 microsecond
	Plug Retention Force	Apply an axial pullout force on the plug at a rate of 25 ± 6 mm (1 ± 1/4 inch) .	89 N (20 lbf) MINIMUM retention force
	PCB Separation Forces	Apply a perpendicular static load on the plug at a rate of 25 ± 6 mm (1 ± 1/4 inch) .	4.5 N (1 lbf) MINIMUM withdrawal force before solder reflow 89 N (20 lbf) MINIMUM withdrawal force after solder reflow

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PRODUCT SPECIFICATION

5.3 ENVIRONMENTAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT												
Thermal (Cycling)	<p>Connectors to be placed in 95% relative humidity. Maximum temperature change is 15°C/hour. Cycle linearly per chart below. Mate connectors; expose to 10 cycles of:</p> <table><thead><tr><th>Temperature °C</th><th>Duration (Minutes)</th></tr></thead><tbody><tr><td>30 to 5</td><td>120</td></tr><tr><td>5 to 30</td><td>120</td></tr><tr><td>Hold at 30</td><td>240</td></tr><tr><td>30 to 5</td><td>180</td></tr><tr><td>Hold at 5</td><td>180</td></tr></tbody></table>	Temperature °C	Duration (Minutes)	30 to 5	120	5 to 30	120	Hold at 30	240	30 to 5	180	Hold at 5	180	<p>10 milliohms MAXIMUM (change from initial) & Dielectric Withstanding Voltage: No Breakdown at 500 VAC & Insulation Resistance: 500 Megohms MINIMUM & Visual: No Damage</p>
Temperature °C	Duration (Minutes)													
30 to 5	120													
5 to 30	120													
Hold at 30	240													
30 to 5	180													
Hold at 5	180													

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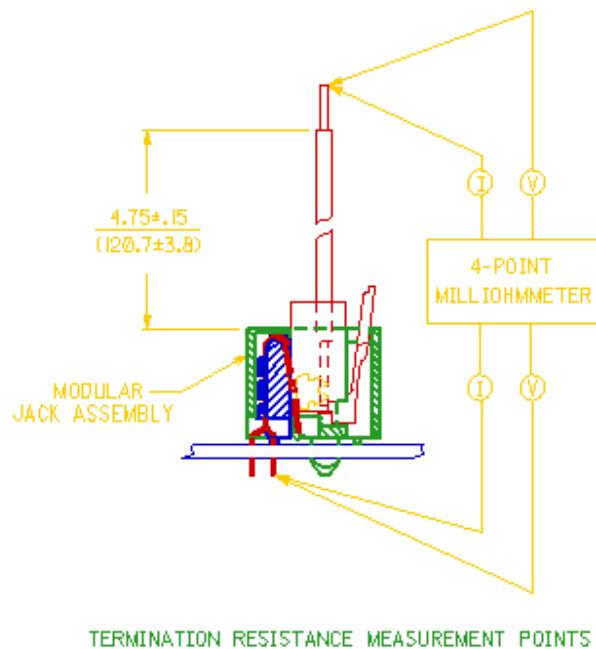


PRODUCT SPECIFICATION

6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage. See appropriate sales drawings on Sheet 1 for packaging descriptions.

7.0 GAGES AND FIXTURES



8.0 OTHER INFORMATION

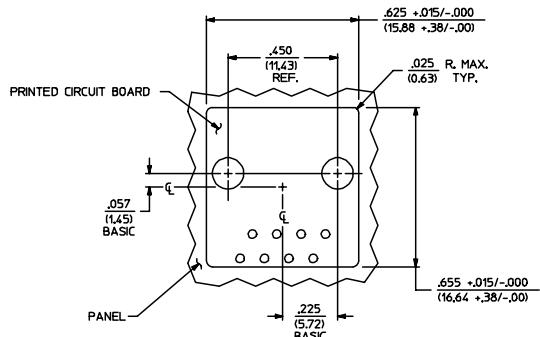
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20	19	18	17	16	15	14	13	12	11	42878	9	8	7	6	5	4	3	2	1
MODULAR JACK CHARACTERISTICS LEGEND																			
EXTERNAL CONNECTOR BODY DIMENSIONS: (SEE NOTES 8 AND 9) JACKS ARE AVAILABLE IN STANDARD 4, 6, AND 8 POSITION BODY SIZES																			
NUMBER OF CONTACT POSITIONS: CONNECTOR SIZE 4 CAN ACCOMMODATE 2 OR 4 TERMINALS, CONNECTOR SIZE 6 CAN ACCOMMODATE 2, 4, OR 6 TERMINALS, CONNECTOR SIZE 8 CAN ACCOMMODATE 2, 4, 6, 8, OR 10 TERMINALS																			
POLARIZATION POSITION: 'NO' - JACKS WITHOUT KEYING SLOT 'YES' - JACKS WITH KEYING SLOT (AVAILABLE ON CONNECTOR SIZE 8 ONLY)																			
MOUNTING EARS OPTION: 'YES' - JACKS WITH MOUNTING EARS 'NO' - JACKS WITHOUT MOUNTING EARS																			

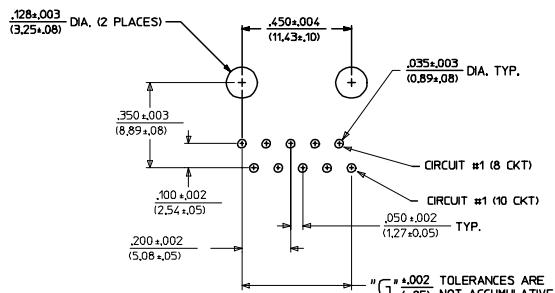
NOTES:
1) MATERIALS: HOUSING - POLYESTER, GLASS FILLED, UL94V-0, COLOR - BLACK
TERMINALS - PHOSPHOR BRONZE ALLOY, .015/.038 THICK.

2) TERMINAL PLATING:
SELECT GOLD IN CONTACT AREA: 50 MICROINCHES MIN.
SELECT TIN IN PC TAIL AREA: 100 MICROINCHES MIN.
WITH OVERALL NICKEL UNDERPLATE: 50 MICROINCHES MIN.
THE PRIMARY SHIPPING CARTON WILL BE LABELED 'COMPLIANT
TO ROHS DIRECTIVE 2002/95/EC AND ELV ANNEX II OR DIRECTIVE
2000/53/EC'. CARTONS WITHOUT THIS LABEL MAY CONTAIN
PRODUCTS THAT LEAD IN THE TAIL.

3) THESE MODULAR JACKS MEET THE PERFORMANCE REQUIREMENTS OF MOLEX PRODUCT SPECIFICATION PS-42876.
4) CONNECTORS ARE SHIPPED IN OVERFORMED TRAYS, PER PACKAGING SPECIFICATION PK-42878-492.
5) ALL JACKS ARE DESIGNED TO BE USED WITH .062/.157 OR .125/.318 THICK P.C. BOARDS.
6) ALL JACKS CONFORM TO AND ACCEPT PLUGS WHICH CONFORM TO FCC RULES AND REGULATIONS
PART 68, SUBPART F.
7) ALL JACKS MUST BE CAPABLE OF FITTING INTO MOLEX GAGE G-42410 (CONNECTOR SIZE 8).
8) SEE SHEETS 1 & 4 FOR CONNECTOR SIZE 4.
9) SEE SHEETS 2 & 4 FOR CONNECTOR SIZE 6.
10) ENGRAVED NUMBERS ON HOUSING BODY ARE FOR MOLDING IDENTIFICATION ONLY.
THEY ARE NOT INTENDED FOR ASSEMBLY IDENTIFICATION PURPOSES.

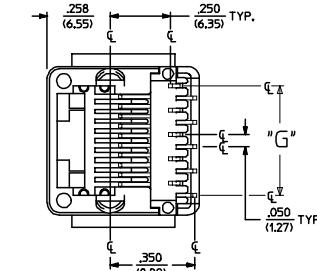
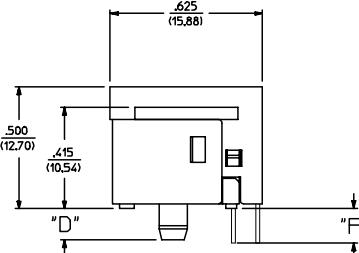
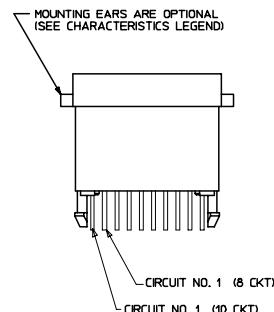
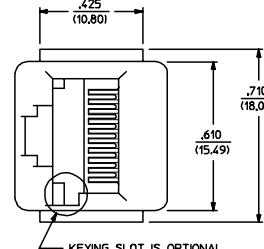


PANEL CUT-OUT FOR CONNECTOR SIZE 8



P.C. BOARD LAYOUT FOR CONNECTOR SIZE 8
10 CIRCUIT SHOWN

P.C. BOARD THICKNESS	DIM. 'D' (MTG. PEGS)	DIM. 'F' (P.C. TAILS)
.062/.157	.128 (3.25)	.120 +/- 0.015/-0.025 (3.05 +/- 0.38/-0.63)
.125/.318	.191 (4.85)	.205 +/- 0.015/-0.025 (5.21 +/- 0.38/-0.63)



SIZE 8 MODULAR JACK LOADED WITH 10 TERMINALS SHOWN ABOVE

BLOCK TOLERANCES	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		SCALE 4:1	DESIGN UNITS IN/MM	DIMENSION STYLE IN/MM	TITLE ASSEMBLY, VERTICAL LOW PROFILE MODULAR JACKS (CONNECTOR SIZE 8)	REVISION	THIRD ANGLE PROJECTION REVISE ON CAD ONLY
		mm	INCH						
EC NO. UCP2005-2537	0	4 PLACES	± ---						
DRAWN/SCHMIDT 2005/06/03		3 PLACES	± ---	± .010					
CHKO/EICHAG 2005/06/03		2 PLACES	± 0.25	± ---	BAP	1992/04/09			
APPR: F. SMITH		1 PLACE	± ---	± ---			CHECKED BY		
				ANGULAR $\pm 1/2^\circ$			DATE		
					BAP	1992/04/09			
							APPROVED BY		
					RAS	1992/04/09	DATE		
							MATERIAL NO.		
							DOCUMENT NO.		
							SEE SHEET 5 SDA-42878-***		
							3 OF 5		
							THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		

