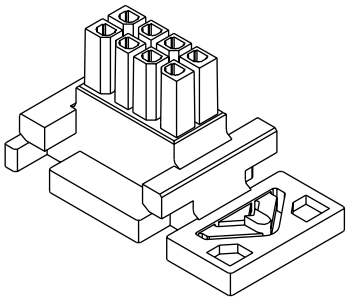
Jameco Part Number 800606

FEATURES AND SPECIFICATIONS

3.00mm (.118") Micro-Fit 3.0, BMI™ Panel-to-Panel Receptacle

44133

Dual Row



Features and Benefits

- Connectors float in panel cutout up to 1.27mm (.050") in any direction
- 4 to 24 circuits for design flexibility
- Use standard Micro-Fit terminals to reduce inventory
- Innovative panel mounting design holds connectors firmly in place
- Fully isolated contacts prevent terminal damage
- Fully polarized to completely prevent mismating

Reference Information

Product Specification: PS-44300
Packaging: Bag
Mates with: 44300
Use with: 43030
Designed in: Millimeters

Electrical

Dielectric Withstanding Voltage: 1500V AC
Insulation Resistance: 1000 MΩ min.

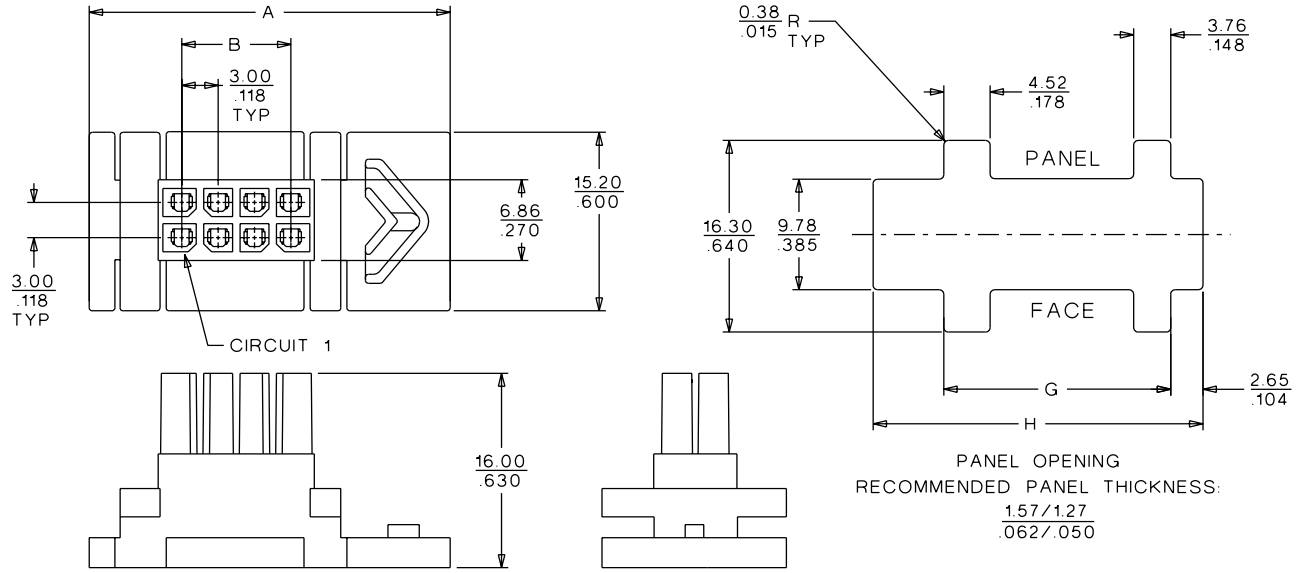
Mechanical

Contact Insertion Force: 14.7N (3.30 lb)
Contact Retention to Housing: 24.5N (5.51 lb)

Physical

Housing: Polyester, UL 94V-0
Operating Temperature: -40 to +105°C

CATALOG DRAWING (FOR REFERENCE ONLY)



ORDERING INFORMATION AND DIMENSIONS

Circuits	Order No.	Dimension			
		A	B	G	H
4	44133-0400	24.60 (.970)	3.00 (.118)	13.46 (.530)	22.10 (.870)
6	44133-0600	27.70 (1.090)	6.00 (.236)	16.46 (.648)	25.10 (.988)
8	44133-0800	30.70 (1.210)	9.00 (.354)	19.46 (.766)	28.10 (1.106)
10	44133-1000	33.80 (1.330)	12.00 (.472)	22.46 (.884)	31.10 (1.224)
12	44133-1200	36.80 (1.450)	15.00 (.591)	25.46 (1.002)	34.10 (1.343)
14	44133-1400	39.90 (1.570)	18.00 (.709)	28.46 (1.120)	37.10 (1.461)
16	44133-1600	42.90 (1.690)	21.00 (.827)	31.46 (1.239)	40.10 (1.579)
18	44133-1800	46.00 (1.810)	24.00 (.945)	34.46 (1.357)	43.10 (1.697)
20	44133-2000	49.00 (1.930)	27.00 (1.063)	37.46 (1.475)	46.10 (1.815)
22	44133-2200	51.80 (2.040)	30.00 (1.181)	40.46 (1.593)	49.10 (1.933)
24	44133-2400	54.90 (2.160)	33.00 (1.299)	43.46 (1.711)	52.10 (2.051)

PRODUCT SPECIFICATION

MICRO-FIT BMI FLOATING CONNECTOR SYSTEM

1.0 SCOPE

This Product Specification covers the 3.00 mm (.118 inch) centerline (pitch) connector system terminated with 20 to 30 AWG wire using crimp technology with tin plating.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBERS

Micro-Fit Dual Row BMI Floating Receptacle: 44133
Micro-Fit Dual Row BMI Panel Mount Plug: 44300
Micro-Fit Dual Row BMI Receptacle: 44764 and 44769
Micro-Fit Dual Row BMI Headers: 44428 and 44432
Micro-Fit Dual Row BMI Vertical CPI Header : 45280

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

Crimp Terminal: Phosphor Bronze
Receptacle and Plug: Polyester
Headers: High Temp Nylon

2.3 SAFETY AGENCY APPROVALS

UL File Number:…. E29179
CSA:…….. LR19980
TUV……R95107

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

Test Summary: TS-43045-001

4.0 RATINGS

4.1 VOLTAGE

UL : 250 Volts AC (RMS) {or 176 Volts DC}
TUV : 200Volts

4.2 CURRENT AND APPLICABLE WIRES

AWG	Amps	Outside Insulation Diameter
20	5	1.85 mm (.073 inch)
22	5	1.85 mm (.073 inch)
24	4	1.85 mm (.073 inch)
26	3	1.27 mm (.050 inch)
28	2	1.27 mm (.050 inch)
30	1	1.27 mm (.050 inch)

4.3 TEMPERATURE

Operating: -40°C to +105°C (Including Terminal Temperature Rise)
Nonoperating: -40°C to +105°C

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 100 mA. (Measurement locations in Section 7.0)	10 milliohms MAXIMUM [initial]
Contact Resistance @ Rated Current	Mate connectors: apply a maximum voltage of 20 mV at rated current. (Measurement locations in Section 7.0)	10 milliohms MAXIMUM [initial]
Contact Resistance of Wire Termination (Low Level)	Terminate the applicable wire to the terminal and measure wire using a voltage of 20 mV and a current of 100 mA. (Measurement locations in Section 7.0)	2 milliohms MAXIMUM [initial]
Insulation Resistance	Unmate & unmount connectors: apply a voltage of 500 VDC between adjacent terminals and between terminals to ground.	1000 Megohms MINIMUM
Dielectric Withstanding Voltage	Unmate connectors: apply a voltage of {two times the rated voltage plus 1000 volts} VAC for 1 minute between adjacent terminals and between terminals to ground.	No breakdown; current leakage < 5 mA
Capacitance	Measure between adjacent terminals at 1 MHz.	2 picofarads MAXIMUM
Temperature Rise (via Current Cycling)	Mate connectors: measure the temperature rise at the rated current after: 96 hours OR 240 hours (45 minutes ON and 15 minutes OFF per hour).	Temperature rise: +30°C MAXIMUM

5.2 MECHANICAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT
Connector Mate and Unmate Forces	Mate and unmate connector (male to female) at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute. (per circuit) (Gage dimensions in Section 7.0)	8.0 N (1.8 lbf) MAXIMUM insertion force & 3.7 N (0.8 lbf) MINIMUM withdrawal force
Terminal Retention Force (in Housing)	Axial pullout force on the terminal in the housing at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute.	24.5 N (5.5 lbf) MINIMUM retention force

5.2 MECHANICAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT
Pin Retention Force (in Header)	Axial pullout force on the terminal in the housing at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute.	13.3 N (3.0 lbf) MINIMUM retention force
Terminal Insertion Force (into Housing)	Apply an axial insertion force on the terminal at a rate of 25 ± 6 mm (1 ± ¼ inch).	14.7 N (3.3 lbf) MAXIMUM insertion force
Durability	Mate connectors up to 30 cycles for tin or gold at a maximum rate of 10 cycles per minute prior to Environmental Tests.	10 milliohms MAXIMUM (change from initial)
Vibration (Random)	Mate connectors and vibrate per EIA 364-28, test condition VII.	10 milliohms MAXIMUM (change from initial) & Discontinuity < 1 microsecond
Shock (Mechanical)	Mate connectors and shock at 50 g's with ½ sine wave (11 milliseconds) shocks in the ±X,±Y,±Z axes (18 shocks total).	10 milliohms MAXIMUM (change from initial]) & Discontinuity < 1 microsecond
Wire Pullout Force (Axial) Wire to Terminal	Apply an axial pullout force on the wire at a rate of 25 ± 6 mm (1 ± ¼ inch).	20 Awg: 57.9 N (13.0 lbf) 22 Awg: 35.5 N (8.0 lbf) 24 Awg: 26.6 N (6.0 lbf) 26 Awg: 13.3 N (3.0 lbf) 28 Awg: 8.9 N (2.0 lbf) 30 Awg: 6.6 N (1.5 lbf) MINIMUM pullout force
Normal Force	Apply a perpendicular force.	2.7 N (275 grams) MINIMUM
Panel Retention Forces	Insert and withdraw a connector at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute.	200 N (45 lbf) MINIMUM withdrawal force
Fretting Corrosion (Hammer Shock)	Mate connectors: strike test platform at a rate of 10 cycles per minute with a 0.98 N (100 gram) hammer for 20,000 cycles.	10 milliohms MAXIMUM (change from initial) & Visual: No Damage
Compliant Pin Insertion Force into PCB Hole (45280 Series)	Apply an axial insertion force on the terminal at a rate of 25 ± 6 mm (1 ± ¼ inch).	106.7 N (24 lbf) MAXIMUM Insertion force (Per Terminal)
Compliant Pin Retention Force in PCB Hole (45280 Series)	Apply an axial extraction force on the terminal at a rate of 25 ± 6 mm (1 ± ¼ inch).	35.6 N (8 lbf) MINIMUM Retention force (Per Terminal)

5.3 ENVIRONMENTAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT
Fretting Corrosion (Thermal Shock)	Mate connectors: expose for 1,000 cycles between temperatures 25 and 85°C; dwell 0.5 hours at each temperature. {Note: Remove surface moisture and air dry for 1 hour prior to measurements; monitor low level contact resistance every 250 cycles.}	10 milliohms MAXIMUM (change from initial) & Visual: No Damage
Shock (Thermal)	Mate connectors; expose to 5 cycles of: Temperature °C — Duration (Minutes) -40 +0/-3 — 30 +25 ±10 — 5 MAXIMUM +105 +3/-0 — 30 +25 ±10 — 5 MAXIMUM	10 milliohms MAXIMUM (change from initial) & Visual: No Damage
Thermal Aging	Mate connectors; expose to: 96 hours at 105 ± 2°C or 500 hours at 85 ± 2°C	10 milliohms MAXIMUM (change from initial]) & Visual: No Damage
Humidity (Steady State)	Mate connectors: expose to a temperature of 85 ± 2°C with a relative humidity of 90-95% for 96 hours. Note: Remove surface moisture and air dry for 1 hour prior to measurements.	10 milliohms MAXIMUM (change from initial) & Dielectric Withstanding Voltage: No Breakdown at 500 VAC & Insulation Resistance: 1000 Megohms MINIMUM & Visual: No Damage
Humidity (Cyclic)	Mate connectors: cycle per EIA-364-31: 10 cycles at temperature 25 ± 3°C at 80 ± 5% relative humidity and 65 ± 3°C at 50 ± 5% relative humidity; dwell time of 1.0 hour; ramp time of 0.5 hours. {Note: Remove surface moisture and air dry for 1 hour prior to measurements.}	10 milliohms MAXIMUM (change from initial) & Dielectric Withstanding Voltage: No Breakdown at 500 VAC & Insulation Resistance: 1000 Megohms MINIMUM & Visual: No Damage

5.3 ENVIRONMENTAL REQUIREMENTS		
Solderability	Per SMES-152	Solder coverage: 95% MINIMUM (per SMES-152)
Solder Resistance	Dip connector terminal tails in solder: Solder Duration: 5 ± 0.5 seconds; Solder Temperature: 245 ± 5°C {Recommend same parameters as SMES-152.}	Visual: No Damage to insulator material
Salt Spray	Mate connectors: Duration: 48 hours exposure; Atmosphere: salt spray from a 5% solution; Temperature: 35 +1/-2°C	10 milliohms MAXIMUM (change from initial) & Visual: No Damage
Cold Resistance	Mate connectors: Duration: 96 hours; Temperature: -40 ± 3°C	10 milliohms MAXIMUM (change from initial) & Visual: No Damage
Corrosive Atmosphere: Flowing Mixed Gas (FMG)	Mate connectors: Test per EIA-364-65, method 2A	10 milliohms MAXIMUM (change from initial) & Visual: No Damage

6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage per the packaging specifications listed below:

BMI Floating Receptacle: PK-44133-001
BMI Panel Mount Plug: PK-44300-001
BMI Receptacles: PK-44764-001, PK-44769-001
BMI Headers: PK-44428-001, PK-44432-001
BMI Vertical CPI Header: PK-44432-001

7.0 GAGES AND FIXTURES

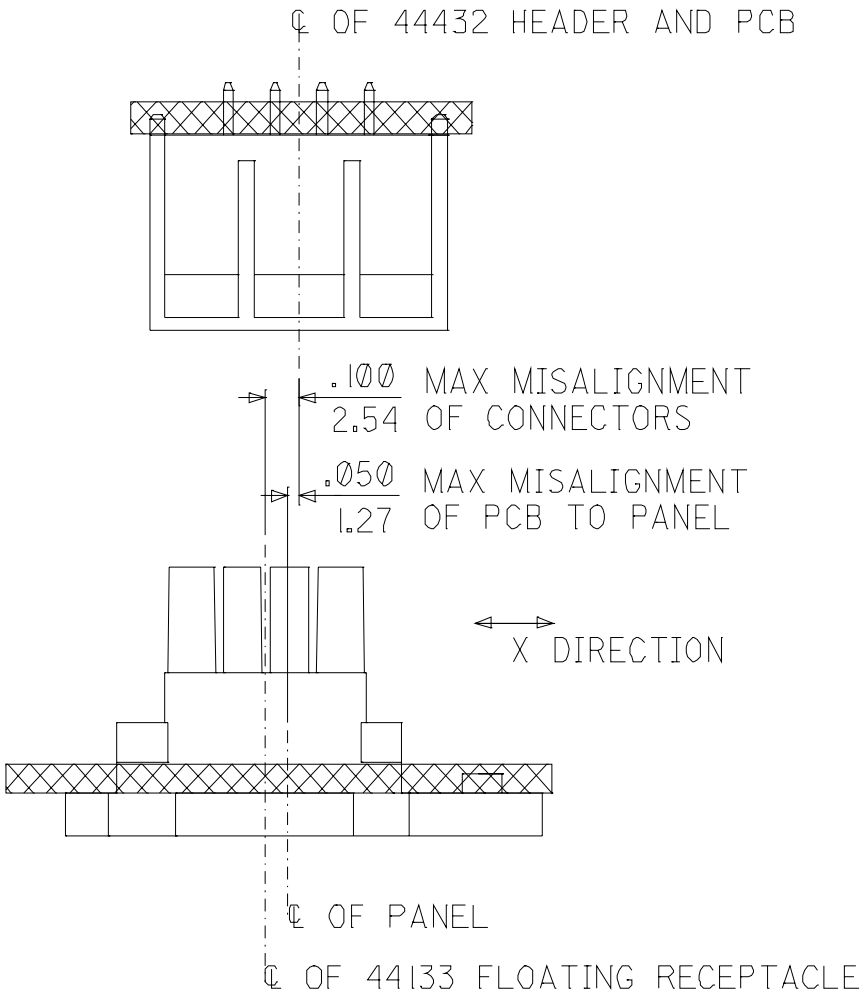
It is recommended that test plugs (Series 44242) be used for continuity testing of receptacles. Standard mating parts should not be used for continuity testing.

8.0 CONNECTOR ALIGNMEN T

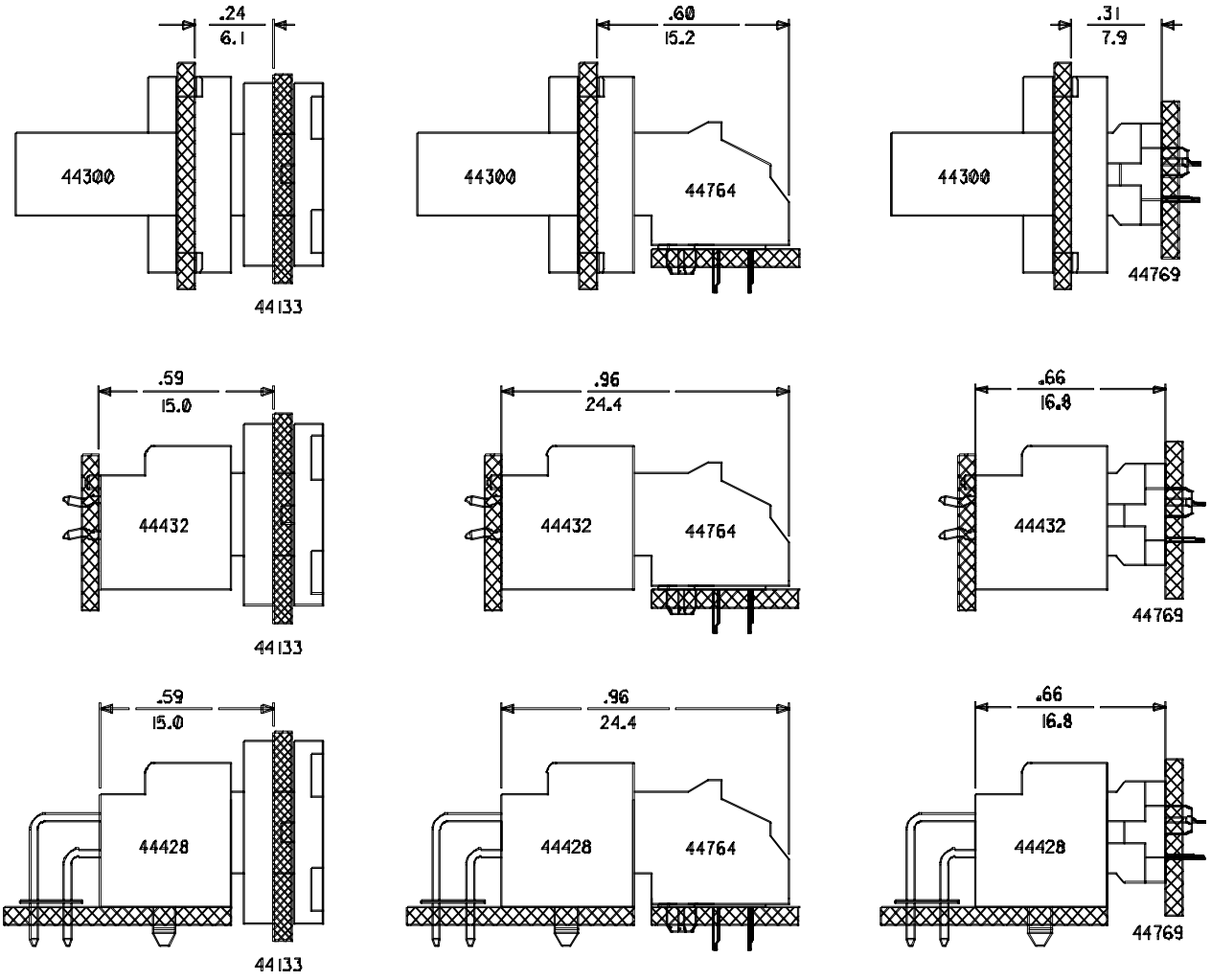
See next sheet

8.0 CONNECTOR ALIGNMEN T

8.1 Misalignment applies to “X” and “Y” directions

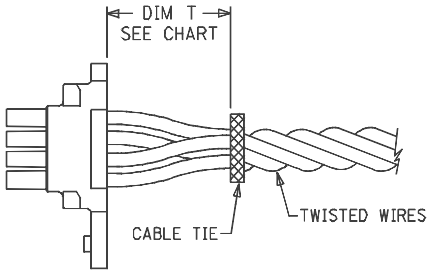


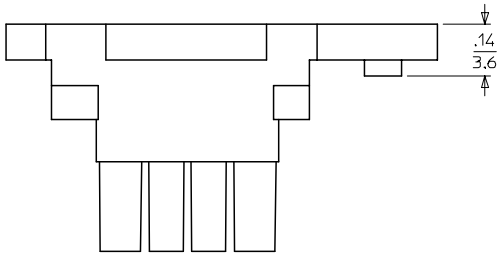
8.2 Mated Dimensions

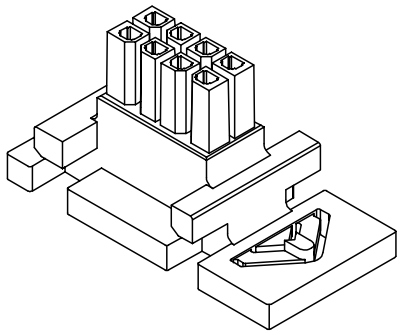


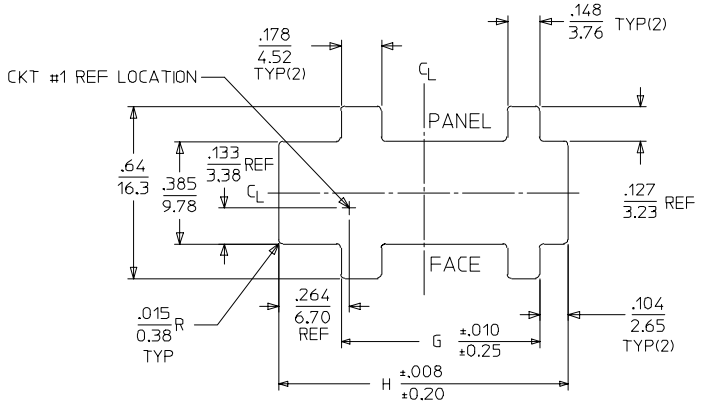
8.3 TIE WRAP AND/OR WIRE TWISTING PLACEMENT

CKT Sizes	Dim T Min.
2-8	.500 (12.70)
10-16	.750 (19.10)
18-24	1.000 (25.40)



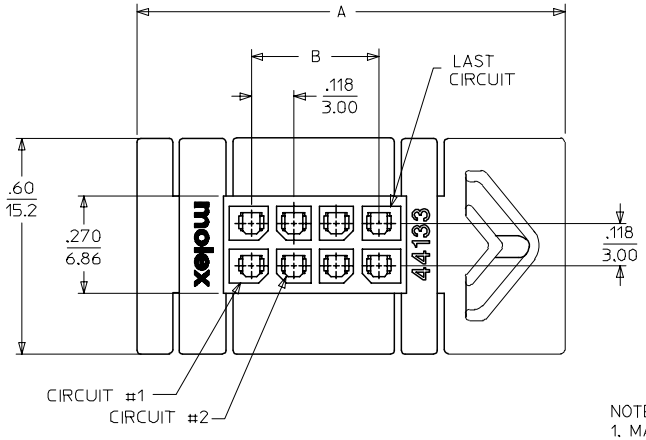


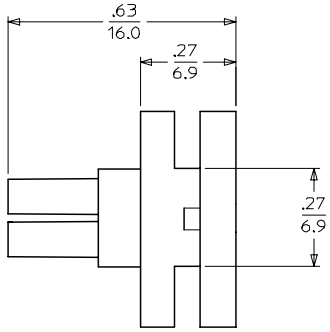


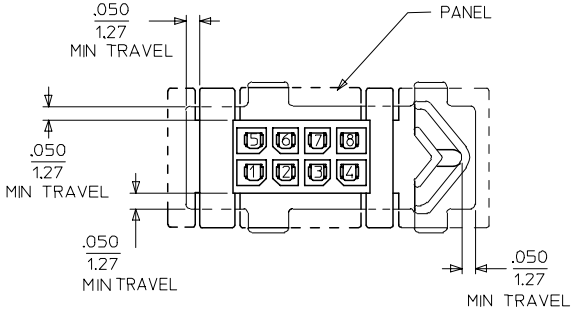


RECOMMENDED PANEL CUT-OUT

(SEE NOTE #7 & #9)







RECEPTACLE SHOWN MOUNTED IN PANEL

CKT. SIZE	MATERIAL NUMBER	DIM "A"	DIM "B"	DIM "G"	DIM "H"
04	44133-0400	.97 / 24.6	.118 / 3.00	.530 / 13.46	.870 / 22.10
06	44133-0600	1.09 / 27.7	.236 / 6.00	.648 / 16.46	.988 / 25.10
08	44133-0800	1.21 / 30.7	.354 / 9.00	.766 / 19.46	1.106 / 28.10
10	44133-1000	1.33 / 33.8	.472 / 12.00	.884 / 22.46	1.224 / 31.10
12	44133-1200	1.45 / 36.8	.591 / 15.00	1.002 / 25.46	1.343 / 34.10
14	44133-1400	1.57 / 39.9	.709 / 18.00	1.120 / 28.46	1.461 / 37.10
16	44133-1600	1.69 / 42.9	.827 / 21.00	1.239 / 31.46	1.579 / 40.10
18	44133-1800	1.81 / 46.0	.945 / 24.00	1.357 / 34.46	1.697 / 43.10
20	44133-2000	1.93 / 49.0	1.063 / 27.00	1.475 / 37.46	1.815 / 46.10
22	44133-2200	2.04 / 51.8	1.181 / 30.00	1.593 / 40.46	1.933 / 49.10
24	44133-2400	2.16 / 54.9	1.299 / 33.00	1.711 / 43.46	2.051 / 52.10

NOTES:
1. MATERIAL: UNFILLED POLYESTER (PBT), UL94V-0, COLOR: BLACK
2. FINISH: N/A
3. PRODUCT SPECIFICATION: PS-44300-001
4. PACKAGING SPECIFICATION: TRAY PACKED PER PK-44133-002
5. THIS RECEPTACLE MATES WITH MOLEX BMI PLUG 44300, MOLEX BMI VERTICAL PCB HEADER 44432, MOLEX BMI RIGHT ANGLE PCB HEADER 44428, & MOLEX BMI CPI VERTICAL PCB HEADER 45280. (MOLEX DRAWINGS SD-44300-001, SD-44428-001, SD-44432-001, & SD-45280-001)
6. THIS RECEPTACLE TO BE USED WITH MOLEX FEMALE CRIMP TERMINALS ONLY. (MOLEX DRAWING SD-43030-××××)
7. THIS RECEPTACLE IS DESIGNED FOR USE WITH .062/1.57 MAX. TO .050/1.27 MINIMUM THICK PANELS.
8. DIMENSIONS GIVEN ACROSS CENTERLINES ARE SYMMETRICAL ABOUT THOSE CENTERLINES WITHIN THE TOTAL TOLERANCE.
9. WHEN MATING WITH 44300 SERIES, THE PANEL CUT-OUT CENTERLINES OF DIM "H" AND .385/9.78 MUST ALIGN WITH POINT "M" DEFINED BY MOLEX DRAWING SD-44300-001.
10. MOLEX RECOMMENDS THE USE OF MICRO-FIT TEST PLUG (SERIES 44242) WHENEVER CONTINUITY TESTING IS PERFORMED. TEST PLUGS MUST NOT BE USED TO MAKE OR BREAK UNDER LOAD. MOLEX DOES NOT RECOMMEND USING STANDARD MATING COMPONENTS (SERIES 44428, 44432, 44300 OR 45280) FOR HARNESS TESTING PURPOSES.
11. HOUSINGS MAY EXHIBIT A SURFACE IMPERFECTION KNOW AS "SINK MARKS" UP TO .024/(0.60) MAX. THIS IS A COSMETIC DEFECT AND DOES NOT EFFECT FUNCTION OF THE CONNECTOR.

CHANGE PK SPEC
EC NO: UCP2006-1500 2006/02/17
DRWN:SSOUSEK 2006/03/03
CH'KD:LSCHMIDT 2006/03/03
APPR:FSMITH
REV DESCRIPTION

QUALITY SYMBOLS
▼=0
▽=0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± .010
2 PLACES	± 0.25	± .014
1 PLACE	± 0.35	± ---
ANGULAR ±1/2°		

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION STYLE: IN/MM
SCALE: 4:1
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

		DATE
DRAWN BY	SOMMER	1998/09/30
CHECKED BY	SOMMER	1998/09/30
APPROVED BY	EDGLEY	1998/09/30

TITLE: MICRO-FIT (3.0) BMI FLOATING PANEL RECEPTACLE, 4-24 CIRCUIT

MOLEX INCORPORATED

MATERIAL NO.: SEE CHART
DOCUMENT NO.: SD-44133-001
SHEET NO.: 1 OF 1
SIZE: C