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ELECTRONICS

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Jameco Part Number 800948

FEATURES AND SPECIFICATIONS

Features and Benefits

- Intermateable, intermountable and interchangeable with industry-standard versions
- Cross tested to assure industry compatibility
- Positive locks
- Fully isolated contacts
- Circuit ID grooves to reduce assembly errors
- Anti-stress positioning tabs to reduce breakage

Reference Information

Product Specification: PS-42022-0001

Packaging: Bag

UL File No.: E29179

CSA File No.: LR19980

Mates With: [42002](#) header, [42022](#) cap and [43255](#) header

Designed In: Inches

Electrical

Voltage: 600V

Current:

Circuit	1	2	3	4	6	9	12	15
Amperes	13.5	13.5	13.5	13.5	11.0	11.0	11.0	11.0

Dielectric Withstanding Voltage: 2900V (Header),
5000V (Wire-To-Wire)

Insulation Resistance: 1000 MΩ min.

Mechanical

Contact Retention to Housing: 66.88N (15 lb)

Physical

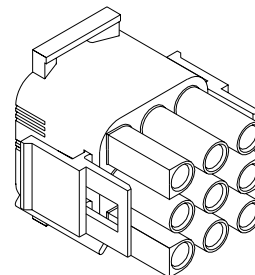
Plug Housing: Nylon, 94V-2 or 94V-0

Operating Temperature: -55 to +105°C



2.13mm (.084") Diameter MLX Pin and Socket Plug

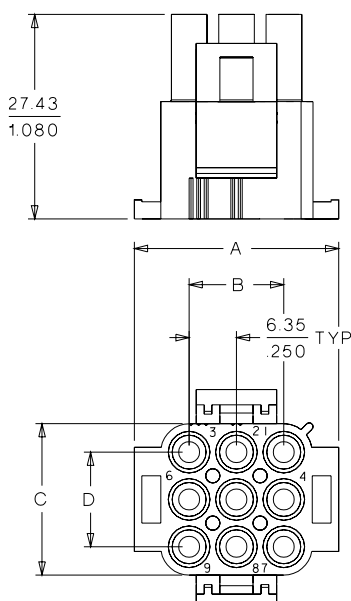
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Power Connectors

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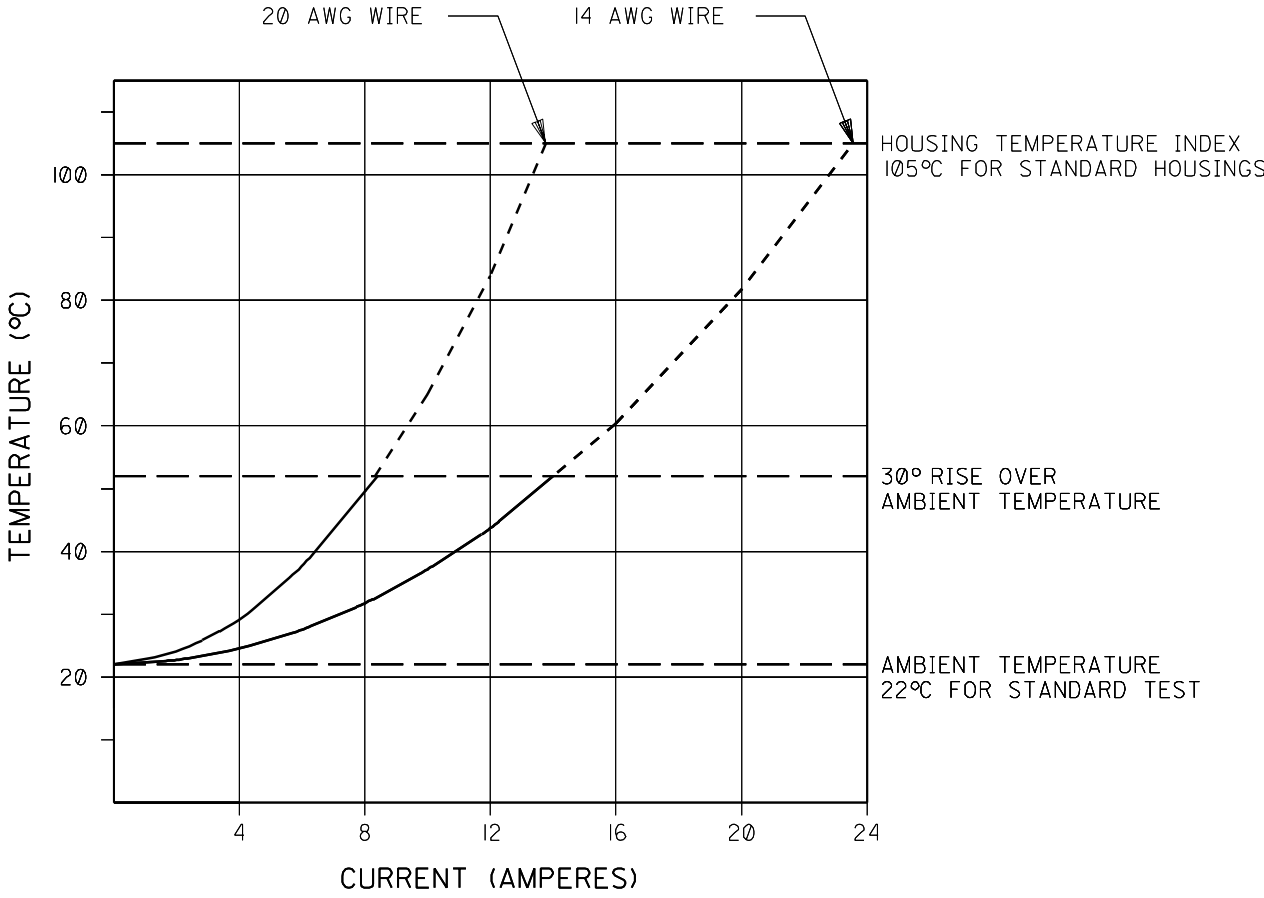
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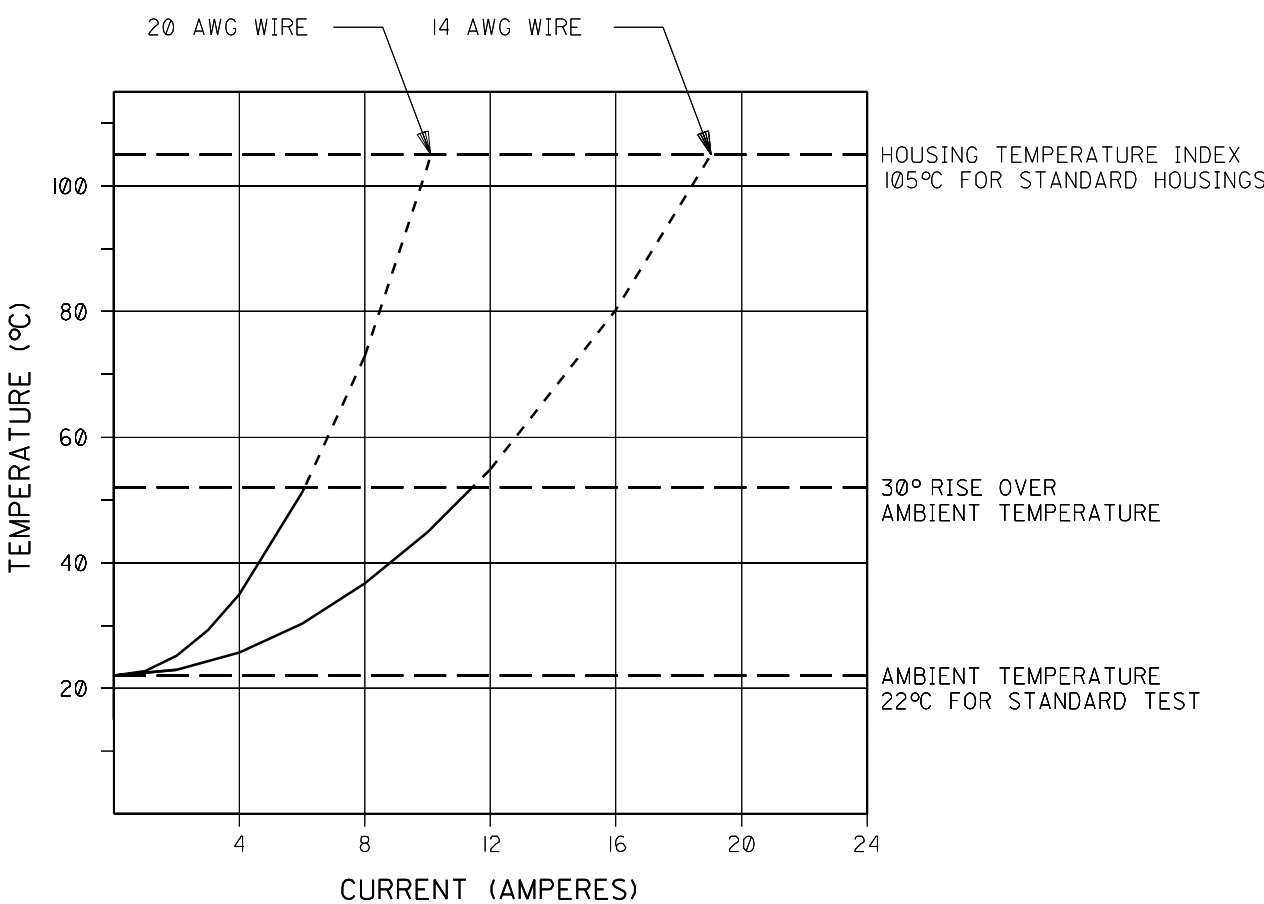
ORDERING INFORMATION AND DIMENSIONS

Circuits	Amperes/Circuit* (Max.)	Order No.			Dimension			
		94V-2 (White)	94V-0 (Brick Red)	94V-0 (White)	A	B	C	D
1	13.5	• 50-84-1010	• 50-84-1011	50-84-1015	7.37 (.290)		7.37 (.290)	
2	13.5	• 50-84-1020	• 50-84-1021	50-84-1025	14.73 (.580)		13.97 (.550)	6.35 (.250)
3	13.5	• 50-84-1030	• 50-84-1031	50-84-1035	14.73 (.580)		20.32 (.800)	12.70 (.500)
4	13.5	• 50-84-1040	• 50-84-1041	50-84-1045	14.73 (.580)		26.67 (1.050)	19.05 (.750)
6	11	• 50-84-1060	• 50-84-1061	50-84-1065	27.43 (1.080)	12.70 (.500)	13.97 (.550)	6.35 (.250)
9	11	• 50-84-1090	• 50-84-1091	50-84-1095	27.43 (1.080)	12.70 (.500)	20.32 (.800)	12.70 (.500)
12	11	50-84-1120	50-84-1121	50-84-1125	27.43 (1.080)	12.70 (.500)	26.67 (1.050)	19.05 (.750)
15	11	50-84-1150	50-84-1151	50-84-1155	27.43 (1.080)	12.70 (.500)	33.02 (1.300)	25.40 (1.000)

• US Standard Product, available through Molex franchised distributors



TERMINAL TEMPERATURE VERSUS CURRENT
FOR BRASS TERMINALS IN FOUR CIRCUIT HOUSINGS



TERMINAL TEMPERATURE VERSUS CURRENT
FOR BRASS TERMINALS IN NINE CIRCUIT HOUSINGS



MOLEX INCORPORATED
LISLE, ILL. 60532 U.S.A.

PRODUCT SPECIFICATION FOR .084/(2.13) DIAMETER SERIES CONNECTOR HOUSINGS AND TERMINALS

(GOLD PLATED TERMINALS ONLY)

1.0 Scope:

This specification covers the .250 inch (6.35mm) centerline gold plated connector series terminated to 14 to 20 AWG wire using crimp technology.

2.0 Product Description:

2.1 Product Name and Part Number

Product Name	Part Number
Housing, Plug, 1 circuit	42021-1*
Housing, Plug, 2 circuit	42021-2*
Housing, Plug, 3 circuit	42021-3*
Housing, Plug, 4 circuit	42021-4*
Housing, Plug, 6 circuit	42021-6*
Housing, Plug, 9 circuit	42021-9*
Housing, Plug, 12 circuit	42021-12*
Housing, Plug, 15 circuit	42021-15*
Housing, cap , 1 circuit	42022-1*
Housing, cap , 2 circuit	42022-2*
Housing, cap , 3 circuit	42022-3*
Housing, cap , 4 circuit	42022-4*
Housing, cap , 6 circuit	42022-6*
Housing, cap , 9 circuit	42022-9*
Housing, cap , 12 circuit	42022-12*
Housing, cap , 15 circuit	42022-15*
Terminal, pin, gold plated	42023-2*2*
Terminal, socket, gold plated	42024-1*2*

2.2 Materials, Platings and Markings

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

3.0 Applicable Documents and Specifications:

See the Sales Drawings and the other sections of this Specification.

3.1 Agency approvals:

UL file number: E29179

CSA file number: LR19980

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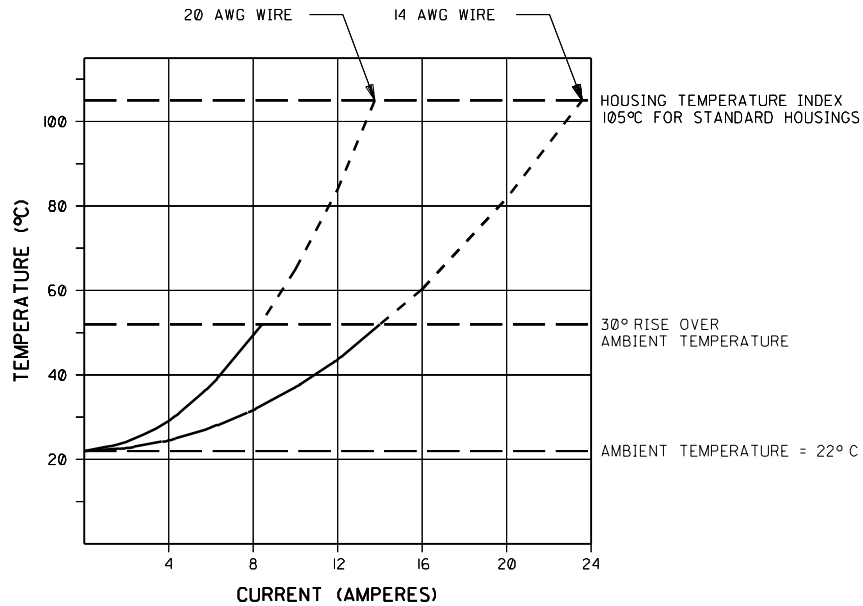


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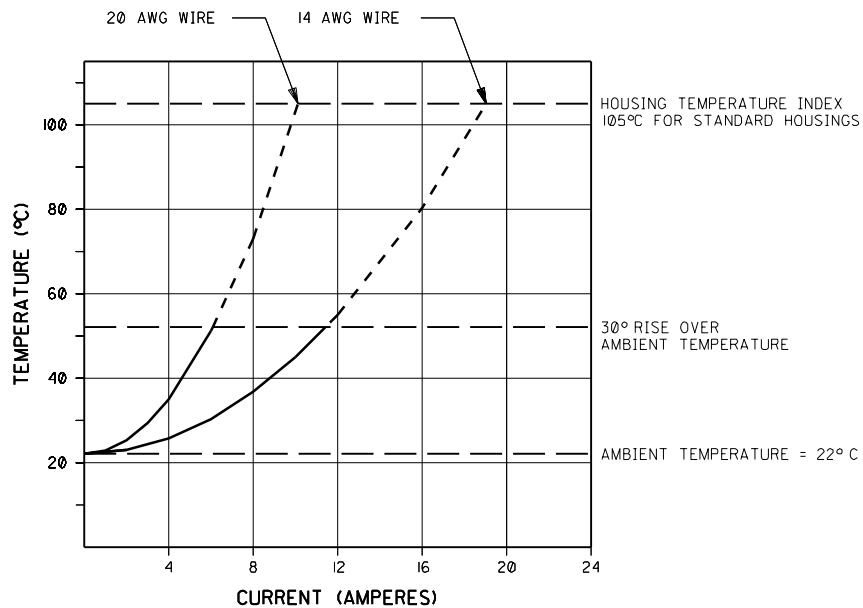
PRODUCT SPECIFICATION FOR .084/(2.13) DIAMETER SERIES CONNECTOR HOUSINGS AND TERMINALS

THESE GRAPHS SHOW TYPICAL (AVERAGE) PERFORMANCE

(GOLD PLATED TERMINALS ONLY)



TEMPERATURE VERSUS CURRENT
FOR BRASS TERMINALS IN FOUR CIRCUIT HOUSINGS
ALL FOUR CIRCUITS CARRY THE INDICATED CURRENT
(VALUES ABOVE THE 30°C RISE ARE EXTRAPOLATED)



TEMPERATURE VERSUS CURRENT
FOR BRASS TERMINALS IN NINE CIRCUIT HOUSINGS
ALL NINE CIRCUITS CARRY THE INDICATED CURRENT
(VALUES ABOVE THE 30°C RISE ARE EXTRAPOLATED)

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PRODUCT SPECIFICATION FOR .084/(2.13) DIAMETER SERIES CONNECTOR HOUSINGS AND TERMINALS

(GOLD PLATED TERMINALS ONLY)

4.0 Ratings:

4.1 Voltage: 600 Volts

4.2 Current and Applicable Wires:

ITEM	TEST CONDITION	REQUIREMENT
Temperature Rise	Mate the connectors and measure the contact temperature at the rated current load (IEC STD. 512-3)	Maximum Temperature of the terminal over ambient of 30 C (see sheet 2)

-See sheet 2 for typical temperature versus current curves
-14 to 20 AWG wire - Outside Insulation Diameter .130 inch (3.30mm) Maximum

4.3 Temperature: Operating - 55 C to + 105 C

5.0 Performance Specifications

5.1 Electrical Performance

ITEM	TEST CONDITION	REQUIREMENT
Contact Resistance [Low Level]	Mate connectors with a maximum voltage of 20 mV and a current of 100 mA (MIL-STD-1344A METHOD 3004.1)	3.5 milliohms Maximum (initial)
Insulation Resistance	Mate connectors with a voltage of 500 VDC between adjacent terminals. (MIL-STD-1344A METHOD 3003.1)	1000 Megohms Minimum (initial)
Dielectric Strength	Mate connectors with a voltage of 5000 VAC for 1 minute between adjacent terminals. (MIL-STD-1344A METHOD 3001.1)	No Breakdown

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PRODUCT SPECIFICATION FOR .084/(2.13) DIAMETER SERIES CONNECTOR HOUSINGS AND TERMINALS

(GOLD PLATED TERMINALS ONLY)

5.2 Mechanical Performance

ITEM	TEST CONDITION	REQUIREMENT	
		MAX	Min
Connector Insertion and Withdrawal	Insert and withdraw connectors at a rate of 0.5 inches per minute (12.7 mm per minute) (MIL-STD-1344A METHOD 2013.1)	INSERTION 1.5	WITHDRAWAL 0.5 (per terminal, initial)
Retention Force in Housing	Axial pull out force on the terminal in the housing at a rate of .5 inches per minute (12.7 mm per minute) (MIL-STD-1344A METHOD 2012.1)	15 lbf Minimum	
Durability	Mate connectors up to 50 cycles at a maximum rate of 5 cycles per minute (MIL-STD-1344A METHOD 2016)	3.6 milliohm Max	
Vibration	Amplitude: .060" (1.5 mm) peak to peak Sweep: 10-55-10 Hertz in one minute Duration: 2 hours in each X-Y-Z axis (MIL-STD-1344A METHOD 2005.1) (TEST CONDITION I)	Appearance: No Damage Contact Resistance: 5.0 milliohm Maximum Discontinuity: 1 micro second Maximum	
Mechanical Shock	50 G's with three shocks in each X-Y-Z axis (MIL-STD-1344A METHOD 2004.1) (TEST CONDITION A)	Appearance: No Damage Contact Resistance: 6 milliohm Maximum Discontinuity: 1 micro second Maximum	
Wire Pullout Force (Axial)	Apply an axial pullout force on the wire at a rate of 1 +/- 1/4 inch per minute (25 +/- 6 mm per minute) (MIL-STD-1344A METHOD 2003.1)	AWG 14 16 18 20	Pullout Force 50 lbf 45 lbf 30 lbf 14 lbf
Terminal Insertion Force (Axial)	Apply an axial insertion force on the terminal at a rate of 1 +/- 1/4 inch per minute (25 +/- 6 mm per minute) (MIL-STD-1344A METHOD 2012.1)	2.0 lbf Maximum	

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PRODUCT SPECIFICATION FOR .084/(2.13) DIAMETER SERIES CONNECTOR HOUSINGS AND TERMINALS

(GOLD PLATED TERMINALS ONLY)

5.2 Mechanical performance (continued):

ITEM	TEST CONDITION	REQUIREMENT
Plug latch strength	Mate connectors and pull apart until both latches break, record the maximum force.	Minimum 35.0 lbf
Panel retention for cap	Insert cap housing into panel cut out per the sales drawing requirements, push cap opposite the way it was assembled until the locking barbs break, record the maximum force.	Minimum 75.0 lbf

5.3 Environmental Performance

ITEM	TEST CONDITION	REQUIREMENT
Thermal Shock	Mate connectors exposed for 25 cycles of: Temperature Duration -55 +0/-3 C 30 minutes 85 +3/0 C 30 minutes (MIL-STD-1344A METHOD 1003.1) (TEST CONDITION A-1)	Appearance: No Damage Contact Resistance: 3.75 milliohm Maximum Dielectric strength: 5000 Vac for 1 minute
Humidity-temperature cycling	Mate connectors and expose to Temperature -humidity cycling between 25 c and 65 c at 95% RH, -10 c with humidity not controlled (MIL-STD-1344A METHOD 1002.1) (TYPE II)	Appearance: No Damage Contact Resistance: 6.00 milliohm Maximum Dielectric Strength: 5000 VAC for 1 minute Insulation Resistance: 100 Megohms Minimum
Salt spray	Expose unmated connector assemblies to a salt spray concentration of 5% at 35 C for 48 hours. (MIL-STD-1344A METHOD 1001.1)	7.00 milliohm Maximum Dielectric Strength: 5000 VAC for 1 minute

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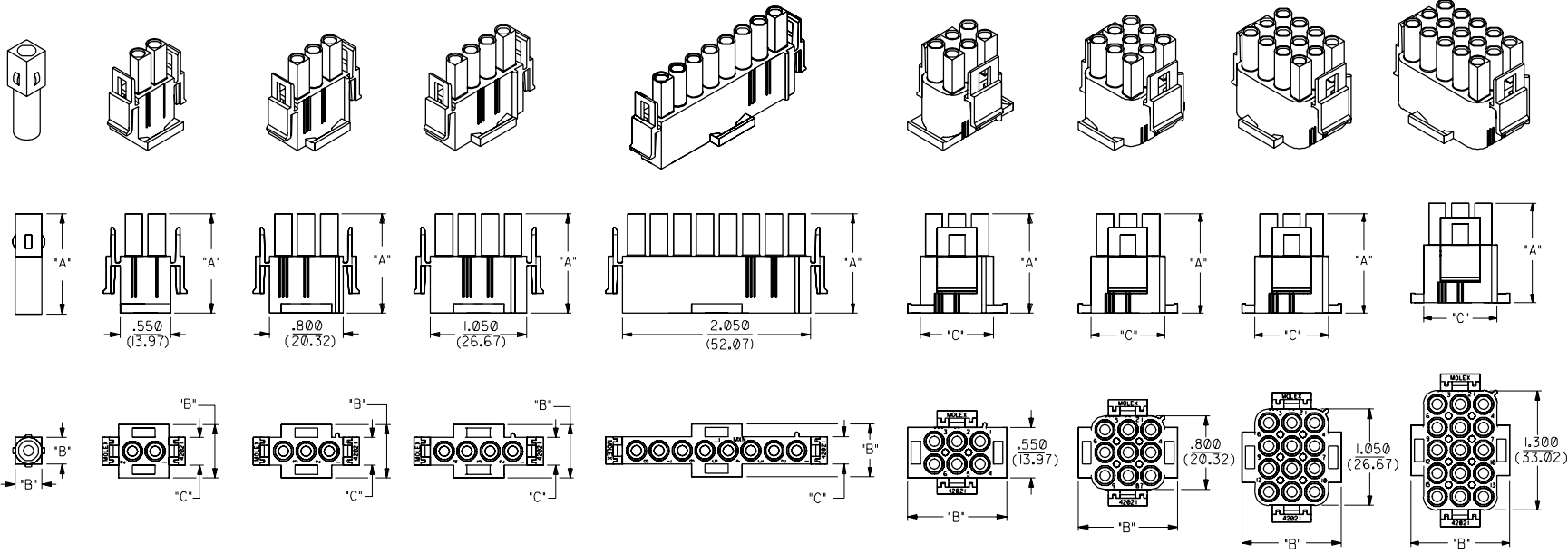
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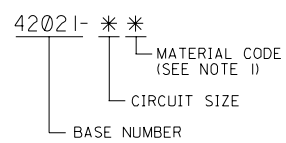


PART NO.	ENG. NO.	CIRCUIT SIZE	MATERIAL (SEE NOTE 1)	DIM. "A"	DIM. "B"	DIM. "C"
050-84-1010	42021-1A	1	A	1.080 (27.43)	.290 (7.37)	----
050-84-1011	42021-1B	1	B			
050-84-1015	42021-1C	1	C			
050-84-1020	42021-2A	2	A	1.080 (27.43)	.580 (14.73)	.300 (7.62)
050-84-1021	42021-2B	2	B			
050-84-1025	42021-2C	2	C			
050-84-1030	42021-3A	3	A	1.080 (27.43)	.580 (14.73)	.300 (7.62)
050-84-1031	42021-3B	3	B			
050-84-1035	42021-3C	3	C			
050-84-1040	42021-4A	4	A	1.080 (27.43)	.580 (14.73)	.300 (7.62)
050-84-1041	42021-4B	4	B			
050-84-1045	42021-4C	4	C			
050-84-1060	42021-6A	6	A	1.080 (27.43)	1.080 (27.43)	.800 (20.32)
050-84-1061	42021-6B	6	B			
050-84-1065	42021-6C	6	C			
PRELIMINARY	42021-8A	8	A	1.080 (27.43)	.580 (14.73)	.300 (7.62)
PRELIMINARY	42021-8B	8	B			
PRELIMINARY	42021-8C	8	C			
050-84-1090	42021-9A	9	A	1.080 (27.43)	1.080 (27.43)	.800 (20.32)
050-84-1091	42021-9B	9	B			
050-84-1095	42021-9C	9	C			
050-84-1120	42021-12A	12	A	1.080 (27.43)	1.080 (27.43)	.800 (20.32)
050-84-1121	42021-12B	12	B			
050-84-1125	42021-12C	12	C			
050-84-1150	42021-15A	15	A	1.080 (27.43)	1.080 (27.43)	.800 (20.32)
050-84-1151	42021-15B	15	B			
050-84-1155	42021-15C	15	C			

NOTES:

- 1) MATERIAL CODES:
"A"= NYLON TYPE 6/6, 94V-2
COLOR: NATURAL (WHITE/TRANSLUCENT)
"B"= NYLON TYPE 6/6, 94V-0
COLOR: (BRICK RED)
"C"= NYLON TYPE 6/6, 94V-0
COLOR: NATURAL (WHITE)
- 2) UNLESS OTHERWISE INDICATED, DIMENSIONS ARE FOR REFERENCE ONLY.
- 3) PLUG HOUSINGS MATE WITH :
- CAP HOUSINGS, .084/(2.13) DIA. SERIES: (42022-...)
- HEADER ASSEMBLY HOUSINGS, .084/(2.13) DIA. SERIES: (A-42002-.....)
- 4) HOUSINGS DESIGNED TO BE USED WITH TERMINALS :
- PINS, .084/(2.13) DIA. SERIES: (42023-....)
- SOCKETS, .084/(2.13) DIA. SERIES: (42024-....)
- 5) CONTACTS ARE ON .250/(6.35) GRID CENTERLINE SPACING.
- 6) PRODUCT SPECIFICATION PS-42022-0001 APPLIES.

LEGEND:



DIMENSIONS SHOWN (METRIC) INCH		▽ = 0 ▼ = 0		MFG. SH. REV. LTR. REVISIONS	
UNLESS OTHERWISE SPECIFIED TOLERANCES: ANGULAR ± 1/2°		TITLE		REVISE ONLY ON CAD SYSTEM	
3 PLACE ± .010 2 PLACE ± .014 1 PLACE ± .036		HOUSINGS, PLUG .084" (2.13) DIA. SERIES		SHEET NO. 1 OF 1 DATE 11/16/87	
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