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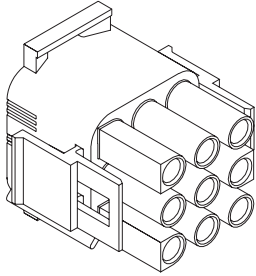
JAMECO[®]
ELECTRONICS

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Jameco Part Number 1972186

2.13mm (.084") Diameter MLX™ Pin and Socket Plug 42021



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:

Circuits							
1	2	3	4	6	9	12	15
13.5A	13.5A	13.5A	13.5A	11.0A	11.0A	11.0A	11.0A

Dielectric Withstanding Voltage: 2900V (Header),
5000V (Wire-To-Wire)
Insulation Resistance: 1000 Megohms min.

Mechanical

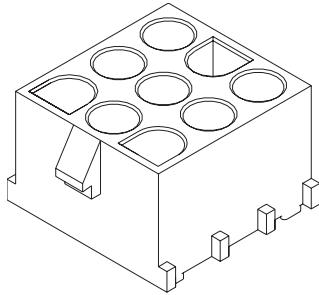
Contact Retention to Housing: 66.88N (15 lb)

Physical

Plug Housing: Nylon, 94V-2 or 94V-0
Operating Temperature: -55 to +105°C

Circuits	Amperes/Circuit (Max.)	Order No.		
		94V-2 (White)	94V-0 (Brick Red)	94V-0 (White)
1	13.5	50-84-1010	50-84-1011	50-84-1015
2		50-84-1020	50-84-1021	50-84-1025
3		50-84-1030	50-84-1031	50-84-1035
4		50-84-1040	50-84-1041	50-84-1045
6	11	50-84-1060	50-84-1061	50-84-1065
9		50-84-1090	50-84-1091	50-84-1095
12		50-84-1120	50-84-1121	50-84-1125
15		50-84-1150	50-84-1151	50-84-1155

2.13mm (.084") Diameter MLX™ Power Connector Header 42002 Vertical



Features and Benefits

- Intermateable, intermountable and interchangeable with industry-standard versions
- Cross tested to assure industry compatibility
- Positive locks
- Fully isolated contacts

Reference Information

Product Specification: PS-42022-0001
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980
Designed In: Inches

Electrical

Voltage: 600V
Current:

Circuits						
2	3	4	6	9	12	15
13.5A	13.5A	13.5A	11.0A	11.0A	11.0A	11.0A

Contact Resistance: 3.5 milliohms max.
Dielectric Withstanding Voltage: 2900V
Insulation Resistance: 1000 Megohms min.

Physical

Header Housing: See Table
Header Contact: Phosphor Bronze
Plating: Tin
Operating Temperature: -55 to +105°C

Circuits	Order No.				Housing	Lead-free
	White		Brick Red			
	Male	Female	Male	Female		
2	10-84-4020	10-84-4022	10-84-4021	10-84-4023	94V-2	Yes
	10-84-5020	10-84-5021		10-84-4023	94V-0	
3	10-84-4030	10-84-4032	10-84-4031	10-84-4033	94V-2	
	10-84-5030	10-84-5031		10-84-4033	94V-0	
4	10-84-4040	10-84-4042	10-84-4041	10-84-4043	94V-2	
	10-84-5040	10-84-5041		10-84-4043	94V-0	
6	10-84-4060	10-84-4062	10-84-4061	10-84-4063	94V-2	
	10-84-5060	10-84-5061		10-84-4063	94V-0	
9	10-84-4090	10-84-4092	10-84-4091	10-84-4093	94V-2	
	10-84-5090	10-84-5091		10-84-4093	94V-0	
12	10-84-4120	10-84-4122	10-84-4121	10-84-4123	94V-2	
	10-84-5120	10-84-5121		10-84-4123	94V-0	
15	10-84-4150	10-84-4152	10-84-4151	10-84-4153	94V-2	
	10-84-5150	10-84-5151		10-84-4153	94V-0	



MOLEX INCORPORATED
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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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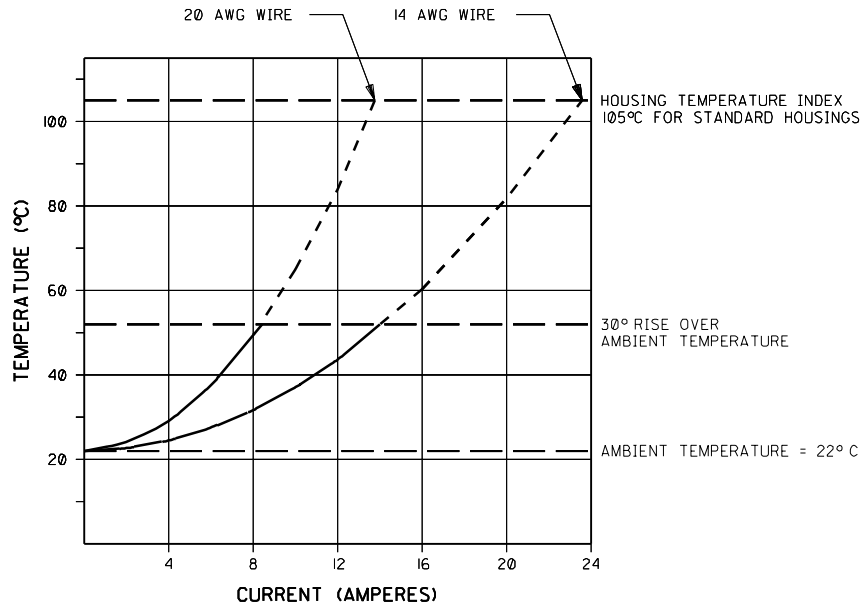


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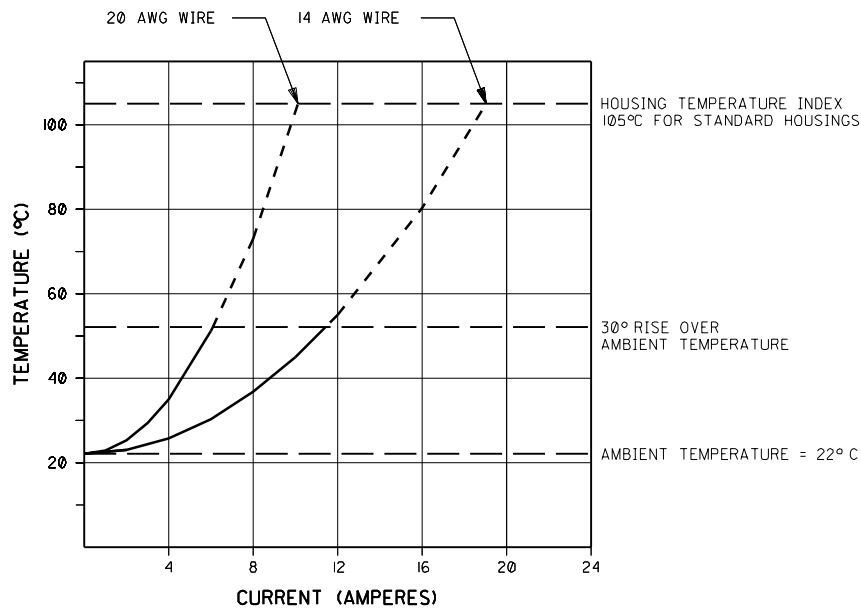
PRODUCT SPECIFICATION FOR .084/(2.13) DIAMETER SERIES CONNECTOR HOUSINGS AND TERMINALS

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	Pullout Force
		14	50 lbf
		16	45 lbf
		18	30 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)	20	14 lbf

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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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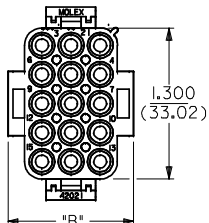
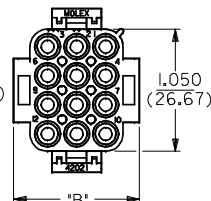
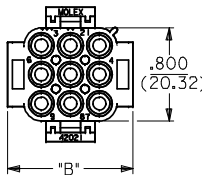
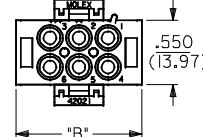
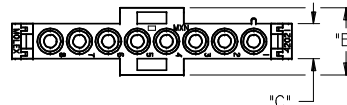
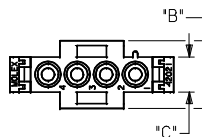
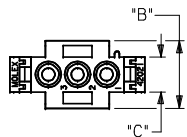
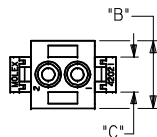
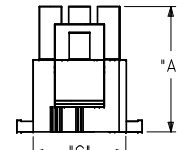
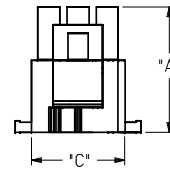
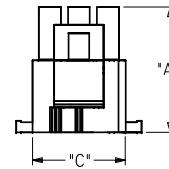
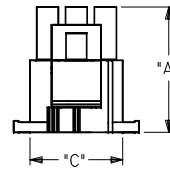
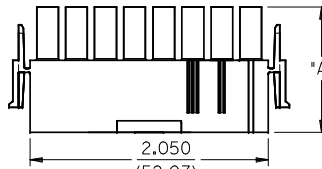
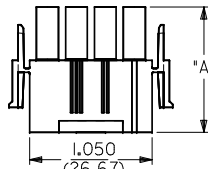
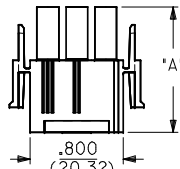
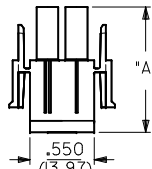
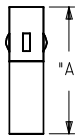
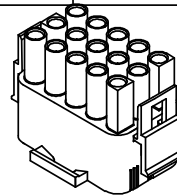
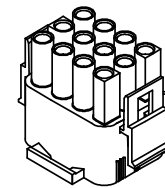
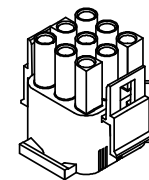
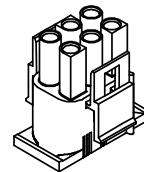
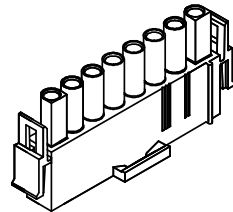
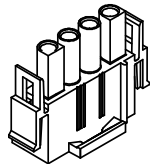
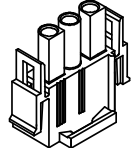
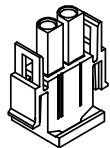
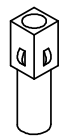
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PART NO.	ENG. NO.	CIRCUIT SIZE	MATERIAL (SEE NOTE 1)	DIM. "A"	DIM. "B"	DIM. "C"
050-84-1010	42021-1A	1	A	1.080 (27.43)	.290 (7.37)	----
050-84-1011	42021-1B	1	B			
050-84-1015	42021-1C	1	C			
366430001	36643-001	1	D			
050-84-1020	42021-2A	2	A	1.080 (27.43)	.580 (14.73)	.300 (7.62)
050-84-1021	42021-2B	2	B			
050-84-1025	42021-2C	2	C			
366430002	36643-002	2	D			
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			
366430003	36643-003	3	D			
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			
366430004	36643-004	4	D			
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			
366430005	36643-005	6	D			
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			
366430006	36643-006	9	D			
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			
366430007	36643-007	12	D			
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			
366430008	36643-008	15	D			

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)

D= NYLON 94V-2
COLOUR:NATURAL,899921279
GLOW WIRE COMPATIBLE WITH CTI OF 325 VOLTS,
ACCORDING TO IEC 60335-4TH EDITION

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-****)

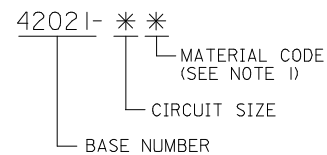
4) HOUSINGS DESIGNED TO BE USED WITH TERMINALS :
- PINS, .084/(2.13) DIA. SERIES: (42023-****)
- SOCKETS, .084/(2.13) DIA. SERIES: (42024-****)

5) CONTACTS ARE ON .250/(6.35) GRID CENTERLINE
SPACING.

6) PRODUCT SPECIFICATION PS-42022-0001 APPLIES.

7) LEGEND SCHEME IS NOT APPLICABLE FOR GLOW WIRE
COMPATIBLE PART NUMBERS

LEGEND:



ENTER DESCRIPTION EC NO: 12008-0611 DRWNSJ CHKD:KPRASAD APPR:KPRASAD 2008/05/14 2008/05/16 2008/06/02	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE IN/MM		SCALE 1.5:1	DESIGN UNITS INCH	THIRD ANGLE PROJECTION	
			mm	INCH	DRAWN BY RK	DATE 87/11/16	TITLE HOUSING, PLUG .084/(2.13) DIA. SERIES	
			4 PLACES ± --- ± ---	3 PLACES ± --- ± .010	CHECKED BY GWF	DATE 87/11/16		
			2 PLACES ± 0.25 ± 0.14	1 PLACE ± 0.36 ± ---	APPROVED BY GWF	DATE 87/11/16		
C1	REV	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	ANGULAR ± ---°		MATERIAL NO.		DOCUMENT NO.	
			SEE TABLE		SD-42021-**		SHEET NO.	
			SIZE A2		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		1 OF 00	