Jameco Part Number 879713

## FEATURES AND SPECIFICATIONS

# 2.54mm (.100") Pitch SL™ Crimp Housing

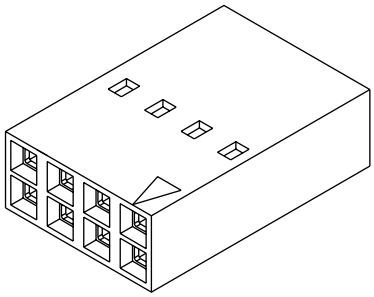
# 70450 Dual Row Version A, Nonpolarized



***Features and Benefits***
- Sizes 4 to 54 circuits
- End-to-end and side-to-side stackable for dual row connections to a 2.54mm (.100") pitch grid pin field

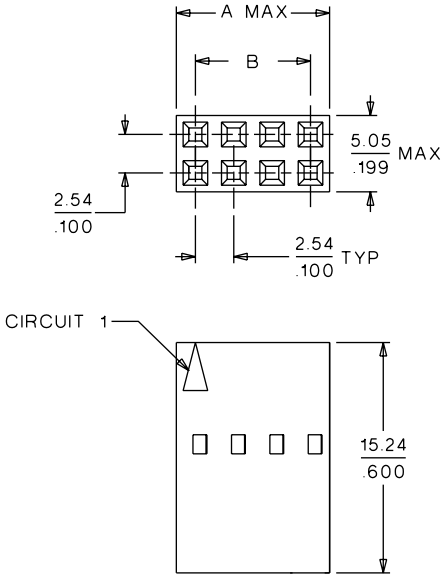
***Physical***
Housing: Black glass-filled polyester, UL 94V-0
Operating Temperature: -40 to +105˚C

***Reference Information***
Product Specification: PS-70058
Packaging: Bag
UL File No.: E29179
CSA File No.: LR19980
Mates With: 8624, 8723, 8724, 70029, 70203, 70204, 70227, 70260, 70280, 70287, 70567, 70568, 71308 and 71349 Molex dual row headers
Use With: 70058 and 71851 crimp terminals
Designed In: Inches



## CATALOG DRAWING (FOR REFERENCE ONLY)

***Not For Use With C-Grid III™ Components***




Delivered on a carrier with 20 pieces per strip.

Actual Size

**Universal Polarizing Pin**
**40713-1**
Order No. 15-04-0292

## ORDERING INFORMATION AND DIMENSIONS

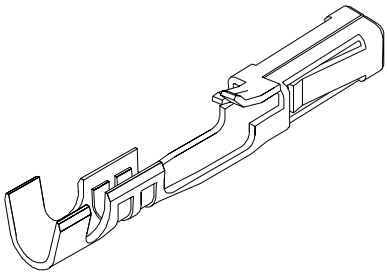
| Circuits | Order No. | Dimension | |
|---|---|---|---|
| | | A | B |
| 4 | • 22-55-2041 | 5.05 (.199) | 2.54 (.100) |
| 6 | • 22-55-2061 | 7.59 (.299) | 5.08 (.200) |
| 8 | • 22-55-2081 | 10.13 (.399) | 7.62 (.300) |
| 10 | • 22-55-2101 | 12.67 (.499) | 10.16 (.400) |
| 12 | • 22-55-2121 | 15.21 (.599) | 12.70 (.500) |
| 14 | • 22-55-2141 | 17.75 (.699) | 15.24 (.600) |
| 16 | • 22-55-2161 | 20.29 (.799) | 17.78 (.700) |
| 18 | • 22-55-2181 | 22.83 (.899) | 20.32 (.800) |
| 20 | • 22-55-2201 | 25.37 (.999) | 22.86 (.900) |
| 22 | • 22-55-2221 | 27.91 (1.099) | 25.40 (1.000) |
| 24 | • 22-55-2241 | 30.45 (1.199) | 27.94 (1.100) |
| 26 | • 22-55-2261 | 32.99 (1.299) | 30.48 (1.200) |
| 28 | • 22-55-2281 | 35.53 (1.399) | 33.02 (1.300) |

| Circuits | Order No. | Dimension | |
|---|---|---|---|
| | | A | B |
| 30 | • 22-55-2301 | 38.07 (1.499) | 35.56 (1.400) |
| 32 | • 22-55-2321 | 40.61 (1.599) | 38.10 (1.500) |
| 34 | • 22-55-2341 | 43.15 (1.699) | 40.64 (1.600) |
| 36 | • 22-55-2361 | 45.69 (1.799) | 43.18 (1.700) |
| 38 | • 22-55-2381 | 48.23 (1.899) | 45.72 (1.800) |
| 40 | • 22-55-2401 | 50.77 (1.999) | 48.26 (1.900) |
| 42 | • 22-55-2421 | 53.31 (2.099) | 50.80 (2.000) |
| 44 | • 22-55-2441 | 55.85 (2.199) | 53.34 (2.100) |
| 46 | • 22-55-2461 | 58.39 (2.299) | 55.88 (2.200) |
| 48 | • 22-55-2481 | 60.93 (2.399) | 58.42 (2.300) |
| 50 | • 22-55-2501 | 63.47 (2.499) | 60.96 (2.400) |
| 52 | • 22-55-2521 | 66.01 (2.599) | 63.50 (2.500) |
| 54 | • 22-55-2541 | 68.55 (2.699) | 66.04 (2.600) |

• US Standard Product, available through Molex franchised distributors

# PRODUCT SPECIFICATION

"SL CRIMP TERMINAL"



SERIES 70058 TERMINAL

1.0 SCOPE

This specification covers the crimp terminal #70058-**** used with the single row fully stackable connector housing #70066-****, and the dual row fully stackable connector housing #70450-****.

2.0 PRODUCT DESCRIPTION

2.1 Product is available in single row 2-25 circuits, on (2.54) .100" centers, or dual row 4-50 circuits on (2.54) .100 x (2.54) .100 centers.

2.2 Connector assemblies will mate with the following:

2.2.1 (0.64) .025" square or round pins assembled directly into P.C. board on .100 centers.

2.2.2 Shrouded or unshrouded single or dual-row wafers, with (0.64) .025 square or round pins.

2.2 Connectors are stackable end to end, side to side on (2.54) .100" center pins with option "A" housing only.

2.2.1 Polarizing ribs available on front of housing for use with headers, or on back for use with interim clip assemblies, housing #70066-**** only.

2.2.2 Active latch with polarizing ribs, for use with headers, housing #70066-**** only.

2.3 Maximum mating pin height to be (8.13) .320", minimum pin height to be (5.08) .200". Pin height, measured from top of wafers or P.C. board, to top of pin.

"SL CRIMP TERMINAL"

2.4 Connector assembly will accept wire range from 36 to 20 AWG. Refer to the table below for the wire gage, wire requirements, and crimp height.

| WIRE GAGE (AWG) | CRIMP HEIGHT | WIRE TYPE |
|---|---|---|
| 30 | .027" to .029" | Stranded, Stranded |
| 28 | .030" to .032" | Tinned, Stranded Top Coated |
| 26 | .031" to .033" | 1.52mm/.060in Maximum Insulation Diameter |
| 24 | .033" to .035" | Stranded, Stranded Tinned, Stranded Top |
| 22 | .033" to .035" | Coated 1.63mm/.064in Maximum Insulation Diameter |
| 20 | .033" to .035" | Stranded $0.5mm^2/.0078in^2$ Maximum Conductor Area. PVC Insulation, 1.70mm/.067in Maximum Diameter |

3.0 RECOGNIZED AGENCY APPROVALS

3.1 Underwriters Laboratories: UL #E29179.

3.2 Canadian Standards Associations: CSA #LR19980.

4.0 MECHANICAL SPECIFICATIONS

4.1 Materials

4.1.1 Housing #70066-**** and #70450-**** is molded of black G.F. polyester 94V-0.

4.1.2 Terminal 70058-**** is a high strength copper alloy.

4.1.2.1 Finish .000200 min. electro-tin plate over .000100 min. copper plate overall.

4.1.2.2 Finish .000015 min. gold plate in selected area over .000050 min. nickel overall, with .000075 min. electro-tin lead (90/10) in selected area.

4.1.2.3 Finish .000030 min. gold in selected area over .000050 min. nickel plate overall, with .000075 min. electro-tin/lead (90/10) in selected area.

4.1.2.4 For special finish requirements, consult Molex marketing as to availability, cost and lead time.

4.2 Terminal Pull-Out Force, from Housing:

Must withstand gradual applied force of 4 pounds for 15 seconds.

4.3 Insulating Materials:

Temperature rating -40°C to +105°C

4.4 Insertion/Withdrawal Forces:

AVERAGE INSERTION AND WITHDRAWAL FORCES *

| PLATING TYPE | AFTER 1 CYCLE | | AFTER 10 CYCLES | | AFTER 25 CYCLES | | AFTER 50 CYCLES | |
|---|---|---|---|---|---|---|---|---|
| | INSERTION FORCE | WITHDRAWAL FORCE | INSERTION FORCE | WITHDRAWAL FORCE | INSERTION FORCE | WITHDRAWAL FORCE | INSERTION FORCE | WITHDRAWAL FORCE |
| TIN 4.4.1 | .32 lbf 1.4 N | .26 lbf 1.2 N | .23 lbf 1.0 N | .27 lbf 1.2 N | .24 lbf 1.1 N | .25 lbf 1.1 N | No Data | No data |
| GOLD 4.4.4 | .34 lbf 1.5 N | .18 lbf 0.8 N | .27 lbf 1.2 N | .15 lbf 0.7 N | No Data | No Data | .25 lbf 1.1 N | .14 lbf 0.6 N |

*Steel gage pins used to perform test:
Insertion Gage Pin: .0260+.0000-.0001
Withdrawal Gage Pin: .0240+.0001-.0000

4.4.1 "Tin" Plating System: .000200 Min. Tin over .000100 Min. copper

4.4.2 "Gold" Plating System: .000030 Min. Gold over .000050 Min. nickel

5.0 ELECTRICAL/ENVIRONMENTAL SPECIFICATIONS:

5.1 The following performance criteria is based on grouped, sequential testing.

5.2 All contact resistance values measured at 20 millivolts max. open circuit voltage and 5-15 milliamperes using the 4 point dry circuit method, with a Hewlett-Packard Milliohmeter, Model #4328A.

5.3 All tin contact systems cycled 1, 5 & 25 times prior to grouped sequential testing, using (0.64) .025" square pins with .000200 min. tin over .000100 min. copper.

All gold contact systems cycled 1, 25 & 50 times prior to grouped sequential testing, using (0.64) .025" square pins with .000030 min. gold over .000050 min. nickel.

5.4 Group I Sequence: Mated Environment

| | Test/Specifications | Test Severity/Duration |
|---|---|---|
| 5.4.1 | Thermal Shock<br>IEC 68-2-14 | -40°C to +105°C 30 minute dwell at each temperature is one cycle. 10 cycles |
| 5.4.2 | Thermal Aging<br>Mil. Std. -202F, 108A | +105°C for 10 days |
| 5.4.3 | Cyclic Humidity<br>Mil. Std. -202F, 106D without cold dip | Temperature cycles between +25°C to +65°C at 96% R.H. for 240 hours. |
| 5.4.4 | Flowers of Sulphur | Exposed to sulphur vapors for 24 hours at +65°C. |
| 5.4.5 | Contact Resistance not to exceed 15 milliohms, total | |

5.5 Group II Sequence: Un-Mated Environment:

| | Test/Specifications | Test Severity/Duration |
|---|---|---|
| 5.5.1 | Thermal Shock<br>IEC 68-2-14 | -40°C to +105°C 30 minute dwell at each temperature is one cycle. 10 cycles |
| 5.5.2 | Thermal Aging<br>Mil. Std. -202F, 108A | +105°C for 10 days |
| 5.5.3 | Steady State Humidity Mil. Std. -202F, 103B<br>Condition A | +40°C at 96% R.H. for 10 days |
| 5.5.4 | Flowers of Sulphur<br>IEC 69-2-42 | Exposed to sulphur vapors for 24 hours at +65°C |
| 5.5.5 | Mate once, contact resistance not to exceed 15 milliohms, total | |

5.6 Group III Sequence: Mated Environment Gold Contact System

| | Test/Specifications | Test Severity/Duration |
|---|---|---|
| 5.6.1 | Steady State Humidity, Mil. Std. -202F, 103B<br>Condition A | +40°C at 96% R.H. for 10 days. |
| 5.6.2 | Salt Spray<br>Mil. Std. -202F<br>101D, Condition A | 96 hours at +35°C, 5% sodium chloride |
| 5.6.3 | Physical Shock<br>Mil. Std. -202F<br>213B | ½ Sine Wave, 50G, 11MS pulse<br>3 shocks per axis for 240 hours. |
| 5.6.4 | Vibration Mil. Std.<br>-202F, 201A | 10-55-10 HZ, 1 minute cycles<br>for 2 hours in each axis.<br>.03 inch excursion, 10G. |
| 5.6.5 | Contact resistance not to exceed 15 milliohms, total | |

5.7 Group IV Sequence: Mated Electrical

| | Test/Specifications | Test Severity/Duration |
|---|---|---|
| 5.7.1 | Steady State Humidity, Mil. Std. -202F, 103B Condition A | +40°C at 96% R.H. for 10 days. |
| 5.7.2 | Temperature Rise | Increase current to achieve 30°C rise above ambient. Dwell for 48 hours at that current. |
| 5.7.3 | Current Ratings: | 30 Awg - 0.7A \| 36 Awg - 0.21A<br>28 Awg - 1.2A \| 34 Awg - 0.32A<br>26 Awg - 1.8A \| 32 Awg - .045A<br>24 Awg - 3.0A \|<br>22 Awg - 3.0A \| |

5.8 Insulation Resistance: Per Mil. Std. 202, Method 302, Condition B. Resistance measured after sequence 5.5.1 thru 5.5.5 to be no less than 10K megohms.

5.9 Dielectric Strength: AC voltage increased until breakdown.

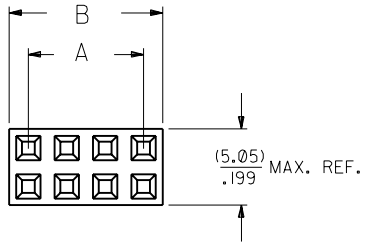
Voltage measured after sequence 5.5.1 thru 5.5.5 to be no less than 600 volts AC R.M.S. for 1 minute at sea level to 5,000 feet.

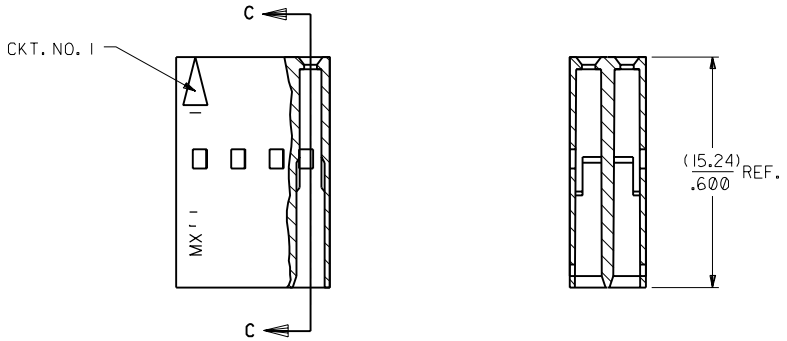
5.10 Capacitance: Less than 1.2 pico-farads.

NOTES:

1) MATERIAL: G.F. POLYESTER
2) HOUSING TO BE USED WITH TERMINALS PT. NO. 70058-**** & 70028-****
3) SEE CHART FOR CIRCUIT SIZES.
4) TO BE USED WITH (0.64)/.025 SQ. OR RD. PINS.
5) PARTS STACKABLE END TO END AND SIDE BY SIDE ON (2.54)/.100 CENTERS.
6) REFER TO PRODUCT SPECIFICATION PS-70058.
7) PACKAGE PER PK-70450-100.

-OPTION "A"-




SECTION C-C

| CKT. SIZE | EDP. NO. | ENG. NO. | A | B |
|---|---|---|---|---|
| 4 | 022-55-2041 | 70450-0001 | (2.54) .100 | (5.05) .199 |
| 6 | 022-55-2061 | 70450-0002 | (5.08) .200 | (7.59) .299 |
| 8 | 022-55-2081 | 70450-0003 | (7.62) .300 | (10.13) .399 |
| 10 | 022-55-2101 | 70450-0004 | (10.16) .400 | (12.67) .499 |
| 12 | 022-55-2121 | 70450-0005 | (12.70) .500 | (15.21) .599 |
| 14 | 022-55-2141 | 70450-0006 | (15.24) .600 | (17.75) .699 |
| 16 | 022-55-2161 | 70450-0007 | (17.78) .700 | (20.29) .799 |
| 18 | 022-55-2181 | 70450-0008 | (20.32) .800 | (22.83) .899 |
| 20 | 022-55-2201 | 70450-0009 | (22.86) .900 | (25.37) .999 |
| 22 | 022-55-2221 | 70450-0010 | (25.40) 1.000 | (27.91) 1.099 |
| 24 | 022-55-2241 | 70450-0011 | (27.94) 1.100 | (30.45) 1.199 |
| 26 | 022-55-2261 | 70450-0012 | (30.48) 1.200 | (32.99) 1.299 |
| 28 | 022-55-2281 | 70450-0013 | (33.02) 1.300 | (35.53) 1.399 |
| 30 | 022-55-2301 | 70450-0014 | (35.56) 1.400 | (38.07) 1.499 |
| 32 | 022-55-2321 | 70450-0015 | (38.10) 1.500 | (40.61) 1.599 |
| 34 | 022-55-2341 | 70450-0016 | (40.64) 1.600 | (43.15) 1.699 |
| 36 | 022-55-2361 | 70450-0017 | (43.18) 1.700 | (45.69) 1.799 |
| 38 | 022-55-2381 | 70450-0018 | (45.72) 1.800 | (48.23) 1.899 |
| 40 | 022-55-2401 | 70450-0019 | (48.26) 1.900 | (50.77) 1.999 |
| 42 | 022-55-2421 | 70450-0020 | (50.80) 2.000 | (53.31) 2.099 |
| 44 | 022-55-2441 | 70450-0021 | (53.34) 2.100 | (55.85) 2.199 |
| 46 | 022-55-2461 | 70450-0022 | (55.88) 2.200 | (58.39) 2.299 |
| 48 | 022-55-2481 | 70450-0023 | (58.42) 2.300 | (60.93) 2.399 |
| 50 | 022-55-2501 | 70450-0024 | (60.96) 2.400 | (63.47) 2.499 |
| 52 | 022-55-2521 | 70450-0025 | (63.50) 2.500 | (66.01) 2.599 |
| 54 | 022-55-2541 | 70450-0026 | (66.04) 2.600 | (68.55) 2.699 |

70450

| LTR. | REVISIONS | LTR. | REVISIONS |
|---|---|---|---|
| | | D | REVISED PER ECR # U00293 07-13-90 MGB/DJK |
| F | ADD PKG NOTE PER UDT2000-0468 SCHAFER 99/12/1 | C | ADD NOTE 6 PER ECR #10059 05/01/87 MJM/JAS |
| E | REVISED PER ECN UDT1999-0722 R.S.FOX 99/03/09 | B | REDRAWN ON CAD PER ECR #9296 10/22/86 MJM |

DIMENSIONS SHOWN (METRIC) INCH.
UNLESS OTHERWISE SPECIFIED TOLERANCES: ANGULAR ± 1/2°

| | INCH | METRIC |
|---|---|---|
| 3 PLACE | ± .010 | --- |
| 2 PLACE | ± .014 | ± 0.25 |
| 1 PLACE | --- | ± 0.35 |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

| | | | |
|---|---|---|---|
| DRWG. BY | MJM | CHK'D. BY | MJM |
| APP'D. BY | WAZ | SCALE | 4: 1 |

MFG. SH. REV.

▽ = 0 ▼ = 0 REVISE ONLY ON CAD SYSTEM

TITLE
HOUSING - CONNECTOR
DUAL ROW
(2.54)/.100 GRID STACKABLE

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

SHEET NO. 1 OF 1
DATE 10/22/86

PART NO. SEE CHART
DRWG. NO. SD-70450-0001-0026

FILE NAME S70450X1.DGN



DIV. DA
SIZE C