



PRODUCT SPECIFICATION

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FOR SINGLE ROW, HIGH TEMPERATURE "SL" SHROUDED HEADER SYSTEM

1.0 SCOPE

This Product Specification covers the .100/(2.54 mm) grid, single row, fully shrouded, "SL" header system.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER(S)

- 70541 Straight Mount Header, with active latch and PC board snaps
- 70543 Straight Mount Header, with active latch
- 70545 Straight Mount Header, with active latch and PC board retention tri-pegs
- 70546 Straight Mount Header, low profile with PC board retention tri-pegs
- 70551 Right Angle Mount Header, with active latch and PC board snaps
- 70553 Right Angle Mount Header, with active latch
- 70555 Right Angle Mount Header, with active latch and PC board retention tri-pegs
- 70556 Right Angle Mount Header, low profile with PC board retention tri-pegs
- 70563 Straight Mount Header, with active latch
- 70564 Straight Mount Header, low profile
- 70566 Straight Mount Header, low profile with PC board retention tri-pegs
- 70571 Right Angle Mount Header, with active latch and PC board snaps
- 70575 Right Angle Mount Header, with active latch and PC board retention tri-peg
- 70634 Right Angle Mount SMT Header, with active latch and PC board retention tri-peg
- 71164 Straight Mount & Right Angle Headers, with voided circuits
- 74098 Right Angle Mount SMT Header, with active latch and PC board snaps
- 74099 Straight Mount SMT Header, with active latch, and some with Pick & Place Cap
- 74105 Right Angle SMT Header, with active latch

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

2.2.1 Pin Height

2.2.1.1 Maximum pin height: .320/(8.13mm)

2.2.1.2 Minimum pin height: .200/(5.08mm)

2.2.2 Centerline spacing (pitch): .100/(2.54mm)

2.2.3 Termination Method:

2.2.3.1 Thru Hole: Wave Solder

2.2.3.2 SMT: Reflow

2.2.4 Housings: Black Glass Filled Polyester, UL 94V-0

2.2.5 Pins: Phosphor Bronze

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2.2.6 Plating: Gold and Tin

- 2.2.6.1 Gold: 30 microinches/0.76 micrometers minimum Gold in select area
75 microinches/1.91 micrometers minimum Tin in select area
Over Nickel underplate overall
or
Gold: 15 microinches/0.38 micrometers minimum Gold in select area
75 microinches/1.91 micrometers minimum Tin in select area
Over Nickel underplate overall

2.2.6.2 Tin: 150 microinches/3.80 micrometers minimum Tin over Nickel underplate overall

2.2.7 Recommended PC Board thickness: .062/(1.57mm)

See the appropriate Sales Drawing(s) for additional information on dimensions and markings.

2.3 SAFETY AGENCY APPROVALS

2.3.1 Underwriters Laboratory: UL# E29179

2.3.2 Canadian Standards Association: CSA# LR19980

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

All documents referenced shall be of the latest revision. The order of precedence shall be as follows.

- Product Drawings
- This Product Specification
- Reference Documents

3.1 REFERENCE DOCUMENTS

- EIA-364: Electronic Industries Association, Recommended Standard
- MIL-STD-202: Test methods for electronics and electrical component parts
- IEC 68-2-14 and IEC 68-2-42
- UL-94: Tests for flammability of plastic material

4.0 RATINGS

4.1 VOLTAGE

250 Volts

4.2 CURRENT

3.0 Amps Maximum

4.3 TEMPERATURE

Operating Temperature: - 40°C to + 105°C

Non-Operating Temperature: - 30°C to + 60°C

Processing Temperature: 260°C Maximum for Thru Hole Wave solder only

245°C Maximum for IR reflow SMT and Thru Hole Paste

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5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Insulation Resistance	Per MIL-STD-202, Method 302, Condition B. Resistance measured after sequences 5.2.1 thru 5.2.4.	10000 Mega-ohms MINIMUM
2	Dielectric Withstanding Voltage	AC Voltage increased until breakdown. Per MIL-STD-202, Method 302, Condition B. Voltage measured after sequences 5.2.1 thru 5.2.4	600V AC RMS MINIMUM for 1 minute at sea level to 5,000 feet.

5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
3	Terminal Retention Force (in Housing)	Axial pullout force on the terminal in the housing at a rate of $1 \pm \frac{1}{4}$ inch (25 ± 6 mm) per minute.	17.79 N (4 lbf) MINIMUM retention force
4	Tri-Peg Insertion Force (in PCB)	Recommended Hole size $.134 \pm .002$ inch (3.40 ± 0.05 mm). Insert connector at a rate of $1 \pm \frac{1}{4}$ inch (25 ± 6 mm) per minute.	44.48 N (10 lbf) MAXIMUM insertion force
5	Tri-Peg Retention Force (in PCB)	Recommended Hole size $.134 \pm .002$ inch (3.40 ± 0.05 mm). Pull connector at a rate of $1 \pm \frac{1}{4}$ inch (25 ± 6 mm) per minute.	4.45 N (1 lbf) MINIMUM retention force
6	Board Snap Insertion Force (in PCB)	Recommended Hole size $.134 \pm .002$ inch (3.40 ± 0.05 mm). Insert connector at a rate of $1 \pm \frac{1}{4}$ inch (25 ± 6 mm) per minute.	44.48 N (10 lbf) MAXIMUM insertion force
7	Board Snap Retention Force (in PCB)	Recommended Hole size $.134 \pm .002$ inch (3.40 ± 0.05 mm). Pull connector at a rate of $1 \pm \frac{1}{4}$ inch (25 ± 6 mm) per minute.	20 N (4.5 lbf) MINIMUM retention force
8	Header Housing Retention Force after Wave Solder	Apply a wave solder process of 260°C maximum. Axial pullout force on the housing at a rate of $1 \pm \frac{1}{4}$ inch (25 ± 6 mm) per minute.	13.34 N (3 lbf) MINIMUM retention force per pin

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5.3 ENVIRONMENTAL REQUIREMENT Un-mated Environment

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT						
9	Shock (Thermal)	Expose to 10 cycles of: <table border="1"> <thead> <tr> <th>Temperature °C</th> <th>Duration (Minutes)</th> </tr> </thead> <tbody> <tr> <td>-40 +0/-3</td> <td>30</td> </tr> <tr> <td>+105 +3/-0</td> <td>30</td> </tr> </tbody> </table> Per IEC 68-2-14.	Temperature °C	Duration (Minutes)	-40 +0/-3	30	+105 +3/-0	30	Visual: No Damage
Temperature °C	Duration (Minutes)								
-40 +0/-3	30								
+105 +3/-0	30								
10	Thermal Aging	Expose to: 240 hours at 105 ± 2°C Per MIL-STD-202F Method 108A.	Visual: No Damage						
11	Humidity (Steady State)	Expose to temperature of 40 ± 3°C at 96 ± 5% relative humidity for 240 hours. Per MIL-STD-202F Method 108A Test Condition A.	Visual: No Damage						
12	Flowers of Sulphur	Exposed to sulphur vapors for 24 hours at 65 ± 3°C. Per IEC 68-2-42.	Visual: No Damage						

6.0 PACKAGING

Parts are packaged to protect against damage during handling, transit, and storage. Connector housing assemblies are packaged in plastic tubes in the “pre-loaded” condition.

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