

PRODUCT SPECIFICATION

1.0 SCOPE

This specification covers the low and high profile vertical mount connector system 71412-**** and 71850-****.

2.0 PRODUCT DESCRIPTION

2.1 Connectors available in two profiles, each fully stackable end to end side to side on .100 centers.

- 2.1.1 Connectors with .250 high profile. 2.1.1.1 Connector 71412-****, with .100 x .150 P.C. tail grid.
- 2.1.2 Connectors with .340 high profile.
 - 2.1.2.1 Connector 71850-****, with .100 x .100 P.C. tail grid.
- 2.2 The dual row vertical mount connector series is a flexible range of products designed to connect:
 - 2.2.1 P.C. board to P.C. board perpendicular.
 - 2.2.2 P.C. board to P.C. board parallel.
 - 2.2.3 P.C. board to harness.
 - 2.2.4 P.C. board to chassis.
- 2.3 This connector series utilizes a double wipe female box contact and is designed for use with .025 square or .025 diameter pins.
 - .250 high profile connectors:
 - Minimum mating length of pin is .200
 - Maximum mating length of pin is .240
 - .340 high profile connectors: Minimum mating length of pin is .200
 - Maximum mating length of pin is .330
- 2.4 This connector series has P.C. tails for solder termination to a .054/.071 thick P.C. board thru a .032 minimum diameter hole. The P.C. tail has tapered lead for ease-of-insertion into the P.C. board.
- 2.5 All terminals are firmly locked into the housing with a locking lance. Minimum retention to the housing is 4 lbs. per terminal.
- 2.6 This connector series is available in a range of sizes from dual 2 (4 circuit) thru dual 40 (80 circuit) in single (2 circuit) increments.
- 2.7 This connector series will mate with a straight or right angle dual-row wafer (header) using .025 square (.025 diameter) pins on .100 centers or with individual pins inserted in a P.C. board on .100 grid centers.

Note: Sides of square pins must be parallel with axis of the row within 10°.

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3.0 RECOGNIZED AGENCY APPROVAL

- 3.1 Underwriters' Laboratories, Inc.: UL E29179 CARD B2
- 3.2 Canadian Standards Association: 019980X0000

Class 6233-01

4.0 MECHANICAL SPECIFICATIONS:

- 4.1 Materials
 - 4.1.1 Housing (71412): Glass filled polyester (Black) 94 V-0 U.L. rated Housing (71850): Glass filled LCP (Liquid Crystal Polymer) 94 V-0 U.L. rated
 - 4.1.2 Terminal: Phosphor Bronze
- 4.2 Insertion/Withdrawal Forces

Steel Gage Pins:	
Insertion gage pin:	.0260±.00000001
Withdrawal gage pin:	.0240±.00010000
	Steel Gage Pins: Insertion gage pin: Withdrawal gage pin:

- 4.2.2 Contact System: .000200 minimum tin over .000100 minimum copper
 - 4.2.2.1 Average insertion force per circuit

After 1 cycle	=	.32 lbs.
After 10 cycles	=	.23 lbs.
After 25 cvcles	=	.24 lbs.

4.2.2.2 Average withdrawal force per circuit

After 1 cycle	=	.26 lbs.
After 10 cycles	=	.27 lbs.
After 25 cycles	=	.25 lbs.

4.2.3 Contact System: .000300 minimum gold over .000050 minimum nickel

4.2.3.1 Average insertion force per circuit

After 1 cycle	=	.34 lbs.
After 10 cycles	=	.27 lbs.
After 25 cycles	=	.25 lbs.

4.2.3.2 Average withdrawal force per circuit

After 1 cycle	=	.18 lbs.
After 10 cycles	=	.15 lbs.
After 25 cycles	=	.14 lbs.

4.3 Durability: 50 mating cycles in gold plating 25 mating cycles in tin plating

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PRODUCT SPECIFICATION

4.4 Temperature:

4.4.1 Operating Temperature: Gold Plated Contacts: -40°C to +125°C Tin Plated Contacts: -40°C to +105°C

4.4.2 Non-Operating:

-40°C to +105°C

5.0 ELECTRICAL SPECIFICATIONS:

- 5.1 Current rating: 2.5 amperes maximum full connectors @ 30°C temperature rise. (3.0 amperes limited circuits).
- 5.2 Contact resistance: 15 milliohms maximum after 6.1 below.
- 5.3 Operating voltage: 500 VAC-RMS
- 5.4 Insulation resistance: 100K megaohms minimum @ 75°F & 35% R.H.
- 5.5 High voltage dielectric: 1500 V RMS

6.0 ENVIRONMENTAL SPECIFICATIONS:

- 6.1 The following tests will be performed in sequence:
 - 6.1.1 Thermal Shock: 10 Cycles 30 minutes @ -40°C, then 30 minutes @ +105°C
 - 6.1.2 Thermal Aging: +105°C for 10 days
 - 6.1.3 Steady State Humidity: +40°C at 96% R.H. for 10 days
 - 6.1.4 Salt Spray: 48 hours at 95°F, 5% salt solution @ 95% R.H.
- 6.2 Shock: to be tested.
- 6.3 Vibration: to be tested.

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