



PRODUCT SPECIFICATION

SL BOX CRIMP TERMINAL

1.0 SCOPE

This Product Specification covers the high force female crimp contact 71851-****. It is used in both the single row connector housing 70066-****, and the dual row housing 70450-****. Both versions are fully stackable.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER(S)

71851 Box Crimp High Force Terminal

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

2.2.1 For information on dimensions see the individual sales drawings.

2.2.2 Material: High strength copper alloy

2.2.3 Plating

2.2.3.1 *30 Gold*: 0.76 micrometers/30 microinches minimum gold plate in contact area; 1.91 micrometers/75 microinches minimum tin plate in crimp area; over nickel underplate overall

2.2.3.2 *15 Gold*: 0.38 micrometers/15 microinches minimum gold plate in contact area; 1.91 micrometers/75 microinches minimum tin plate in crimp area; over nickel underplate overall

2.2.3.3 *Tin-Sel*: 3.81 micrometers/150 microinches minimum tin plate in contact area; 1.91 micrometers/75 microinches minimum tin plate in crimp area; over nickel underplate overall

2.2.4 Connector Assemblies Mates with:

2.2.4.1 0.64 mm/.025 in square round pins assembled directly into PC board on .100 centers

2.2.4.2 Shrouded or unshrouded single or dual-row wafers, with 0.64mm/.025in square or round pins

2.2.4.2 70021 Crimp Terminal

2.2.5 Connector to accept wire range from 36 to 20 AWG. For recommended wire types and crimp heights, contact the Molex Inside Sales department.

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

3.1 Mil Std. 202

3.2 IEC 68-2-14

4.0 PERFORMANCE

4.1 MECHANICAL REQUIREMENTS

4.1.1 Insertion/Withdrawal Forces

4.1.1.1 Tin Plating System: 150 microinches minimum Tin over nickel underplate overall

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4.1.1.2 Gold Plating System: 30 microinches minimum Gold over nickel underplate overall

4.1.1.3 Steel gage pins used to perform test:

Insertion Gage Pin: .0260+.0000/-.0001

Withdrawal Gage Pin: .0240+.0001/-.0000

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	1.44 lbf	.63 lbf	1.12 lbf	.57 lbf	1.20 lbf	.55 lbf	No	No
4.1.1.1	6.40 N	2.80 N	4.98 N	2.54 N	5.34 N	2.45 N	Data	data
GOLD	.92 lbf	.55 lbf	.87 lbf	.45 lbf	No	No	.88 lbf	.60 lbf
4.1.1.2	4.09 N	2.45 N	3.87 N	2.00 N	Data	Data	3.91 N	2.67 N

4.1.2 Terminal Pull-out Force from Housing: Axial pullout force at a rate of of 25 ± 6 mm (1 ± ¼ inch) per minute. Requirement: 17.79 N (4 lbf) minimum retention force.

4.2 ELECTRICAL REQUIREMENTS

4.2.1 Capacitance: Less than 1.2 pico-farads

4.3 ENVIRONMENTAL REQUIREMENTS

Note: These Requirements apply to the 71851 terminal only.

4.3.1 Thermal Shock: Per IEC 68-2-14

-40°C to +105°C, 30 minute dwell at each temperature is one cycle.

Repeated for 10 cycles

Requirements: Contact Resistance not to increase more than 15 milliohms, or exceed 30 milliohms overall

4.3.2 Thermal Aging: Per Mil. Std. 202F, 108A

+105°C for 10 days

Requirements: Contact Resistance not to increase more than 15 milliohms, or exceed 30 milliohms overall

4.3.3 Cyclic Humidity: Per Mil. Std. 202F, 106D

Temperature cycles from +25°C to +65°C, at 96% R.H. for 240 hours

Requirements: Contact Resistance not to increase more than 15 milliohms, or exceed 30 milliohms overall

4.3.4 Flowers of Sulphur: Exposed to sulphur vapors for 24 hours at +65°C

Requirements: Contact Resistance not to increase more than 15 milliohms, or exceed 30 milliohms overall

4.3.5 Mechanical Shock: Per Mil. Std. 202F, Method 213B Condition A.

Peak value of 50 G's. Three shocks in each direction were applied along three mutually perpendicular axes. Minimum of 18 shocks

4.3.6 Vibration: Per Mil. Std. 202F, Method 201A.

10-55-10 Hz., one minute cycles for 2 hours in each axis. .03 inch excursion, 10 G's

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4.3.7 Contact Resistance measurements made using a 4-Point Dry Circuit Method.
 Test current was 5 milliamps and the open circuit voltage did not exceed 20 millivolts

4.3.7 Contact discontinuity was also monitored in 4.2.5 and 4.2.6
 A discontinuity is defined as being greater in duration than 1.0 microsecond, using 0.8 volts open circuit and 4 milliamps current.

Note: For Assembly (Housing / Terminal) environmental requirements see Product Specification PS-70400

5.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage. See Sales drawings for packaging specification.

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