

Molex 22-55-2041 PDF

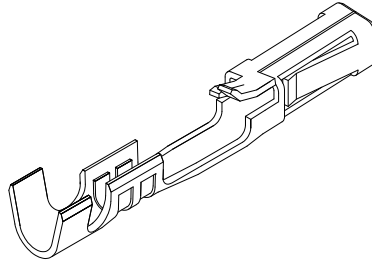
深圳创唯电子有限公司

<http://www.molex-connect.com>



PRODUCT SPECIFICATION

SL BOX CRIMP TERMINAL



1.0 SCOPE

This Product Specification covers the crimp terminal #70058-**** used with the single row fully stackable connector housing #70066-****, the dual row fully stackable connector housing #70450-****, and the dual row with latch connector housing #74130-****.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBER(S)

70058 Box Crimp 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 *Tin*: 3.81 micrometers/150 microinches minimum tin plate overall over nickel underplate overall

2.2.3.2 *Tin-Lead*: 3.81 micrometers/150 microinches minimum tin-lead (90-10) plate overall over nickel underplate overall

2.2.3.3 *50 Gold*: 1.25 micrometers/50 microinches minimum gold plate in contact area; 1.91 micrometers/75 microinches minimum tin plate in crimp area; over nickel underplate overall

2.2.3.4 *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

2.2.3.5 *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

2.2.3.6 *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

REVISION: I	ECR/ECN INFORMATION: EC No: UCP2010-0987 DATE: 2009 / 10 / 13	TITLE: PRODUCT SPECIFICATION FOR SL CRIMP TERMINAL SERIES 70058	SHEET No. 1 of 4
DOCUMENT NUMBER: PS-70058	CREATED / REVISED BY: ACHAMMER/MIBARRA	CHECKED BY: SMILLER	APPROVED BY: JCOMERCI



PRODUCT SPECIFICATION

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
- 3.3** IEC 69-2-42

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

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 4.1.1.1	.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 4.1.1.2	.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

4.2 ELECTRICAL/ENVIRONMENTAL REQUIREMENTS

Note: These requirements apply to the 70058 terminal only

4.2.1 The following performance criteria is based on grouped, sequential testing

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

4.2.3 All tin contact systems cycled 1, 5 & 25 times prior to grouped sequential testing, using 0.64mm/.025 in square pins with 150 microinches minimum tin over nickel underplate overall

All gold contact systems cycled 1, 25 & 50 times prior to grouped sequential testing, using 0.64mm/.025 in square pins with 30 microinches minimum gold over nickel underplate overall

REVISION: I	ECR/ECN INFORMATION: EC No: UCP2010-0987 DATE: 2009 / 10 / 13	TITLE: PRODUCT SPECIFICATION FOR SL CRIMP TERMINAL SERIES 70058	SHEET No. 2 of 4
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PRODUCT SPECIFICATION

4.2.4 Group I Sequence: Mated Environment

	Test/Specifications	Test Severity/Duration
5.4.1	Thermal Shock 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 Mil. Std. -202F, 108A	+105°C for 10 days
5.4.3	Cyclic Humidity 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 to be less than 10 milliohm change from Initial	

4.2.4 Group II Sequence: Mated Environment

	Test/Specifications	Test Severity/Duration
5.5.1	Thermal Shock 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 Mil. Std. -202F, 108A	+105°C for 10 days
5.5.3	Steady State Humidity Mil. Std. -202F, 103B Condition A	+40°C at 96% R.H. for 10 days
5.5.4	Flowers of Sulphur IEC 69-2-42	Exposed to sulphur vapors for 24 hours at +65°C
5.5.5	Mate once, contact resistance to be less than 10 milliohm change from Initial	

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PRODUCT SPECIFICATION

4.2.4 Group III Sequence: Mated Environment

	Test/Specifications	Test Severity/Duration
5.6.1	Steady State Humidity, Mil. Std. -202F, 103B Condition A	+40°C at 96% R.H. for 10 days.
5.6.2	Physical Shock Mil. Std. -202F 213B	½ Sine Wave, 50G, 11MS pulse 3 shocks per axis for 240 hours.
5.6.3	Vibration Mil. Std. -202F, 201A	10-55-10 HZ, 1 minute cycles for 2 hours in each axis. .03 inch excursion, 10G.
5.6.4	Contact resistance to be less than 10 milliohm change from Initial	

4.2.4 Group IV Sequence: Mated Environment

	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 28 Awg - 1.2A 34 Awg - 0.32A 26 Awg - 1.8A 32 Awg - .045A 24 Awg - 3.0A 22 Awg - 3.0A

4.2.4 Capacitance: Less than 1.2 pico-farads

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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DOCUMENT NUMBER: PS-70058	CREATED / REVISED BY: ACHAMMER/MIBARRA	CHECKED BY: SMILLER	APPROVED BY: JCOMERCI



TEST SUMMARY

SL 70058 TERMINAL

1.0 SCOPE

- 1.1 This Test Summary covers the 2.54 mm (.100 inch) centerline (pitch) 70066 SL connector housing and 70058 SL crimp terminal terminated with 24 AWG wire using Crimp technology with Pd/Ni plating.
- 1.2 To evaluate the performance of components after multiple cycling when plated with gold flash over palladium nickel.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND PART NUMBER(S)

- 2.1.1 Housing: 70066 series, 4 circuit, single row, .100" center
- 2.1.2 Terminal: 70058 series 24-30 AWG
 - 2.1.2.1 Plating: Au flash (3-5 μ ") over Pd/Ni (30 μ " min.) over Ni (50 μ " min.)
- 2.1.3 Wafer assembly: 70221 series, 40 circuit, single row, .025" square pin.
 - 2.1.3.1 Plating: Au flash (3-5 μ ") over Pd/Ni (30 μ " min.) over Ni (50 μ " min.)
- 2.1.4 Cable: 0.5 mm round solid tinned, insulation diameter 1.0mm

2.2 PRODUCT SPECIFICATION TITLE AND DOCUMENT NUMBER

- 2.2.1 PS-70400, Product spec for single row stackable linear (SL) connector system
- 2.2.2 PS-70058, Product specification for SL crimp terminal, series 70058
- 2.2.3 PS-70221, Product specification for C-Grid wafer assembly, series 70221

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

3.1 TESTING PROCEDURES AND SEQUENCES

- 3.1.1 Testing was performed by Molex Europe, see section 5.1 for tests and sequence (Molex World Wide Test Sequence 1)

4.0 QUALIFICATION

- 4.1 Laboratory conditions and sample selection are in accordance with **EIA-364**.

REVISION: B	ECR/ECN INFORMATION: EC No: UCP2008-1762 DATE: 2008/01/30	TITLE: TEST SUMMARY FOR SL 70058 TERMINAL PLATED WITH GOLD FLASH PALLADIUM NICKEL	SHEET No. 1 of 2
DOCUMENT NUMBER: TS-70058-001	CREATED / REVISED BY: RSFOX	CHECKED BY: DBRINKMAN	APPROVED BY: DBRINKMAN



TEST SUMMARY

5.0 PERFORMANCE

5.1 ELECTRICAL PERFORMANCE RESULTS: Contact Resistance (Low Level)

DESCRIPTION	TREATMENT	REQUIREMENT	MEAN	MINIMUM	MAXIMUM
Contact Resistance	Initial	30 milliohms MAXIMUM	12.5 mΩ	11.5 mΩ	13.5 mΩ
Durability	After 3,000 Cycles	10 milliohms MAXIMUM*	12.5 mΩ	12.2 mΩ	12.9 mΩ
	After 6,000 Cycles	10 milliohms MAXIMUM*	12.8 mΩ	12.0 mΩ	14.0 mΩ
	After 10,000 Cycles	10 milliohms MAXIMUM*	12.5 mΩ	11.6 mΩ	13.1 mΩ
Thermal Shock Per IEC-68-2-14 -40 °C to +105 °C 10 cycles 30 minutes dwell	Uncycled	10 milliohms MAXIMUM*	12.6 mΩ	11.8 mΩ	13.5 mΩ
	3,000 Cycles	10 milliohms MAXIMUM*	13.0 mΩ	12.6 mΩ	13.9 mΩ
	6,000 Cycles	10 milliohms MAXIMUM*	13.2 mΩ	12.0 mΩ	14.7 mΩ
	10,000 Cycles	10 milliohms MAXIMUM*	13.6 mΩ	12.4 mΩ	18.2 mΩ
Thermal Aging Per MIL-STD 202F Method 108A 10 days at 105 °C	Uncycled	10 milliohms MAXIMUM*	12.7 mΩ	12.0 mΩ	13.5 mΩ
	3,000 Cycles	10 milliohms MAXIMUM*	13.4 mΩ	12.6 mΩ	14.4 mΩ
	6,000 Cycles	10 milliohms MAXIMUM*	13.5 mΩ	12.7 mΩ	14.4 mΩ
	10,000 Cycles	10 milliohms MAXIMUM*	14.1 mΩ	12.3 mΩ	21.5 mΩ
Cyclic Humidity Per MIL-STD 202, Method 106D 25 °C to 65 °C 24 Hr, 90-98% RH	Uncycled	10 milliohms MAXIMUM*	13.0 mΩ	12.1 mΩ	14.8 mΩ
	3,000 Cycles	10 milliohms MAXIMUM*	13.5 mΩ	12.5 mΩ	14.5 mΩ
	6,000 Cycles	10 milliohms MAXIMUM*	13.6 mΩ	12.8 mΩ	14.3 mΩ
	10,000 Cycles	10 milliohms MAXIMUM*	14.7 mΩ	12.8 mΩ	20.6 mΩ
Flowers of Sulfur 17 hours at 65 °C	Uncycled	10 milliohms MAXIMUM*	13.0 mΩ	12.2 mΩ	14.8 mΩ
	3,000 Cycles	10 milliohms MAXIMUM*	13.7 mΩ	12.7 mΩ	14.5 mΩ
	6,000 Cycles	10 milliohms MAXIMUM*	13.9 mΩ	13.0 mΩ	15.5 mΩ
	10,000 Cycles	10 milliohms MAXIMUM*	14.9 mΩ	13.3 mΩ	20.5 mΩ

* change from initial

REVISION: B	ECR/ECN INFORMATION: EC No: UCP2008-1762 DATE: 2008/01/30	TITLE: TEST SUMMARY FOR SL 70058 TERMINAL PLATED WITH GOLD FLASH PALLADIUM NICKEL	SHEET No. 2 of 2
DOCUMENT NUMBER: TS-70058-001	CREATED / REVISED BY: RSFOX	CHECKED BY: DBRINKMAN	APPROVED BY: DBRINKMAN

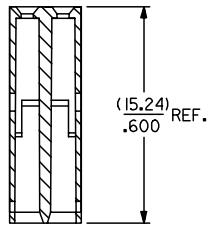
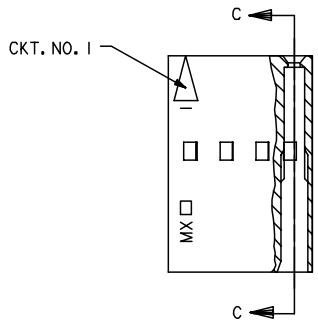
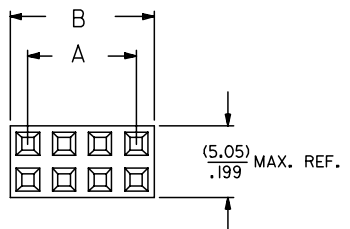
13 12 11 10 9 8 7 6 5 4 3 2 1

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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.
- 8) PARTS CONFORM TO CLASS C OF COSMETIC
SPECIFICATION PS-45499-002.

-OPTION "A"-



SECTION C-C

CKT. SIZE	EDP. NO.	ENG. NO.	A	B
4	022-55-204I	70450-0001	(2.54) .100	(5.05) .199
6	022-55-206I	70450-0002	(5.08) .200	(7.59) .299
8	022-55-208I	70450-0003	(7.62) .300	(10.13) .399
10	022-55-210I	70450-0004	(10.16) .400	(12.67) .499
12	022-55-212I	70450-0005	(12.70) .500	(15.21) .599
14	022-55-214I	70450-0006	(15.24) .600	(17.75) .699
16	022-55-216I	70450-0007	(17.78) .700	(20.29) .799
18	022-55-218I	70450-0008	(20.32) .800	(22.83) .899
20	022-55-220I	70450-0009	(22.86) .900	(25.37) .999
22	022-55-222I	70450-0010	(25.40) 1.000	(27.91) 1.099
24	022-55-224I	70450-0011	(27.94) 1.100	(30.45) 1.199
26	022-55-226I	70450-0012	(30.48) 1.200	(32.99) 1.299
28	022-55-228I	70450-0013	(33.02) 1.300	(35.53) 1.399
30	022-55-230I	70450-0014	(35.56) 1.400	(38.07) 1.499
32	022-55-232I	70450-0015	(38.10) 1.500	(40.61) 1.599
34	022-55-234I	70450-0016	(40.64) 1.600	(43.15) 1.699
36	022-55-236I	70450-0017	(43.18) 1.700	(45.69) 1.799
38	022-55-238I	70450-0018	(45.72) 1.800	(48.23) 1.899
40	022-55-240I	70450-0019	(48.26) 1.900	(50.77) 1.999
42	022-55-242I	70450-0020	(50.80) 2.000	(53.31) 2.099
44	022-55-244I	70450-0021	(53.34) 2.100	(55.85) 2.199
46	022-55-246I	70450-0022	(55.88) 2.200	(58.39) 2.299
48	022-55-248I	70450-0023	(58.42) 2.300	(60.93) 2.399
50	022-55-250I	70450-0024	(60.96) 2.400	(63.47) 2.499
52	022-55-252I	70450-0025	(63.50) 2.500	(66.01) 2.599
54	022-55-254I	70450-0026	(66.04) 2.600	(68.55) 2.699

ADD COSMETIC SPEC EC NO: UCP2007-2009 2007/02/23 DRW:NDJORGAN CHKD:MSIBARRA 2007/02/23 APPR:SMILLER 2007/02/27	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
	=0 =0	mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± .010 2 PLACES ± 0.25 ± .014 1 PLACE ± 0.35 ± --- ANGULAR ±1/2°	MM/IN	4:1	INCH	☉ □
	DESCRIPTION	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DRAWN BY DATE MJM 1986/10/22 CHECKED BY DATE MJM 1986/10/22 APPROVED BY DATE WAZ 1986/10/22 MATERIAL NO. SIZE C	TITLE	HOUSING - CONNECTOR DUAL ROW (2.54)/.100 GRID STACKABLE	MOLEX INCORPORATED SD-70450-0001-0026 SHEET NO. 1 OF 1
	REV					

12 11 10 9 8 7 6 5 4 3 2 1