Jameco Part Number 516314

FEATURES AND SPECIFICATIONS

2.54mm (.100") Pitch KK® Crimp Terminal Housing

7880 High Pressure

Features and Benefits

- Sizes 1 to 28 circuits
- Standard with locking ramp
- Suitable for high vibration requirements

Reference Information

Product Specification: PS-7879
Packaging: Bag
UL File No.: E29179
CSA File No.: LR19980
Mates With: Molex KK 2.54mm (.100") pitch headers
Use With: 7879 terminals
Designed In: Inches

*Electrical**

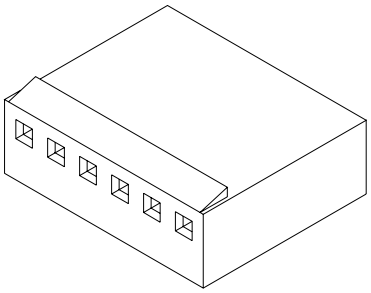
Voltage: 250V
Current: 2.5A
Contact Resistance: 20mΩ max.
Dielectric Withstanding Voltage: 1500V AC
Insulation Resistance: 500K MΩ min.

*Mechanical**

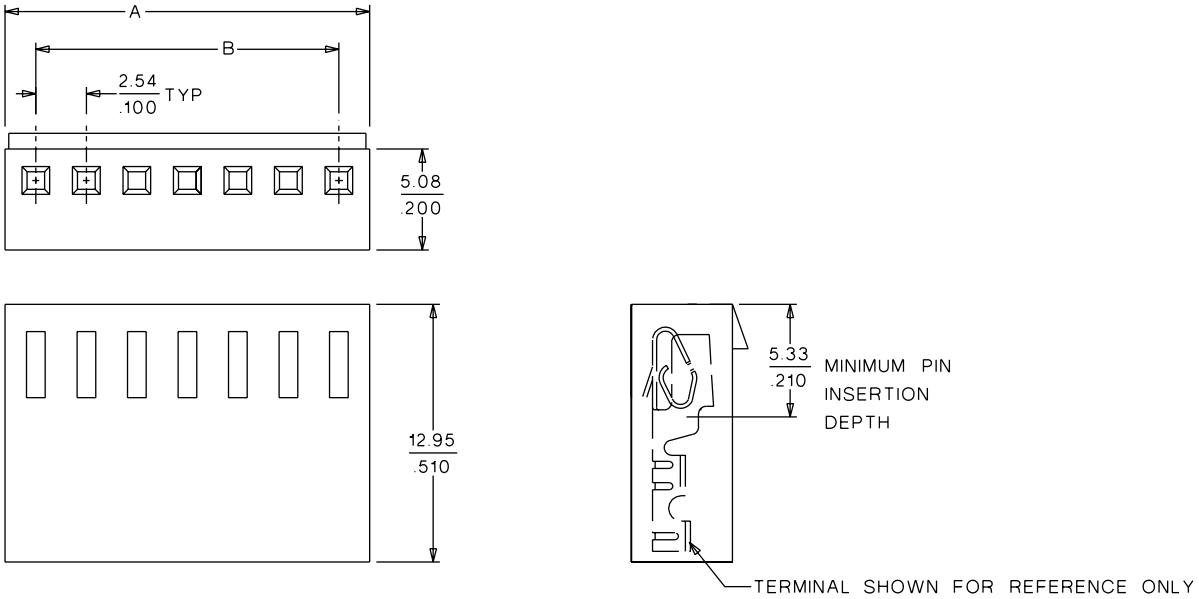
Contact Insertion Force: 1.5 lb max.
Contact Retention to Housing: 8 lb min.
Mating Force: 475g max.
Unmating Force: 100g min.
Normal Force: 430g min.

Physical

Housing: White nylon, UL 94V-0
Operating Temperature: -0 to +75˚C



CATALOG DRAWING (FOR REFERENCE ONLY)



ORDERING INFORMATION AND DIMENSIONS

Circuits	Order No.	Dimension	
		A	B
1	• 10-11-2013	3.10 (.122)	
2	• 10-11-2023	5.64 (.222)	2.54 (.100)
3	• 10-11-2033	8.18 (.322)	5.08 (.200)
4	• 10-11-2043	10.72 (.422)	7.62 (.300)
5	• 10-11-2053	13.26 (.522)	10.16 (.400)
6	• 10-11-2063	15.80 (.622)	12.70 (.500)
7	• 10-11-2073	18.34 (.722)	15.24 (.600)
8	• 10-11-2083	20.88 (.822)	17.78 (.700)
9	• 10-11-2093	23.42 (.922)	20.32 (.800)
10	• 10-11-2103	25.96 (1.022)	22.86 (.900)
11	• 10-11-2113	28.50 (1.122)	25.40 (1.000)
12	• 10-11-2123	31.04 (1.222)	27.94 (1.100)
13	• 10-11-2133	33.58 (1.322)	30.48 (1.200)
14	• 10-11-2143	36.12 (1.422)	33.02 (1.300)

Circuits	Order No.	Dimension	
		A	B
15	• 10-11-2153	38.66 (1.522)	35.56 (1.400)
16	• 10-11-2163	41.20 (1.622)	38.10 (1.500)
17	• 10-11-2173	43.74 (1.722)	40.64 (1.600)
18	• 10-11-2183	46.28 (1.822)	43.18 (1.700)
19	• 10-11-2193	48.82 (1.922)	45.72 (1.800)
20	• 10-11-2203	51.36 (2.022)	48.26 (1.900)
21	• 10-11-2213	53.90 (2.122)	50.80 (2.000)
22	• 10-11-2223	56.44 (2.222)	53.34 (2.100)
23	• 10-11-2233	59.98 (2.322)	55.88 (2.200)
24	• 10-11-2243	61.52 (2.422)	58.42 (2.300)
25	• 10-11-2253	64.06 (2.522)	60.96 (2.400)
26	• 10-11-2263	66.60 (2.622)	63.50 (2.500)
27	• 10-11-2273	69.14 (2.722)	66.04 (2.600)
28	• 10-11-2283	71.68 (2.822)	68.58 (2.700)

• US Standard Product, available through Molex franchised distributors

* When mated with Molex product only

Note: In the Far East this housing has a different Engineering Series No. and different Order No.

PRODUCT SPECIFICATION

TITLE

1.0 SCOPE

This Product Specification covers the 2.54 mm (.100 inch) centerline (pitch) 0.64 mm (.025) square pin headers when mated with connectors terminated with 22 to 30 AWG wire using crimp technology.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBERS

Crimp Terminals: 7879
Crimp Housings: 7880
Other products conforming to this specification are noted on the individual drawings.

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

Terminal Material: Brass or Phos. Bronze (for Max performance use phos bronze material.)
Housing: Nylon, 94V-0, Color: White
Pins: Brass or Phos. Bronze
For more information on dimensions, materials, and plating see the individual drawings.

2.3 SAFETY AGENCY APPROVALS

UL File Number …….. E29179
CSA ……...LR19980

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

None

4.0 RATINGS

4.1 VOLTAGE

250 Volts AC (RMS) {or 176 Volts DC}

4.2 CURRENT AND APPLICABLE WIRES

Current is dependent on wire size, connector size, contact material, plating, ambient temperature, and releated factors. Actual current rating is application dependent and should be evaluated for each application.

AWG	Amps (Max)	Outside Insulation Diameter
22	4.00	See Drawings
24	3.75	See Drawings
26	3.50	See Drawings
28	3.00	See Drawings

4.3 TEMPERATURE (ambient + 30° temp rise)

Operating: 0°C to +75°C
Nonoperating: - 40°C to +105°C

5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT
Contact Resistance (Low Level)	Mate connectors: apply a maximum voltage of 20 mV and a current of 15 mA.	10 milliohms MAXIMUM [initial]
Contact Resistance of Wire Termination (Low Level)	Terminate the applicable wire to the terminal and measure wire using a voltage of 20 mV and a current of 15 mA.	2 milliohms MAXIMUM [initial]
Insulation Resistance	Unmate & unmount connectors: apply a voltage of 500 VDC between adjacent terminals and between terminals to ground.	1000 Megohms MINIMUM
Dielectric Withstanding Voltage	Unmate connectors: apply a voltage of {two times the rated voltage plus 1000 volts} VAC for 1 minute between adjacent terminals and between terminals to ground.	No breakdown
Capacitance	Measure between adjacent terminals at 1 MHz.	2 picofarads MAXIMUM
Temperature Rise (via Current Cycling)	Mate connectors: measure the temperature rise at the rated current after: 1) 96 hours (steady state) 2) 240 hours (45 minutes ON and 15 minutes OFF per hour) 3) 96 hours (steady state)	Temperature rise: +30°C MAXIMUM

5.2 MECHANICAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT
Connector Mate and Unmate Forces	Per circuit when mated to an .025 Sq. pin. Mate and unmate connector (male to female) at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute.	4.6 N (1.0 lbf) MAXIMUM insertion force & 0.8 N (0.22 lbf) MINIMUM withdrawal force
Terminal Insertion Force (into Housing)	Apply an axial insertion force on the terminal at a rate of 25 ± 6 mm (1 ± ¼ inch).	6.67 N (1.5 lbf) MAXIMUM insertion force
Terminal Retention Force (in Housing)	Axial pullout force on the terminal in the housing at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute.	17.8 N (4.0 lbf) MINIMUM withdrawal force
Durability	Mate connectors up to 25 cycles at a maximum rate of 5 cycles per minute prior to Environmental Tests.	10 milliohms MAXIMUM (change from initial)
Vibration (Random)	Mate connectors and vibrate per EIA 364-28, test condition VII.	10 milliohms MAXIMUM (change from initial) & Discontinuity < 1 microsecond
Shock (Mechanical)	Mate connectors and shock at 50 g's with ½ sine wave (11 milliseconds) shocks in the ±X,±Y,±Z axes (18 shocks total).	10 milliohms MAXIMUM (change from initial]) & Discontinuity < 1 microsecond
Wire Pullout Force (Axial)	Apply an axial pullout force on the wire at a rate of 25 ± 6 mm (1 ± ¼ inch). (When terminated using Molex Application Tooling.)	24 awg = 35 N (8 lbf) 26 awg = 26 N (6 lbf) 28 awg = 17 N (4 lbf) 30 awg = 13 N (3 lbf)
Normal Force	Apply a perpendicular force.	6.28 N (640 grams) average

5.3 ENVIRONMENTAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT
Shock (Thermal)	Mate connectors; expose to 5 cycles of: Temperature °C — Duration (Minutes) -40 +0/-3 — 30 +25 ±10 — 5 MAXIMUM +105 +3/-0 — 30 +25 ±10 — 5 MAXIMUM	10 milliohms MAXIMUM (change from initial) & Visual: No Damage
Thermal Aging	Mate connectors; expose to: 96 hours at 105 ± 2°C	10 milliohms MAXIMUM (change from initial]) & Visual: No Damage
Humidity (Steady State)	Mate connectors: expose to a temperature of 40 ± 2°C with a relative humidity of 90-95% for 96 hours. Note: Remove surface moisture and air dry for 1 hour prior to measurements.	10 milliohms MAXIMUM (change from initial) & Dielectric Withstanding Voltage: No Breakdown at 500 VAC & Insulation Resistance: 1000 Megohms MINIMUM & Visual: No Damage
Humidity (Cyclic)	Mate connectors: cycle per EIA-364-31: 24 cycles at temperature 25 ± 3°C at 80 ± 5% relative humidity and 65 ± 3°C at 50 ± 5% relative humidity; dwell time of 1.0 hour; ramp time of 0.5 hours. {Note: Remove surface moisture and air dry for 1 hour prior to measurements.}	10 milliohms MAXIMUM (change from initial) & Dielectric Withstanding Voltage: No Breakdown at 500 VAC & Insulation Resistance: 1000 Megohms MINIMUM & Visual: No Damage
Solderability	Per SMES-152	Solder coverage: 95% MINIMUM (per SMES-152)
Salt Spray	Mate connectors: Duration: 48 hours exposure; Atmosphere: salt spray from a 5% solution; Temperature: 35 +1/-2°C	10 milliohms MAXIMUM (change from initial) & Visual: No Damage

6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage.

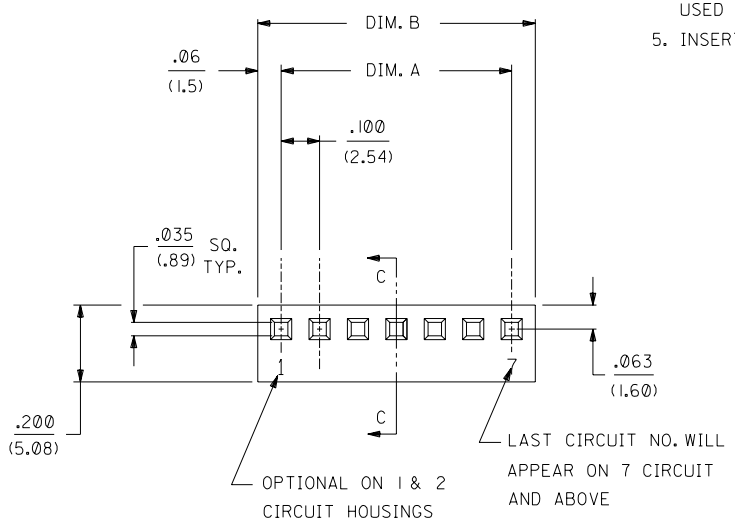
7.0 GAGES AND FIXTURES

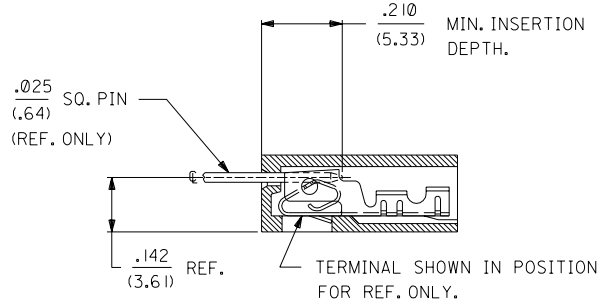
8.0 OTHER

NO. OF CKT'S.	DIM. A	DIM. B
1		.122±.010 (3.10±.25)
2	.100±.004 (2.54±.10)	.222±.010 (5.64±.25)
3	.200±.004 (5.08±.10)	.322±.010 (8.18±.25)
4	.300±.004 (7.62±.10)	.422±.010 (10.72±.25)
5	.400±.004 (10.16±.10)	.522±.010 (13.26±.25)
6	.500±.005 (12.70±.13)	.622±.010 (15.80±.25)
7	.600±.005 (15.24±.13)	.722±.011 (18.34±.28)
8	.700±.005 (17.78±.13)	.822±.011 (20.88±.28)
9	.800±.006 (20.32±.15)	.922±.011 (23.42±.28)
10	.900±.006 (22.86±.15)	1.022±.012 (25.96±.30)
11	1.000±.006 (25.40±.15)	1.122±.012 (28.50±.30)
12	1.100±.006 (27.94±.15)	1.222±.012 (31.04±.30)
13	1.200±.007 (30.48±.18)	1.322±.012 (33.58±.30)
14	1.300±.007 (33.02±.18)	1.422±.013 (36.12±.33)
15	1.400±.011 (35.56±.28)	1.522±.013 (38.66±.33)
16	1.500±.011 (38.10±.28)	1.622±.013 (41.20±.33)
17	1.600±.011 (40.64±.28)	1.722±.013 (43.74±.33)
18	1.700±.011 (43.18±.28)	1.822±.014 (46.28±.36)
19	1.800±.011 (45.72±.28)	1.922±.014 (48.82±.36)
20	1.900±.011 (48.26±.28)	2.022±.014 (51.36±.36)
21	2.000±.012 (50.80±.30)	2.122±.015 (53.90±.38)
22	2.100±.012 (53.34±.30)	2.222±.015 (56.44±.38)
23	2.200±.012 (55.88±.30)	2.322±.015 (59.98±.38)
24	2.300±.012 (58.42±.30)	2.422±.016 (61.52±.41)
25	2.400±.013 (60.96±.33)	2.522±.016 (64.06±.41)
26	2.500±.013 (63.50±.33)	2.622±.016 (66.60±.41)
27	2.600±.013 (66.04±.33)	2.722±.016 (69.14±.41)
28	2.700±.013 (68.58±.33)	2.822±.017 (71.68±.43)

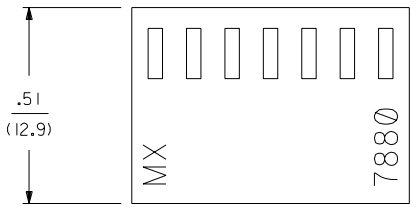
NOTES:

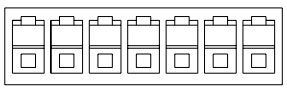
1. DIMENSIONS GIVEN ACROSS CENTERLINES ARE SYMMETRICAL ABOUT THOSE CENTERLINES WITHIN HALF THE TOTAL TOLERANCES.
2. THIS HOUSING FOR USE WITH SHROUDED TERMINAL 7879.
3. THIS PRODUCT COMPLIES WITH MOLEX PRODUCT SPEC. NO. 7879.
4. SPECIAL SUPPORT MAY BE REQUIRED FOR PRINTED CIRCUIT BOARDS USED WITH 10 OR MORE CIRCUIT CONNECTORS.
5. INSERTION AND WITHDRAWL FORCES RANGE FROM 1.3 TO 1.9 POUNDS PER CIRCUIT.





SECTION C-C





7880 - N * - *

NO. OF CKTS.

VOID CODE
NO. CORRESPONDS TO CKT. NO. VOIDED.
MULT. VOIDS START WITH 51.

OPTION CODE		
OPT. CODE	RAMP	MATERIAL
A	NONE	NYLON, 94V-0, COLOR-WHITE
B	STD. RAMP	NYLON, 94V-0, COLOR-WHITE
C	POL. RAMP	NYLON, 94V-0, COLOR-WHITE

LTR.	REVISIONS	LTR.	REVISIONS
		L1	ADD REGRIND UCP2003-1447
			12/26/2002 SAMIEC

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 GUZIK | CHK'D. BY PATEL | APP'D. BY LENZ | SCALE :

▽ = 0 ▼ = 0 REVISE ONLY ON CAD SYSTEM

TITLE: (2.54)/.100 KK, HOUSING FOR SHROUDED CRIMP TYPE TERMINAL

molex MOLEX INCORPORATED LISLE,ILL. 60532 U.S.A. | SHEET NO. 1 OF 2 | DATE 08/24/88

PART NO. SEE CHART | DRWG. NO. SD-7880

FILE NAME

DIV. | SIZE C

MFG.	SH.	REV.
	2	L
	1	L1

7880

7880-NA-*

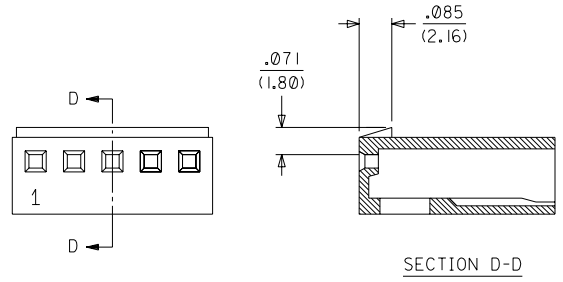
PART NO.	ENG. NO	VOID CKT.
10-01-2019	7880-1A	
10-01-2029	7880-2A	
10-01-2039	7880-3A	
10-01-2049	7880-4A	
10-01-2059	7880-5A	
10-01-2069	7880-6A	
10-01-2079	7880-7A	
10-01-2089	7880-8A	
10-01-2099	7880-9A	
10-01-2109	7880-10A	
10-01-2119	7880-11A	
10-01-2129	7880-12A	
10-01-2139	7880-13A	
10-01-2149	7880-14A	
10-01-2159	7880-15A	
10-01-2169	7880-16A	
10-01-2179	7880-17A	
10-01-2189	7880-18A	
10-01-2199	7880-19A	
10-01-2209	7880-20A	
10-01-2219	7880-21A	
10-01-2229	7880-22A	
10-01-2239	7880-23A	
10-01-2249	7880-24A	
10-01-2259	7880-25A	
10-01-2269	7880-26A	
10-01-2279	7880-27A	
10-01-2289	7880-28A	

7880-NB-*

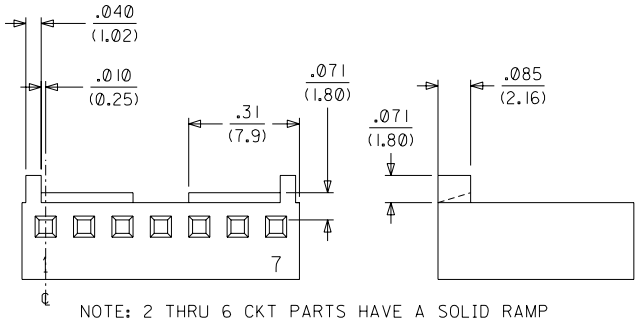
PART NO.	ENG. NO	VOID CKT.
10-11-2013	7880-1B	
10-11-2023	7880-2B	
10-11-2033	7880-3B	
10-11-2043	7880-4B	
10-11-2053	7880-5B	
10-11-2063	7880-6B	
10-11-2073	7880-7B	
10-11-2083	7880-8B	
10-11-2093	7880-9B	
10-11-2103	7880-10B	
10-11-2113	7880-11B	
10-11-2123	7880-12B	
10-11-2133	7880-13B	
10-11-2143	7880-14B	
10-11-2153	7880-15B	
10-11-2163	7880-16B	
10-11-2173	7880-17B	
10-11-2183	7880-18B	
10-11-2193	7880-19B	
10-11-2203	7880-20B	
10-11-2213	7880-21B	
10-11-2223	7880-22B	
10-11-2233	7880-23B	
10-11-2243	7880-24B	
10-11-2253	7880-25B	
10-11-2263	7880-26B	
10-11-2273	7880-27B	
10-11-2283	7880-28B	
10-11-2052	7880-5B-2	2
10-11-2092	7880-9B-2	2
10-11-2105	7880-10B-4	4

7880-NC-*

PART NO.	ENG. NO	VOID CKT.
N/A	7880-1C	
10-11-2024	7880-2C	
10-11-2034	7880-3C	
10-11-2044	7880-4C	
10-11-2054	7880-5C	
10-11-2064	7880-6C	
10-11-2074	7880-7C	
10-11-2084	7880-8C	
10-11-2094	7880-9C	
10-11-2104	7880-10C	
10-11-2114	7880-11C	
10-11-2124	7880-12C	
10-11-2134	7880-13C	
10-11-2144	7880-14C	
10-11-2154	7880-15C	
10-11-2164	7880-16C	
10-11-2174	7880-17C	
10-11-2184	7880-18C	
10-11-2194	7880-19C	
10-11-2204	7880-20C	
10-11-2214	7880-21C	
10-11-2224	7880-22C	
10-11-2234	7880-23C	
10-11-2244	7880-24C	
10-11-2254	7880-25C	
10-11-2264	7880-26C	
10-11-2274	7880-27C	
10-11-2284	7880-28C	

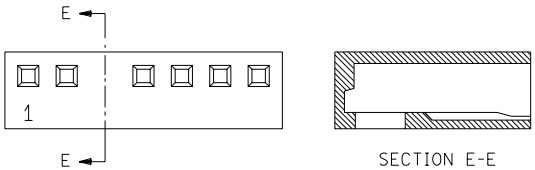


7880-NB-*
STD. RAMP OPTION



NOTE: 2 THRU 6 CKT PARTS HAVE A SOLID RAMP

7880-NC-*
POLARIZING RAMP OPTION



STD. VOID OPTION
(VOIDS NOT AVAILABLE IN FIRST OR LAST CKT.)

	SEE SHEET 1		SEE SHEET 1
	SEE SHEET 1		SEE SHEET 1
	SEE SHEET 1		SEE SHEET 1
	SEE SHEET 1		SEE SHEET 1
	SEE SHEET 1	L	SEE SHEET 1
	SEE SHEET 1	K3	SEE SHEET 1
	SEE SHEET 1	H	SEE SHEET 1
LTR.	REVISIONS	LTR.	REVISIONS

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

	INCH	METRIC
3 PLACE	± .010	
2 PLACE	± .014	± 0.25
1 PLACE		± 0.36

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DRWG. BY GUZIK | CHK'D. BY PATEL | APP'D. BY LENZ | SCALE :

▽ = Ø ▼ = Ø REVISE ONLY ON CAD SYSTEM

TITLE
(2.54)/.100 KK, HOUSING
FOR SHROUDED CRIMP
TYPE TERMINAL

molex MOLEX INCORPORATED LISLE,ILL. 60532 U.S.A. | SHEET NO. 2 | DATE 08/24/88

PART NO. SEE CHART | DRWG. NO. SD-7880

FILE NAME

DIV. | SIZE C

7880