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ELECTRONICS

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Jameco Part Number 736595

FEATURES AND SPECIFICATIONS

Features and Benefits

- Standard cantilever terminal
- Cantilever design provides high contact pressure
- Wiping action cleans oxides when connector is mated
- 2759 Series is Brass
- 6459 Series is Phosphor Bronze

Reference Information

Product Specification: PS-10-07

Packaging: Bag or reel

Tooling Information: See crimp tooling section

UL File No.: E29179

CSA File No.: LR19980

Use With: [2695](#), [5051](#), 6745 and 41895 housings

Designed In: Inches

Electrical

Voltage: 250V

Current: 6459—4.0A

2759—2.5A

Contact Resistance: 20mΩ max.

Dielectric Withstanding Voltage: 1500V

Insulation Resistance: 50K MΩ min.

Mechanical

Wire Pull-Out Force:

Wire Gauge (AWG)	22	24	26	28	30
Pull-Out Force (lb)	10	8	6	4	3

Mating Force: 255g max.

Unmating Force: 50g min.

Normal Force: 200g min.

Physical

Contact: 6459—Phosphor Bronze

2759—Brass

Plating: See Table

Wire Accommodation: 22 to 30 AWG

Insulation Range: 1.58mm (.062") diameter max.

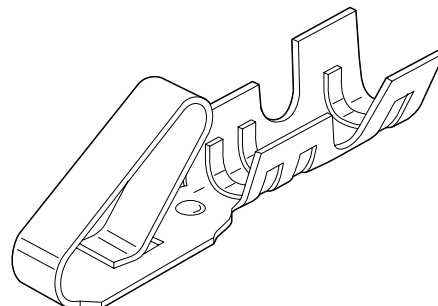


2.54mm (.100") Pitch

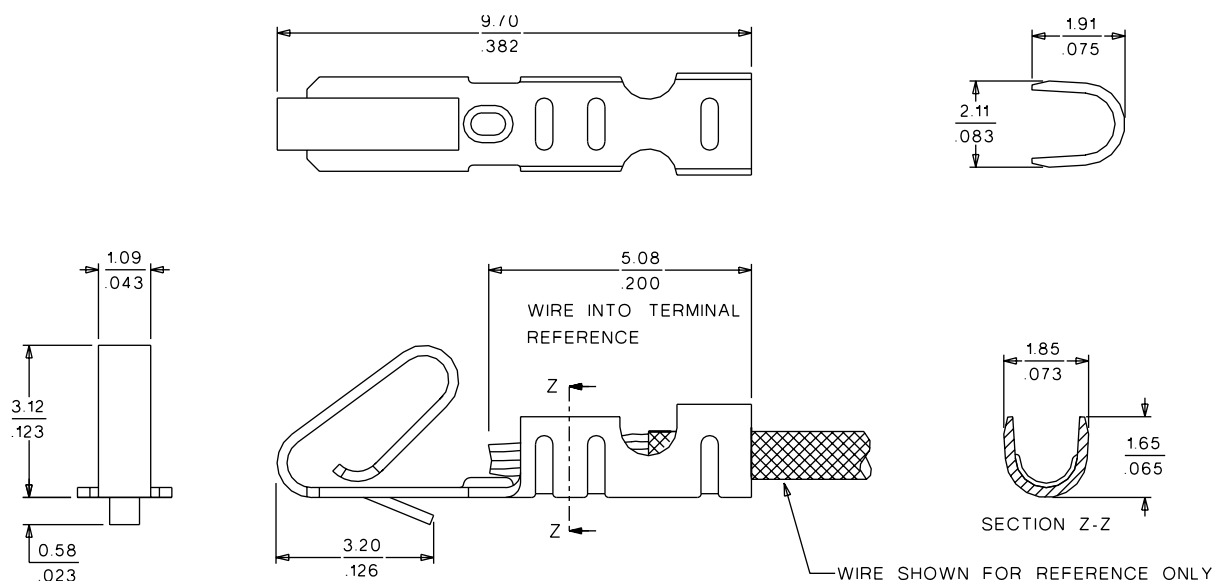
KK®

Crimp Terminal

2759/6459



CATALOG DRAWING (FOR REFERENCE ONLY)



Note: 2759 shown

ORDERING INFORMATION AND DIMENSIONS

Contact	Order No.						Wire Gauge (AWG)	Insulation OD
	Tin Plating		15μ" Gold Plating		15μ" Selective Gold Plating			
	Bag	Reel	Bag	Reel	Bag	Reel		
Brass	● 08-50-0114	● 08-50-0113	● 08-56-0110	● 08-56-0109	● 08-55-0102	● 08-55-0101	22-30	1.57 (.062)
Phosphor Bronze	● 08-52-0123	● 08-52-0101	● 08-65-0814	● 08-65-0813	● 08-65-0816	● 08-65-0815	22-30	1.57 (.062)

• US Standard Product, available through Molex franchised distributors



PRODUCT SPECIFICATION

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 either printed circuit board (PCB) connectors or connectors terminated with 22 to 28 AWG wire using crimp technology.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBERS

Crimp Terminals: 2759, 41572, 6459

Crimp Housings: 2695

PCB Connectors: 4455, 42625

Headers: 4030, 4094, 6373, 7478, 42225, 42226, 42227, 42228, 42152, 42153, 42375, 42376, 42377, 42624.

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 or Polyester

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

CSALR19980

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

None

4.0 RATINGS

4.1 VOLTAGE

250 Volts

4.2 CURRENT AND APPLICABLE WIRES (Current is dependent on connector size, contact material, plating, ambient temperature, printed circuit board characteristics and related 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

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PRODUCT SPECIFICATION

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 100 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 100 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

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PRODUCT SPECIFICATION

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 ($1 \pm \frac{1}{4}$ inch) per minute.	1.95 N (0.438 lbf) MAXIMUM insertion force & 0.56 N (0.125 lbf) MINIMUM withdrawal force
Terminal Retention Force (in Housing)	Axial pullout force on the terminal in the housing at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch) per minute. (Forces will change with platings and materials.)	17.8 N (4.0 lbf) MINIMUM withdrawal force
Terminal Insertion Force (into Housing)	Apply an axial insertion force on the terminal at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch). (Forces will change with platings and materials.)	6.67 N (1.5 lbf) MAXIMUM insertion force
Durability	Mate connectors up to 25 cycles at a maximum rate of 10 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 $\frac{1}{2}$ sine wave (11 milliseconds) shocks in the $\pm X, \pm Y, \pm Z$ 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 ($1 \pm \frac{1}{4}$ inch). (For maximum performance use Molex application tooling with stranded tinned copper wire)	22 awg = 44 N (10 lbf) 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.	2.94 N (300 grams) average

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PRODUCT SPECIFICATION

5.3 ENVIRONMENTAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT										
Shock (Thermal)	Mate connectors; expose to 5 cycles of: <table><tr><th>Temperature °C</th><th>Duration (Minutes)</th></tr><tr><td>-40 +0/-3</td><td>30</td></tr><tr><td>+25 ±10</td><td>5 MAXIMUM</td></tr><tr><td>+105 +3/-0</td><td>30</td></tr><tr><td>+25 ±10</td><td>5 MAXIMUM</td></tr></table>	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
Temperature °C	Duration (Minutes)											
-40 +0/-3	30											
+25 ±10	5 MAXIMUM											
+105 +3/-0	30											
+25 ±10	5 MAXIMUM											
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)										

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PS-10-07	SAMIEC	MUELLER	MARGULIS



PRODUCT SPECIFICATION

5.3 ENVIRONMENTAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT
Solder Resistance	Dip connector terminal tails in solder: Solder Duration: 5 ± 0.5 seconds; Solder Temperature: 230 ± 5°C	Visual: No Damage to insulator material
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
Cold Resistance	Mate connectors: Duration: 96 hours; Temperature: -40 ± 3°C	10 milliohms MAXIMUM (change from initial) & Visual: No Damage
Corrosive Atmosphere: Flowing Mixed Gas (FMG)	Mate connectors: Test per EIA-364-65, method 2A	10 milliohms MAXIMUM (change from initial) & Visual: No Damage

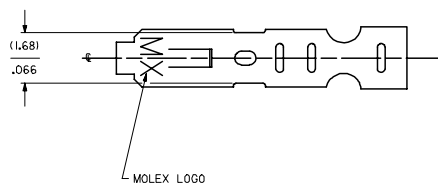
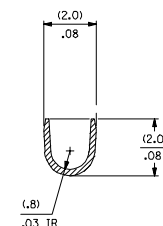
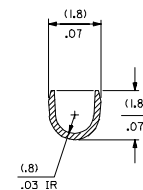
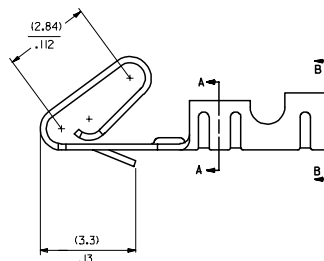
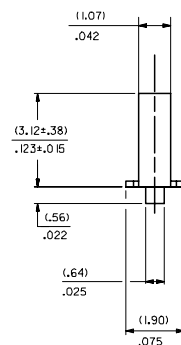
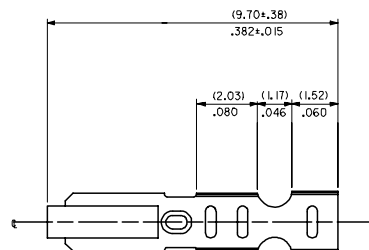
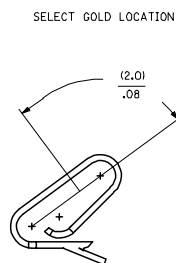
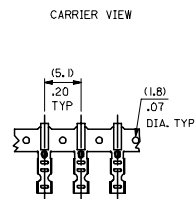
6.0 PACKAGING

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

7.0 GAGES AND FIXTURES

8.0 OTHER

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6459-(***)*

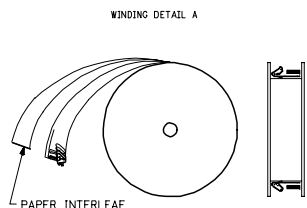
FORM
L=LOOSE
A=CHAIN PER DETAIL A

PLATING

PER SDES-88

•(P909) OVERALL HOT TIN DIP: .00254 MICROMETERS MIN
(550) SELECT GOLD: .00038 MICROMETERS MIN.
OVERALL GOLD FLASH: .00005 MICROMETERS MIN.
OVERALL NICKEL UNDERPLATE: .00076 MICROMETERS MIN.
(555) SELECT GOLD: .00038 MICROMETERS MIN.
OVERALL NICKEL UNDERPLATE: .00076 MICROMETERS MIN.

*THE PRIMARY SHIPPING CARTON WILL BE LABELED 'COMPLIANT TO RoHS DIRECTIVE 2002/95/EC AND ELV ANNEX II OF DIRECTIVE 2000/53/EC.' CARTONS WITHOUT THIS LABEL MAY CONTAIN PRODUCT WITH TIN-LEAD PLATING.



CHANGE TO MEIO EC NO: UCP2005-0941 DECNAPARLOT 2004/11/16 CHIKO-SAMUEC 2008/08/07 APPR:MEWUCS 2008/11/09	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE		SCALE	DESIGN UNITS	THIRD ANGLE
	 	mm INCH 4 PLACES ± ± 3 PLACES ± ± 2 PLACES ± ± 1 PLACE ± ± ANGULAR ±1/2°	DRAWN BY SAMIEC CHECKED BY PATEL APPROVED BY LENZ	DATE 01/21/92 DATE 01/21/92 DATE 01/21/92	TITLE	INCH		THIRD ANGLE PROJECTION
	DESCRIPTION	CRIMP TERMINAL 22-30 GA WIRE SAME AS 2759 EXCEPT MATL		MOLEX MOLEX INCORPORATED				
	NEW	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		MATERIAL NO. SEE CHART		DOCUMENT NO. SD-6459	SHEET NO. 1 OF 2	
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION								

	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
	6459-(***)*																				
M	PART NO.	ENG. NO.		PART NO.	ENG. NO.		PART NO.	ENG. NO.		PART NO.	ENG. NO.		PART NO.	ENG. NO.		PART NO.	ENG. NO.				M
	40-07-0815	6459-(999) 6459-(999)IL																			
	08-52-0101	6459-(P909)																			
	08-52-0123	6459-(P909)IL																			
	08-65-0801	6459-(56 I) 6459-(56 IL)																			
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	08-52-0118	6459-(224) 6459-(224)IL																			
	08-52-0121	6459-(122)																			
	08-52-0122	6459-(122)IL																			
	08-65-0811	6459-(558)																			
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	08-65-0815	6459-(555)																			
	08-65-0816	6459-(555)IL																			
	08-65-0813	6459-(550)																			
	08-65-0814	6459-(550)IL																			
	08-65-0817	6459-(23 I)																			
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D																					D
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B																					B
A																					A

CHANGE TO ME10
EC NO: UCP2005-0941
DRAWN BY: TDM/NAIRATNOL 2004/11/16
CHKD: SAMIEC 2006/09/06
APPR: MMARGULIS 2006/11/09

REV
DESCRIPTION

QUALITY SYMBOLS
▽=0
▽=0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± .0005	± .0005
3 PLACES	± .001	± .001
2 PLACES	± .013	± .010
1 PLACE	± .025	± .010
ANGULAR ±1/2°		

DRAFT WHERE APPLICABLE
MUST REMAIN
WITHIN DIMENSIONS

DIMENSION STYLE
IN/MM

DRAWN BY	DATE
SAMIEC	01/21/92
CHECKED BY	DATE
PATEL	01/21/92
APPROVED BY	DATE
LENZ	01/21/92

MATERIAL NO.
SD-6459

SIZE
D

SCALE

INCH

DESIGN UNITS
INCH

THIRD ANGLE PROJECTION

TITLE
CRIMP TERMINAL
22-30 GA WIRE
SAME AS 2759 EXCEPT MATL

DOCUMENT NO.
SD-6459

SHEET NO.
2

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