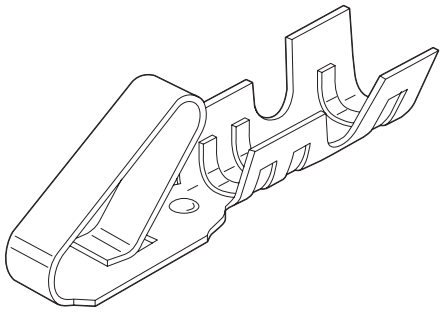
Jameco Part Number 1960484

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

## 2759/6459



### 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: Reel or bag
Tooling Information: See crimp tooling section
UL File No.: E29179
CSA File No.: LR19980
Use With: 2695, 5051 and 6745 housings
Designed In: Inches

### Electrical
Voltage: 250V
Current: 6459—4.0A
2759—2.5A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 1500V
Insulation Resistance: 50K Megohms min.

### Mechanical
Wire Pull-Out Force:

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

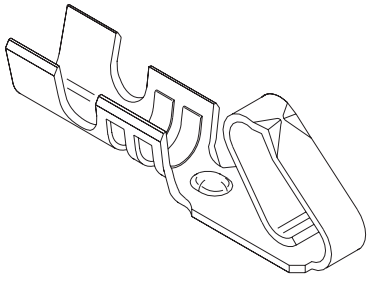
Mating Force: 255g max.
Unmating Force: 50g min.
Normal Force: 200g min.

### Physical
Contact: 6459—Phosphor Bronze; 2759—Brass
Plating: See Table
Wire Accommodation: 22 to 30 AWG
Insulation Range: 1.58mm (.062") diameter max.

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

# 2.54mm (.100") Pitch KK® Cat Ear Terminal

## 5159



### Features and Benefits
- Similar to 2759/6459 Series with cat ears
- Cat ears provide 2 high pressure points of contact
- Suitable for high vibrational requirements

### 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 and 6471
Designed In: Inches

### Electrical
Voltage: 250V
Current: 3.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 1000V AC
Insulation Resistance: 1000 Megohms min.

### Physical
Contact: Phosphor Bronze and Brass
Plating: Tin
Wire Accommodation: 22 to 30 AWG

| Order No. | | | | Lead-free |
|---|---|---|---|---|
| Phosphor Bronze | | Brass | | |
| Bag | Reel | Bag | Reel | |
| 08-70-0049 | 08-70-0048 | 08-70-0069 | 08-70-0064 | Yes |

Preferred version in the Far East

# 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
CSA ……...LR19980

## 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

## 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:<br>1) 96 hours (steady state)<br>2) 240 hours (45 minutes ON and 15 minutes OFF per hour)<br>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. | 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 ± ¼ 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 ± ¼ inch) per minute. (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 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) per minute. (For maximum performance use Molex application tooling with stranded tinned copper wire) | 22 awg = 44 N (10 lbf)<br>24 awg = 35 N (8 lbf)<br>26 awg = 26 N (6 lbf)<br>28 awg = 17 N (4 lbf)<br>30 awg = 13 N (3 lbf) | | |
| Normal Force | Apply a perpendicular force. | 2.94 N (300 grams) average | | |
| Kinked PC Pin Insertion Force (into PCB Hole) | Apply an axial insertion force on pins at a rate of 25 ± 6 mm (1 ± ¼ inch) per minute. | Number of kinked pins | Maximum Insertion force (per pin) | Average Insertion force (per pin) |
| | | 2 | 44.0 N (9.9 lbf) | 15.1N (3.4 lbf) |
| | | 4 | 21.4 N (4.8 lbf) | 9.8 N (2.2 lbf) |
| | | 6 | 18.2 N (4.1 lbf) | 4.9 N (1.1 lbf) |

### 5.3 ENVIRONMENTAL REQUIREMENTS

| DESCRIPTION | TEST CONDITION | REQUIREMENT |
|---|---|---|
| Shock (Thermal) | Mate connectors; expose to 5 cycles of:<br>Temperature °C — Duration (Minutes)<br>-40 +0/-3 — 30<br>+25 ±10 — 5 MAXIMUM<br>+105 +3/-0 — 30<br>+25 ±10 — 5 MAXIMUM | 10 milliohms MAXIMUM (change from initial)<br>&<br>Visual: No Damage |
| Thermal Aging | Mate connectors; expose to:<br>96 hours at 105 ± 2°C | 10 milliohms MAXIMUM (change from initial])<br>&<br>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.<br><br>Note: Remove surface moisture and air dry for 1 hour prior to measurements. | 10 milliohms MAXIMUM (change from initial)<br>&<br>Dielectric Withstanding Voltage:<br>No Breakdown at 500 VAC<br>&<br>Insulation Resistance:<br>1000 Megohms MINIMUM<br>&<br>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.<br><br>{Note: Remove surface moisture and air dry for 1 hour prior to measurements.} | 10 milliohms MAXIMUM (change from initial)<br>&<br>Dielectric Withstanding Voltage:<br>No Breakdown at 500 VAC<br>&<br>Insulation Resistance:<br>1000 Megohms MINIMUM<br>&<br>Visual: No Damage |
| Solderability | Per SMES-152 | Solder coverage:<br>95% MINIMUM (per SMES-152) |

### 5.3 ENVIRONMENTAL REQUIREMENTS

| DESCRIPTION | TEST CONDITION | REQUIREMENT |
|---|---|---|
| Solder Resistance | Dip connector terminal tails in solder:<br>Solder Duration: 5 ± 0.5 seconds;<br>Solder Temperature: 230 ± 5°C | Visual:<br>No Damage to insulator material |
| Cold Resistance | Mate connectors:<br>Duration: 96 hours;<br>Temperature: -40 ± 3°C | 10 milliohms MAXIMUM (change from initial)<br>&<br>Visual: No Damage |
| Corrosive Atmosphere: Flowing Mixed Gas (FMG) | Test per EIA-364-65, Class II,<br>Exposure to gasses for 4 days, unmated. | 10 milliohms MAXIMUM (change from initial)<br>&<br>Visual: No Damage |

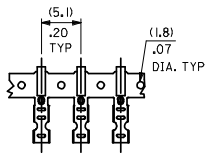
**6.0 PACKAGING**

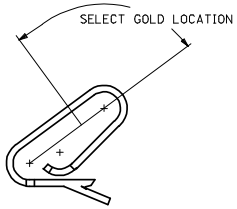
Parts shall be packaged to protect against damage during handling, transit and storage.

**7.0 GAGES AND FIXTURES**

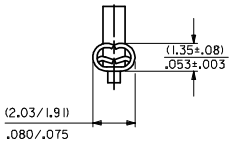
**8.0 OTHER**

CARRIER VIEW

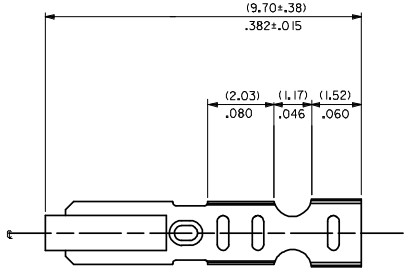


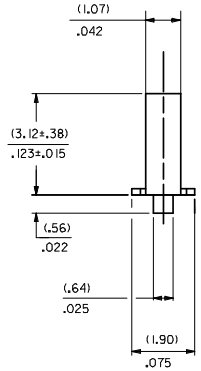



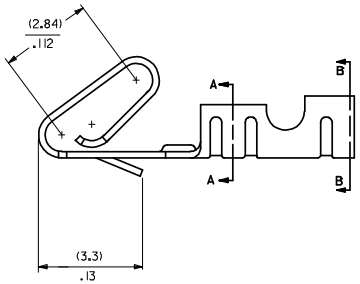

CRIMP DETAIL

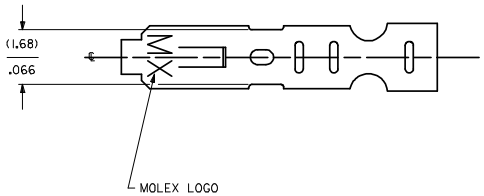



CRIMPED TERMINAL 2759-(P90)LC IS USED WITHOUT WIRE AND IS INSERTED INTO HOUSING TO PROVIDE TENSION WHEN ASSEMBLED TO HEADERS DURING SHIPMENT.

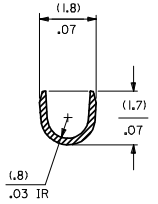


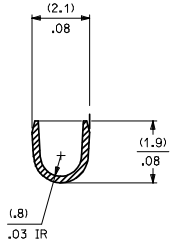




NOTES
1. MATERIAL
   (0.203±0.010)/.0080±.0004 THICK BRASS
2. FINISH.
   102 - OVERALL TIN: (0.00508)/.000200 MIN. TIN OVER
   (0.00254)/.000100 MIN COPPER
   122 - OVERALL TIN: (0.00381)/.000150 MIN. TIN OVER
   (0.00076)/.000030 MIN NICKEL
   *P909 - OVERALL HOT TIN DIP (0.00254)/.000100 MIN.
   550 - SELECT GOLD (0.00038)/.000015 MIN.
   OVERALL GOLD FLASH. (0.00005)/.000002 MIN.
   OVERALL NICKEL UNDERPLATE: (0.00076)/.000030 MIN.
   555- SELECT GOLD (0.00038)/.000015 MIN.
   OVERALL NICKEL UNDERPLATE: (0.00076)/.000030
   558 - SELECT GOLD: (0.00076)/.000030 MIN.
   OVERALL GOLD FLASH- (0.00005)/.000002 MIN.
   OVERALL NICKEL UNDERPLATE: (0.00127)/.000050 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.
3. PRODUCT SPEC: PS-10-07
4. PACKAGING SPECIFICATION: NONE
5. CRIMP IS FOR 22-30 GA WIRE WITH (1.57)/.062 DIA INSULATION MAX.
6. INSERTION FORCE OF TERMINAL INTO (2.54)/.100 CENTERLINE CONNECTOR IS 2.5 LBS. MAX
7. TERMINALS WILL RETAIN 8 LBS PULL FOR 1 MIN. IN A (2.54)/.100 CENTERLINE HOUSING.
8. DIMENSIONS GIVEN ACROSS CENTERLINES ARE SYMMETRICAL ABOUT THOSE CENTERLINES WITHIN HALF THE TOTAL TOLERANCE.
9. CODE LETTER PRECEDING PART NO. DESINGATES MANUFACTURING LOCATION.
   I=IRELAND
10. THIS PART CONFORMS TO CLASS B REQUIREMENTS OF COSMETIC SPECIFICATION PS-45499-002.




SECTION A-A
BACKGROUND OMITTED




SECTION B-B
BACKGROUND OMITTED

2759-(***)*
- FORM
  - L=LOOSE
  - C=LOOSE CRIMPED
  - A=CHAIN PER ES-339-A
  - B=CHAIN PER ES-339-B
- PLATING
  - SEE NOTE 2

| SH | REV |
|---|---|
| 1 | AS5 |
| 2 | AS4 |

AS5

UPDATE DIMS
EC NO: UCP2008-2190
DRWN:ADERR 2008/03/17
CHKD:SCHMIDT 2008/03/18
APPR:FSMITH 2008/03/24
DESCRIPTION
REV

QUALITY SYMBOLS
▼=0
▽=0

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | mm | INCH |
|---|---|---|
| 4 PLACES | ± --- | ± --- |
| 3 PLACES | ± --- | ± .010 |
| 2 PLACES | ± 0.25 | ± .014 |
| 1 PLACE | ± 0.36 | ± --- |
| ANGULAR ±1/2° | | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION STYLE: MM/IN
SCALE: ---
DESIGN UNITS: INCH
THIRD ANGLE PROJECTION

| | | |
|---|---|---|
| DRAWN BY | SAMIEC | DATE 07/28/87 |
| CHECKED BY | PATEL | DATE 07/28/87 |
| APPROVED BY | LENZ | DATE 07/28/87 |

TITLE: CRIMP TERMINAL 22-30 GA WIRE

MOLEX INCORPORATED

MATERIAL NO.: SEE CHART
DOCUMENT NO.: SD-2759
SHEET NO.: 1 OF 2

SIZE: D

2759-(***)*

| | PART NO. | ENG. NO. |
|---|---|---|
| | 08-55-0101 | 2759-(555)B |
| | 08-55-0102 | 2759-(555)L |
| | 08-55-0126 | 2759-(555)A |
| | 08-56-0109 | 2759-(550)B |
| | 08-56-0110 | 2759-(550)L |
| | 08-50-0113 | 2759-(P909)B |
| | 08-50-0114 | 2759-(P909)L |
| | 08-50-0124 | 2759-(P909)C |
| | 08-51-0108 | 2759-(122)B |
| | | 2759-(122)L |
| I | 08-50-0274 | 2759-(P909)B |
| I | 08-50-0275 | 2759-(P909)L |
| I | 08-50-0273 | 2759-(P909)A |
| | 08-55-0130 | 2759-(558)B |
| | 08-55-0131 | 2759-(558)L |
| | 08-50-0160 | 2759-(102)L |
| | 08-50-0159 | 2759-(102) |

| | PART NO. | ENG. NO. |
|---|---|---|

| | PART NO. | ENG. NO. |
|---|---|---|

| | PART NO. | ENG. NO. |
|---|---|---|

| | PART NO. | ENG. NO. |
|---|---|---|

REMOVE *999 PARTS
ECC NO: UCP2008-0222 2007/08/02
DRWN:ADERR 2007/08/02
CHKD:JBELL
APPR:FSMITH 2007/08/03
DESCRIPTION
REV
AS4

QUALITY SYMBOLS
▼=0
▽=0

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | mm | INCH |
|---|---|---|
| 4 PLACES | ± --- | ± --- |
| 3 PLACES | ± --- | ± --- |
| 2 PLACES | ± --- | ± --- |
| 1 PLACE | ± --- | ± --- |
| ANGULAR ±1/2° | | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION STYLE: MM/IN
SCALE: ---
DESIGN UNITS: INCH
THIRD ANGLE PROJECTION

| | | |
|---|---|---|
| DRAWN BY | SAMIEC | DATE 07/28/87 |
| CHECKED BY | PATEL | DATE 07/28/87 |
| APPROVED BY | LENZ | DATE 07/28/87 |

TITLE: CRIMP TERMINAL 22-30 GA WIRE

MOLEX INCORPORATED

MATERIAL NO.: SEE CHART
DOCUMENT NO.: SD-2759
SHEET NO.: 2 OF 2
SIZE: D