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## FEATURES AND SPECIFICATIONS

### Features and Benefits

- Sizes 2 to 28 circuits
- Friction lock provides passive lock to connector with ramp
- Good in high vibration applications
- Various pin lengths available
- Voided circuits available (contact Molex)

### Reference Information

Product Specification: PS-10-07  
 Packaging: Bag  
 UL File No.: E29179  
 CSA File No.: LR19980  
 Mates With: 2695, 4455, 6471, 7220 and 7880  
 Designed In: Inches

### Electrical

Voltage: 250V  
 Current: 4.0A  
 Contact Resistance: 20mΩ max.  
 Dielectric Withstanding Voltage: 1500V  
 Insulation Resistance: 50K MΩ min.

### Mechanical

Durability:  
 Tin—25 cycles max.  
 Gold—100 cycles max.

### Physical

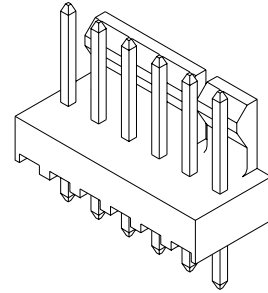
Housing: Red nylon, UL 94V-0  
 Contact: Brass, 0.64mm (.025") square  
 Plating: See Table  
 Operating Temperature: 0 to +75°C

**molex®** 2.54mm (.100") Pitch  
**KK®**

**Solid Header**

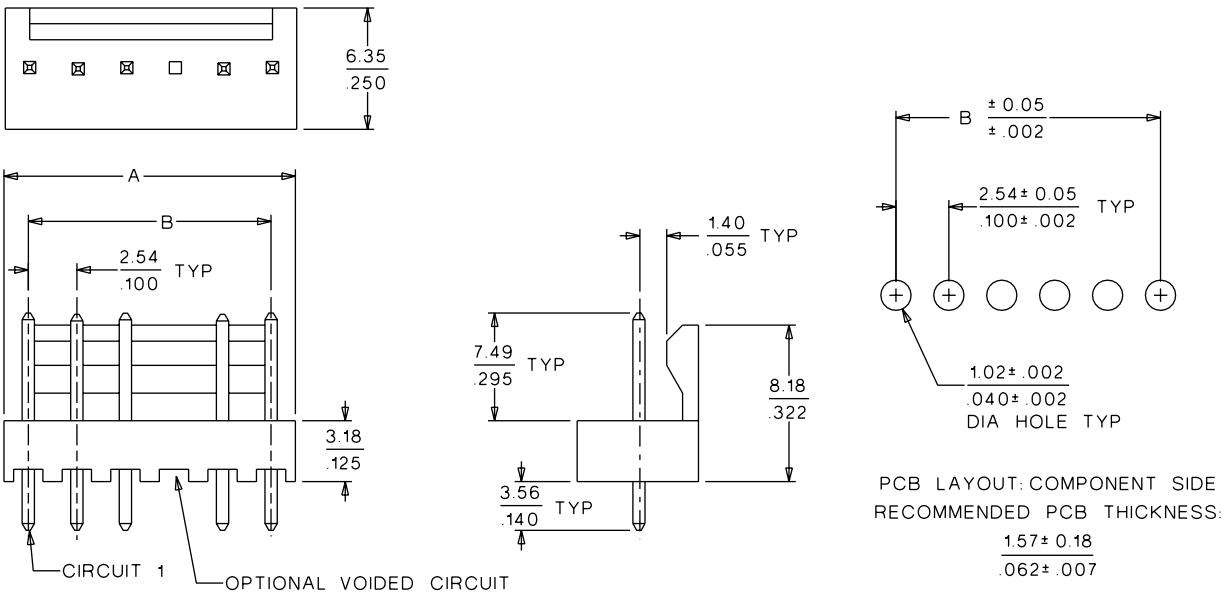
**6373**

**Vertical  
 Friction Lock**



2.54mm (.100") Pitch

## CATALOG DRAWING (FOR REFERENCE ONLY)



## ORDERING INFORMATION AND DIMENSIONS

Circuits	Order No.		Dimension	
	Tin	Gold	A	B
2	• 22-23-2021	• 22-11-2022	5.08 (.200)	2.54 (.100)
3	• 22-23-2031	• 22-11-2032	7.62 (.300)	5.08 (.200)
4	• 22-23-2041	• 22-11-2042	10.16 (.400)	7.62 (.300)
5	• 22-23-2051	• 22-11-2052	12.70 (.500)	10.16 (.400)
6	• 22-23-2061	• 22-11-2062	15.24 (.600)	12.70 (.500)
7	• 22-23-2071	• 22-11-2072	17.78 (.700)	15.24 (.600)
8	• 22-23-2081	• 22-11-2082	20.32 (.800)	17.78 (.700)
9	• 22-23-2091	• 22-11-2092	22.86 (.900)	20.32 (.800)
10	• 22-23-2101	• 22-11-2102	25.40 (1.000)	22.86 (.900)
11	• 22-23-2111	• 22-11-2112	27.94 (1.100)	25.40 (1.000)
12	• 22-23-2121	• 22-11-2122	30.48 (1.200)	27.94 (1.100)
13	• 22-23-2131	• 22-11-2132	33.02 (1.300)	30.48 (1.200)
14	• 22-23-2141	• 22-11-2142	35.56 (1.400)	33.02 (1.300)
15	• 22-23-2151	• 22-11-2152	38.10 (1.500)	35.56 (1.400)

Circuits	Order No.		Dimension	
	Tin	Gold	A	B
16	• 22-23-2161	• 22-11-2162	40.64 (1.600)	38.10 (1.500)
17	• 22-23-2171	• 22-11-2172	43.18 (1.700)	40.64 (1.600)
18	• 22-23-2181	• 22-11-2182	45.72 (1.800)	43.18 (1.700)
19	• 22-23-2191	• 22-11-2192	48.26 (1.900)	45.72 (1.800)
20	• 22-23-2201	• 22-11-2202	50.80 (2.000)	48.26 (1.900)
21	• 22-23-2211	• 22-11-2212	53.34 (2.100)	50.80 (2.000)
22	• 22-23-2221	• 22-11-2222	55.88 (2.200)	53.34 (2.100)
23	• 22-23-2231	• 22-11-2232	58.42 (2.300)	55.88 (2.200)
24	• 22-23-2241	• 22-11-2242	60.96 (2.400)	58.42 (2.300)
25	• 22-23-2251	• 22-11-2252	63.50 (2.500)	60.96 (2.400)
26	• 22-23-2261	• 22-11-2262	66.04 (2.600)	63.50 (2.500)
27	• 22-23-2271	• 22-11-2272	68.58 (2.700)	66.04 (2.600)
28	• 22-23-2281	• 22-11-2282	71.12 (2.800)	68.58 (2.700)

• US Standard Product, available through Molex franchised distributors

Note: Circuit 1 designation is used to orient the header to locate the voided circuit. Review mating connector to assure correct mating orientation.



# 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

REVISION: <b>P</b>	ECR/ECN INFORMATION: EC No: <b>UCR2002-0299</b> DATE: <b>2001 / 09 / 18</b>	TITLE: <b>PRODUCT SPECIFICATION .100 CENTER KK CONNECTORS</b>	SHEET No. <b>1 of 5</b>
DOCUMENT NUMBER: <b>PS-10-07</b>	CREATED / REVISED BY: <b>SAMIEC</b>	CHECKED BY: <b>MUELLER</b>	APPROVED BY: <b>MARGULIS</b>



# 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 $25 \pm 6$ 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 $25 \pm 6$ 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 $25 \pm 6$ 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 $25 \pm 6$ 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 border="1"> <thead> <tr> <th>Temperature °C</th> <th>Duration (Minutes)</th> </tr> </thead> <tbody> <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> </tbody> </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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# PRODUCT SPECIFICATION

## 5.3 ENVIRONMENTAL REQUIREMENTS

DESCRIPTION	TEST CONDITION	REQUIREMENT
Solder Resistance	Dip connector terminal tails in solder: Solder Duration: $5 \pm 0.5$ seconds; Solder Temperature: $230 \pm 5^\circ\text{C}$	Visual: No Damage to insulator material
Salt Spray	Mate connectors: Duration: 48 hours exposure; Atmosphere: salt spray from a 5% solution; Temperature: $35 +1/-2^\circ\text{C}$	10 milliohms MAXIMUM (change from initial) & Visual: No Damage
Cold Resistance	Mate connectors: Duration: 96 hours; Temperature: $-40 \pm 3^\circ\text{C}$	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

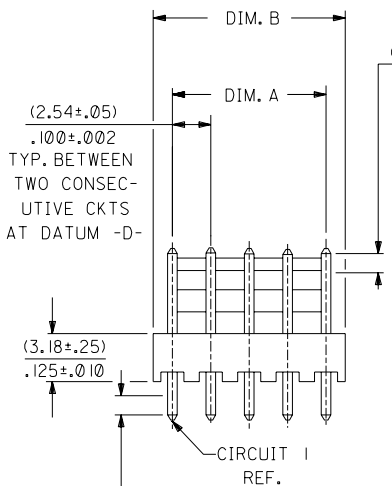
## 6.0 PACKAGING

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

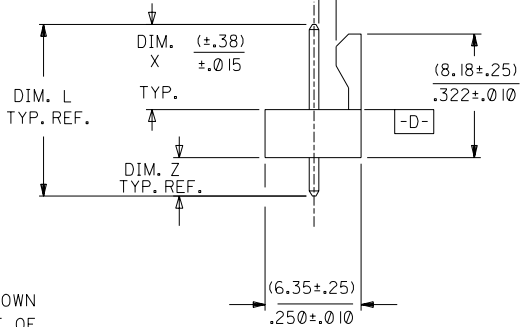
## 7.0 GAGES AND FIXTURES

## 8.0 OTHER

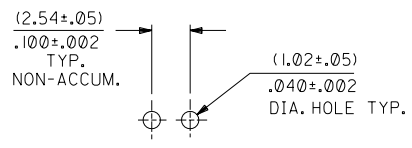
REVISION: <b>P</b>	ECR/ECN INFORMATION: EC No: <b>UCR2002-0299</b> DATE: <b>2001 / 09 / 18</b>	TITLE: <b>PRODUCT SPECIFICATION .100 CENTER KK CONNECTORS</b>	SHEET No. <b>5 of 5</b>
DOCUMENT NUMBER: <b>PS-10-07</b>	CREATED / REVISED BY: <b>SAMIEC</b>	CHECKED BY: <b>MUELLER</b>	APPROVED BY: <b>MARGULIS</b>



(1.3)  
.05  
CENTERLINE OF PIN IN AREA SHOWN NOT TO VARY BY MORE THAN .008 IN ANY DIRECTION



(1.3)  
.05  
CENTERLINE OF PIN IN AREA SHOWN NOT TO VARY FROM CENTERLINE OF PIN AT DATUM -D- BY MORE THAN .005 IN ANY DIRECTION



RECOMMENDED P.C. BOARD HOLE LAYOUT

- NOTES:
- MATERIAL: NYLON, UL 94V-0, COLOR WHITE
  - PARTS ARE STACKABLE END TO END ON (2.54)/.100 CENTERS.
  - PIN PUSH OUT FORCE: 2 LBS. MIN.
  - PARTS CONFORM TO PROD. SPEC. 10-07
  - CIRCUIT ONE SHOWN TO COMMUNICATE VOID LOCATION. CIRCUIT ONE MAY OR MAY NOT LINE UP WITH CIRCUIT ONE OF HOUSING.

A-6373-N \* \* \* - \*

NO. OF CKTS. →

VERSION →

PLATING CODE →

PER SDES-88

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

SECONDARY OPERATIONS	
CODE	PACKAGE
BLANK	BULK
A	TUBE PACK; PK-44743-001

CKTS. OF NO.	DIM. A	DIM. B
2	.100 ± .002 (2.54 ± .05)	.200 / .188 (5.08 / 4.78)
3	.200 ± .004 (5.08 ± .10)	.300 / .288 (7.62 / 7.32)
4	.300 ± .005 (7.62 ± .13)	.400 / .388 (10.16 / 9.86)
5	.400 ± .005 (10.16 ± .13)	.500 / .488 (12.70 / 12.40)
6	.500 ± .005 (12.70 ± .13)	.600 / .586 (15.24 / 14.88)
7	.600 ± .005 (15.24 ± .13)	.700 / .686 (17.78 / 17.42)
8	.700 ± .006 (17.78 ± .15)	.800 / .786 (20.32 / 19.96)
9	.800 ± .006 (20.32 ± .15)	.900 / .886 (22.86 / 22.50)
10	.900 ± .006 (22.86 ± .15)	1.000 / .986 (25.40 / 25.04)
11	1.000 ± .007 (25.40 ± .18)	1.100 / 1.086 (27.94 / 27.58)
12	1.100 ± .007 (27.94 ± .18)	1.200 / 1.186 (30.48 / 30.12)
13	1.200 ± .007 (30.48 ± .18)	1.300 / 1.286 (33.02 / 32.66)
14	1.300 ± .007 (33.02 ± .18)	1.400 / 1.386 (35.56 / 35.20)
15	1.400 ± .008 (35.56 ± .20)	1.500 / 1.484 (38.10 / 37.69)
16	1.500 ± .008 (38.10 ± .20)	1.600 / 1.584 (40.64 / 40.23)
17	1.600 ± .008 (40.64 ± .20)	1.700 / 1.684 (43.18 / 42.77)
18	1.700 ± .008 (43.18 ± .20)	1.800 / 1.784 (45.72 / 45.31)
19	1.800 ± .009 (45.72 ± .23)	1.900 / 1.882 (48.26 / 47.80)
20	1.900 ± .009 (48.26 ± .23)	2.000 / 1.982 (50.80 / 50.34)
21	2.000 ± .009 (50.80 ± .23)	2.100 / 2.082 (53.34 / 52.88)
22	2.100 ± .009 (53.34 ± .23)	2.200 / 2.182 (55.88 / 55.42)
23	2.200 ± .009 (55.88 ± .23)	2.300 / 2.282 (58.42 / 57.96)
24	2.300 ± .010 (58.42 ± .25)	2.400 / 2.380 (60.96 / 60.45)
25	2.400 ± .010 (60.96 ± .25)	2.500 / 2.480 (63.50 / 62.99)
26	2.500 ± .010 (63.50 ± .25)	2.600 / 2.580 (66.04 / 65.53)
27	2.600 ± .010 (66.04 ± .25)	2.700 / 2.680 (68.58 / 68.07)
28	2.700 ± .010 (68.58 ± .25)	2.800 / 2.780 (71.12 / 70.61)

10	AW		
9	AV		
8	AY2		
7	AU		
6	AX1	AY2	ADD -12A102-8 UCP2003-2355 5/8/2003 SCHAFFER
5	AW2	AY1	REV BOW UCP2003-1610 1/22/2003 SAMIEC
4	AX2		
3	AU		
2	AX	AY	WAS M340 UCR2002-0662 12/9/2002 SAMIEC
1	AY2		

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

3 PLACE	±	INCH	METRIC
2 PLACE	±		
1 PLACE	±		

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DRWG: SAMIEC CHKD: PATEL  
BY: LENZ SCALE: :

FILE NAME: S6373X1 THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

REVISE ONLY ON CAD SYSTEM

TITLE: WAFER ASS'Y., FRICTION LOCK, KK

6373 SERIES DWG.

PART NO. SEE CHART SHEET NO. 1 OF 10 DATE 01/02/85

MOLEX INCORPORATED U.S.A. 60532

DRWG. NO. SDA-6373

SIZE: C

6373





