

Distributed by:

JAMECO[®]
ELECTRONICS

www.Jameco.com ♦ 1-800-831-4242

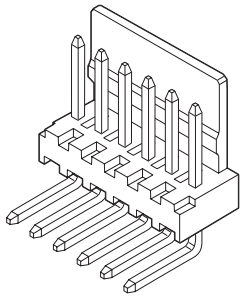
The content and copyrights of the attached
material are the property of its owner.

Jameco Part Number 1965921

2.54mm (.100") Pitch KK® Header

7395

Right Angle, Square Pin
Friction Lock



Features and Benefits

- Sizes 2 to 28 circuits
- Edge mount only

Reference Information

Mates With: 2695, 6471 and 7720S
Designed In: Inches

Physical

Housing: Natural nylon, UL 94V-0
Contact: Brass, 0.64mm (.025") square
Plating: Tin or Gold
Operating Temperature: 0 to +75°C

2.54mm (.100") Pitch PCB and Wire Connectors

Circuits	Order No.		Lead-free
	Tin	Gold	
2	22-05-7028	22-12-4022	Yes
3	22-05-7038	22-12-4032	
4	22-05-7048	22-12-4042	
5	22-05-7058	22-12-4052	
6	22-05-7068	22-12-4062	
7	22-05-7078	22-12-4072	
8	22-05-7088	22-12-4082	
9	22-05-7098	22-12-4092	
10	22-05-7108	22-12-4102	

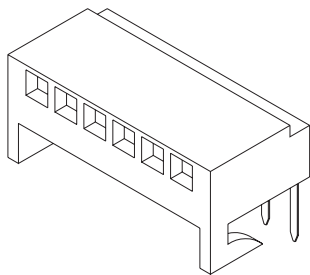
Circuits	Order No.		Lead-free
	Tin	Gold	
11	22-05-7118	22-12-4112	Yes
12	22-05-7128	22-12-4122	
13	22-05-7138	22-12-4132	
14	22-05-7148	22-12-4142	
15	22-05-7158	22-12-4152	
16	22-05-7168	22-12-4162	
17	22-05-7178	22-12-4172	
18	22-05-7188	22-12-4182	
19	22-05-7198	22-12-4192	

Circuits	Order No.		Lead-free
	Tin	Gold	
20	22-05-7208	22-12-4202	Yes
21	22-05-7218	22-12-4212	
22	22-05-7228	22-12-4222	
23	22-05-7238	22-12-4232	
24	22-05-7248	22-12-4242	
25	22-05-7258	22-12-4252	
26	22-05-7268	22-12-4262	
27	22-05-7278	22-12-4272	
28	22-05-7288	22-12-4282	

2.54mm (.100") Pitch KK® PC Board Connector

4455

Right Angle



Features and Benefits

- Sizes 2 to 25 circuits
- End-to-end stackable
- See 44812 Series for high temperature version
- Thicker board hooks available

Reference Information

Product Specification: PS-10-07
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980
Mates With: 4030, 4094, 4380, 42152, 42153, 42375,
42376 and 42377 headers and .025" square pins
Designed In: Inches

Electrical

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

Mechanical

Mating Force: 199g max.
Unmating Force: 57g min.

Physical

Housing: Nylon, UL 94V-0
Contact: Brass (contact Molex for Phosphor Bronze)
Plating: See Table
Operating Temperature: 0 to +75°C

Circuits	Order No.			Lead-free
	Tin	Gold	Select Gold	
2	22-15-2026	22-16-2021	22-16-2020	Yes
3	22-15-2036	22-16-2031	22-16-2030	
4	22-15-2046	22-16-2041	22-16-2040	
5	22-15-2056	22-16-2051	22-16-2050	
6	22-15-2066	22-16-2061	22-16-2060	
7	22-15-2076	22-16-2071	22-16-2070	
8	22-15-2086	22-16-2081	22-16-2080	
9	22-15-2096	22-16-2091	22-16-2090	
10	22-15-2106	22-16-2101	22-16-2100	
11	22-15-2116	22-16-2111	22-16-2110	
12	22-15-2126	22-16-2121	22-16-2120	
13	22-15-2136	22-16-2131	22-16-2130	

Circuits	Order No.			Lead-free
	Tin	Gold	Select Gold	
14	22-15-2146	22-16-2141	22-16-2140	Yes
15	22-15-2156	22-16-2151	22-16-2150	
16	22-15-2166	22-16-2161	22-16-2160	
17	22-15-2176	22-16-2171	22-16-2170	
18	22-15-2186	22-16-2181	22-16-2180	
19	22-15-2196	22-16-2191	22-16-2190	
20	22-15-2206	22-16-2201	22-16-2200	
21	22-15-2216	22-16-2211	22-16-2210	
22	22-15-2226	22-16-2221	22-16-2220	
23	22-15-2236	22-16-2231	22-16-2230	
24	22-15-2246	22-16-2241	22-16-2240	
25	22-15-2256	22-16-2251	22-16-2250	

* Current rating is dependent upon PCB traces, Copper weight, solder, etc. (contact Molex for more information)

	Order No.
Polarizing Key 4161-1	15-04-9209



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

REVISION: P3	EGR/ECN INFORMATION: EC No: UCP2008-0956 DATE: 11/6/2007	TITLE: PRODUCT SPECIFICATION .100 CENTER KK CONNECTORS	SHEET No. 1 of 5
DOCUMENT NUMBER: PS-10-07	CREATED / REVISED BY: ADERR	CHECKED BY: JBELL	APPROVED BY: FSMITH



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

REVISION: P3	EGR/ECN INFORMATION: EC No: UCP2008-0956 DATE: 11/6/2007	TITLE: PRODUCT SPECIFICATION .100 CENTER KK CONNECTORS	SHEET No. 2 of 5
DOCUMENT NUMBER: PS-10-07	CREATED / REVISED BY: ADERR	CHECKED BY: JBELL	APPROVED BY: FSMITH



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 ± 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) 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		
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)

REVISION: P3	EGR/ECN INFORMATION: EC No: UCP2008-0956 DATE: 11/6/2007	TITLE: PRODUCT SPECIFICATION .100 CENTER KK CONNECTORS	SHEET No. 3 of 5
------------------------	--	--	----------------------------

DOCUMENT NUMBER: PS-10-07	CREATED / REVISED BY: ADERR	CHECKED BY: JBELL	APPROVED BY: FSMITH
-------------------------------------	---------------------------------------	-----------------------------	-------------------------------



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)										

REVISION: P3	EGR/ECN INFORMATION: EC No: UCP2008-0956 DATE: 11/6/2007	TITLE: PRODUCT SPECIFICATION .100 CENTER KK CONNECTORS	SHEET No. 4 of 5
DOCUMENT NUMBER: PS-10-07	CREATED / REVISED BY: ADERR	CHECKED BY: JBELL	APPROVED BY: FSMITH



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
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)	Test per EIA-364-65, Class II, Exposure to gasses for 4 days, unmated.	10 milliohms MAXIMUM (change from initial) & Visual: No Damage

6.0 PACKAGING

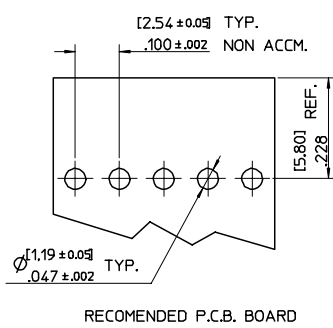
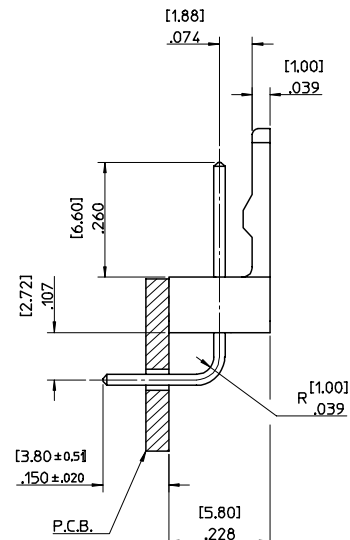
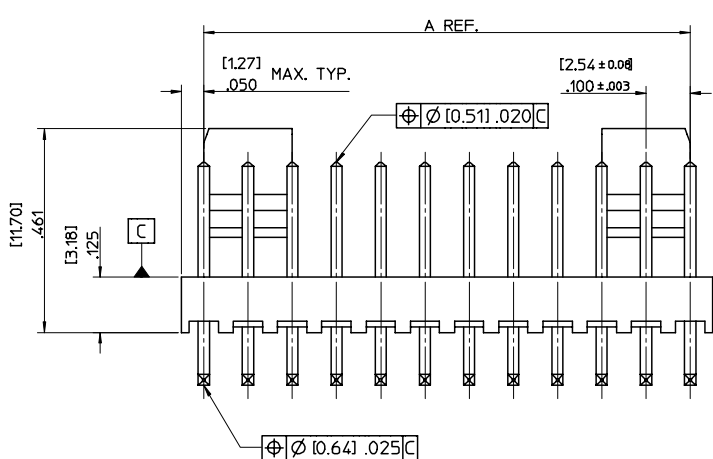
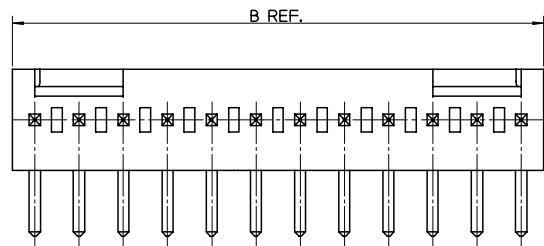
Parts shall be packaged to protect against damage during handling, transit and storage.

7.0 GAGES AND FIXTURES

8.0 OTHER

REVISION: P3	EGR/ECN INFORMATION: EC No: UCP2008-0956 DATE: 11/6/2007	TITLE: PRODUCT SPECIFICATION .100 CENTER KK CONNECTORS	SHEET No. 5 of 5
DOCUMENT NUMBER: PS-10-07	CREATED / REVISED BY: ADERR	CHECKED BY: JBELL	APPROVED BY: FSMITH

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



AE-7395-N B

NO. OF CCTS.

WAFER ASSY. OPTION

PLATING TYPE
BLANK: TIN
G: GOLD

PIN FINISH: [0.005]/0.0002 MIN. TIN OVER [0.003]/0.0001 MIN. COPPER	PIN FINISH: [0.0005]/0.00002 MIN. GOLD OVER [0.0008]/0.00003 MIN. NICKEL
--	---

NO. OF CCTS	DIM. A	DIM. B	PIN FINISH: [0.005]/0.0002 MIN. TIN OVER [0.003]/0.0001 MIN. COPPER		PIN FINISH: [0.0005]/0.00002 MIN. GOLD OVER [0.0008]/0.00003 MIN. NICKEL	
			ENG. NO.	PART NO.	ENG. NO.	PART NO.
2	2.54/100	5.08/200	AE-7395-2B	22-05-7028	AE-7395-2BG	22-12-4022
3	5.08/200	7.62/300	AE-7395-3B	22-05-7038	AE-7395-3BG	22-12-4032
4	7.62/300	10.16/400	AE-7395-4B	22-05-7048	AE-7395-4BG	22-12-4042
5	10.16/400	12.70/500	AE-7395-5B	22-05-7058	AE-7395-5BG	22-12-4052
6	12.70/500	15.24/600	AE-7395-6B	22-05-7068	AE-7395-6BG	22-12-4062
7	15.24/600	17.78/700	AE-7395-7B	22-05-7078	AE-7395-7BG	22-12-4072
8	17.78/700	20.32/800	AE-7395-8B	22-05-7088	AE-7395-8BG	22-12-4082
9	20.32/800	22.86/900	AE-7395-9B	22-05-7098	AE-7395-9BG	22-12-4092
10	22.86/900	25.40/1000	AE-7395-10B	22-05-7108	AE-7395-10BG	22-12-4102
11	25.40/1000	27.94/1100	AE-7395-11B	22-05-7118	AE-7395-11BG	22-12-4112
12	27.94/1100	30.48/1200	AE-7395-12B	22-05-7128	AE-7395-12BG	22-12-4122
13	30.48/1200	33.02/1300	AE-7395-13B	22-05-7138	AE-7395-13BG	22-12-4132
14	33.02/1300	35.56/1400	AE-7395-14B	22-05-7148	AE-7395-14BG	22-12-4142
15	35.56/1400	38.10/1500	AE-7395-15B	22-05-7158	AE-7395-15BG	22-12-4152
16	38.10/1500	40.64/1600	AE-7395-16B	22-05-7168	AE-7395-16BG	22-12-4162
17	40.64/1600	43.18/1700	AE-7395-17B	22-05-7178	AE-7395-17BG	22-12-4172
18	43.18/1700	45.72/1800	AE-7395-18B	22-05-7188	AE-7395-18BG	22-12-4182
19	45.72/1800	48.26/1900	AE-7395-19B	22-05-7198	AE-7395-19BG	22-12-4192
20	48.26/1900	50.80/2000	AE-7395-20B	22-05-7208	AE-7395-20BG	22-12-4202

- NOTES:-
- MATERIALS:
WAFER: NYLON 6/6, UL 94, V-0, NATURAL COLOUR
PIN: [0.64]/0.25 SQUARE HARD DRAWN BRASS
FINISH: SEE CHART
 - PIN SOLDERABILITY PER MOLEX SPECIFICATION NUMBER 152
 - PIN PUSH OUT FORCE [0.907 KG]/2.0 LBS MIN.
 - PARTS TO BE FLAT WITHIN [0.13]/0.005 IN/IN
 - WAFERS STACKABLE END TO END

ORIGINAL RELEASE E.C. NO. E2005-1071 DRAWN: JDENNEHY 2005/06/20 CHKD: GMCWEENEY 2005/06/20 APPR: JDENNEHY 2005/07/07	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE 5:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
		4 PLACES ± --- ± --- 3 PLACES ± --- ± .010 2 PLACES ± 0.25 ± .015 1 PLACE ± 0.38 ± --- ANGULAR ± 2 °	mm INCH	DRAWN BY JDENNEHY	DATE 2005/05/13	CHECKED BY GMCWEENEY	DATE 2005/05/27	WAFER, R/A FRICTION LOCK (2.54)/.100 CENTERS (0.64)/.025 SQ. PIN	
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE CHART		MOLEX INCORPORATED		DOCUMENT NO. SD-7395-001		SHEET NO. 1 OF 1	

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