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ELECTRONICS

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Jameco Part Number 795747

## FEATURES AND SPECIFICATIONS

### Features and Benefits

- Sizes 2 to 15 circuits
- 0.64mm (.025") square wire pins

### Reference Information

Packaging: Bulk  
 UL File No.: E29179  
 CSA File No.: LR19980  
 Mates With: [5051](#) housings, KK® 2.50mm (.098")  
 and [5102-N](#)  
 Designed In: Millimeters

### Electrical

Voltage: 250V  
 Current:

AWG	22	24	26	28
Amperes	3.0	2.5	2.0	1.5

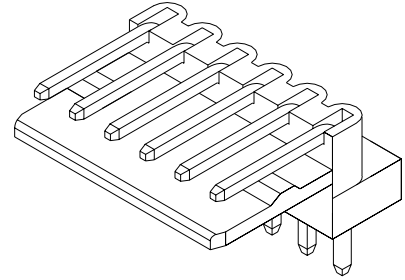
Contact Resistance: 20mΩ max.  
 Dielectric Withstanding Voltage: 1000V AC/1 min.  
 Insulation Resistance: 1000 MΩ min.

### Physical

Housing: 6/6 nylon, UL 94V-0  
 Contact: Brass  
 Plating: See Table  
 Operating Temperature: -40 to +105°C

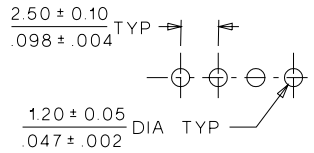
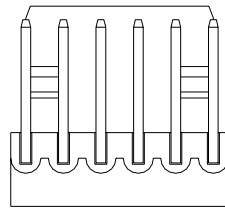
# molex® 2.50mm (.098") Pitch Header

## 5046 Right Angle Friction Lock

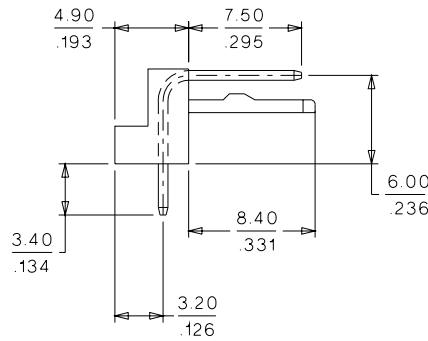
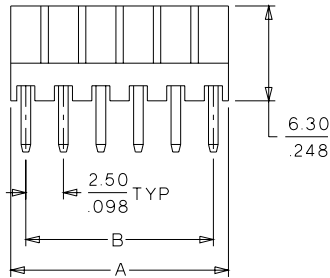


2.00 to 2.50mm (.079 to .098") Pitch

## CATALOG DRAWING (FOR REFERENCE ONLY)



PCB LAYOUT: COMPONENT SIDE  
 RECOMMENDED PCB THICKNESS:  $1.60 \pm 0.10$   
 $.063 \pm .004$



## ORDERING INFORMATION AND DIMENSIONS

Circuits	Order No.		Dimension	
	Tin	Gold	A	B
2	• 22-05-1022	22-12-1022	4.50 (.177)	2.50 (.098)
3	• 22-05-1032	22-12-1032	7.00 (.276)	5.00 (.197)
4	• 22-05-1042	22-12-1042	9.50 (.374)	7.50 (.295)
5	• 22-05-1052	22-12-1052	12.00 (.472)	10.00 (.394)
6	• 22-05-1062	22-12-1062	14.50 (.571)	12.50 (.492)
7	• 22-05-1072	22-12-1072	17.00 (.669)	15.00 (.591)
8	• 22-05-1082	22-12-1082	19.50 (.768)	17.50 (.689)
9	• 22-05-1092	22-12-1092	22.00 (.866)	20.00 (.787)
10	• 22-05-1102	22-12-1102	24.50 (.964)	22.50 (.886)
11	• 22-05-1112	22-12-1112	27.00 (1.063)	25.00 (.984)
12	• 22-05-1122	22-12-1122	29.50 (1.161)	27.50 (1.083)
13	• 22-05-1132	22-12-1132	32.00 (1.260)	30.00 (1.181)
14	• 22-05-1142	22-12-1142	34.50 (1.358)	32.50 (1.279)
15	• 22-05-1152	22-12-1152	37.00 (1.457)	35.00 (1.378)

• US Standard Product, available through Molex franchised distributors

## PRODUCT SPECIFICATION

### [1. SCOPE]

This specification covers the 2.5mm CENTER SPACING P.C. BOARD CONNECTOR series.

### [2. PRODUCT NAME AND PART NUMBER]

Product Name	Part Number
Terminal	5159T,PBT
Housing	5051-N
Wafer Assembly (St.)	5045-NA
Wafer Assembly (R/A)	5046-NA

N: Refer to the drawing.

### [3. RATINGS AND APPLICABLE WIRES]

Item	Standard	
Rated Voltage (MAX.)	250V	[ AC (rms) / DC ]
Rated Current (MAX.) and Applicable wires	AWG #22 3 A	Insulation O.D.: $\phi$ 1.2 ~ 1.7 mm
	AWG #24 2.5A	
	AWG #26 2 A	
	AWG #28 1.5A	
Ambient Temperature Range	-40°C ~ +105°C*	

\* : Including terminal temperature rise.

### [4. PERFORMANCE]

#### 4-1. Electrical Performance:

Item		Test Condition	Requirement
4-1-1	Contact Resistance	Mate connectors measure by dry circuit, 20mV max., 10mA. (Based upon JIS C5402 5.4)	20m $\Omega$ MAX.
4-1-2	Insulation Resistance	Mate connectors, apply 500V DC between adjacent terminal or ground. (Based upon JIS C5402 5.2/MIL-STD-202 Method 302 Cond. B)	1000M $\Omega$ MIN.
4-1-3	Dielectric Strength	Mate connectors, apply 1000V AC for 1 minute between adjacent terminal or ground. (Based upon JIS C5402 5.1/MIL-STD-202 Method 301)	No Breakdown
4-1-4	Contact Resistance on Crimped Portion	Crimp the applicable wire on to the terminal, measure by dry circuit, 20mV MAX., 10mA.	5m $\Omega$ MAX.

REV.0

5159•5051•5045/6

Document No. PS- 5051-003
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#### 4-2. Mechanical Performance:

Item		Test Condition	Requirement	
4-2-1	Insertion and Withdrawal Force	Insert and withdraw connectors at the speed rate of $25 \pm 3$ mm/minute.	Refer to paragraph 6	
4-2-2	Crimping Pull Out Force	Fix the crimped terminal, apply axial pull out force on the wire at the speed rate of $25 \pm 3$ mm/minute. (Based upon JIS C5402 6.8)	AWG #22	4.0 Kgf MIN.
			AWG #24	3.0 Kgf MIN.
			AWG #26	2.0 Kgf MIN.
			AWG #28	1.0 Kgf MIN.
4-2-3	Terminal Insertion Force	Insert the crimped terminal into the housing.	1.5 Kgf MAX.	
4-2-4	Terminal/Housing Retention Force	Apply axial pull out force at the speed rate of $25 \pm 3$ mm/minute on the terminal assembled in the housing.	1.5 Kgf MIN.	
4-2-5	Pin Retention Force	Apply axial push force at the speed rate of $25 \pm 3$ mm/minute.	1.0 Kgf MIN.	

#### 4-3. ENVIRONMENTAL PERFORMANCE AND OTHERS

Item		Test Condition	Requirement	
4-3-1	Repeated Insertion/Withdrawal	When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute.	Contact Resistance	40mΩ MAX.
4-3-2	Temperature Rise	Carrying rated current load. (Based upon UL 498)	30°C MAX.	
4-3-3	Vibration	Amplitude : 1.5mm P-P Sweep time: 10-55-10Hz in 1 minute Duration : 2 hours in each X.Y.Z. axes (Based upon MIL-STD-202 Method 201A)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
			Dis-continuity	1 μsec. MAX.
4-3-4	Shock	50G, 3 strokes in each X.Y.Z. axes. (Based upon JIS C0041/MIL-STD-202 Method 213B Cond. A)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
			Dis-continuity	1 μsec. MAX.

Item		Test Condition	Requirement	
4-3-5	Heat Resistance	105±2°C, 96 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Cond.A)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-6	Cold Resistance	-40±3°C, 96 hours (Based upon JIS C0020)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-7	Humidity	Temperature : 60±2°C Relative Humidity: 90-95% Duration: 96 hours  (Based upon JIS C0022/MIL-STD-202 Method 103B Cond.B)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
			Dielectric Strength	Must meet 4-1-3
			Insulation Resistance	100MΩ MIN.
4-3-8	Temperature Cycling	5 cycles: a) - 55°C 30 MIN. b) +105°C 30 MIN. (Based upon JIS C0025)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-9	Salt Spray	48 hours exposure to a salt spray from the 5% solution at 35°C.(Based upon JIS C5028/MIL-STD-202 Method 101D Cond. B)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-10	SO <sub>2</sub> Gas	24 hours exposure to 50 ppm. SO <sub>2</sub> gas at 40°C	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-11	Solder-ability	Soldering Time: 3±0.5 sec Solder Temperature: 230±5°C	75% of immersed area must show no voids, pin holes	
4-3-12	Resistance to Soldering Heat	Soldering Time: 5±0.5 sec Solder Temperature: 260±5°C	No Damage	

**[5. PRODUCT SHAPE, DIMENSIONS AND MATERIALS]**

Refer to the drawing.

【6. INSERTION/WITHDRAWAL FORCE】

(Unit : kgf)

CKT SIZE	Insertion (MAX.)			Withdrawal (MIN.)		
	Initial	6th	30th	Initial	6th	30th
2	3.6	3.4	3.4	0.65	0.55	0.55
3	4.4	4.1	4.1	0.70	0.60	0.60
4	5.2	4.8	4.8	0.75	0.65	0.65
5	6.0	5.5	5.5	0.80	0.70	0.70
6	6.6	6.0	6.0	0.90	0.80	0.80
7	7.2	6.5	6.5	1.00	0.90	0.90
8	7.8	7.0	7.0	1.15	1.00	1.00
9	8.4	7.5	7.5	1.30	1.15	1.15
10	9.0	8.0	8.0	1.45	1.30	1.30
11	9.6	8.5	8.5	1.60	1.45	1.45
12	10.2	9.0	9.0	1.85	1.60	1.60
13	10.8	9.5	9.5	2.00	1.75	1.75
14	11.4	10.0	10.0	2.15	1.90	1.90
15	12.0	10.5	10.5	2.30	2.05	2.05
16	12.6	11.0	11.0	2.45	2.20	2.20
17	13.2	11.5	11.5	2.60	2.35	2.35
18	13.8	12.0	12.0	2.75	2.50	2.50
19	14.4	12.5	12.5	2.90	2.65	2.65
20	15.0	13.0	13.0	3.05	2.80	2.80

E

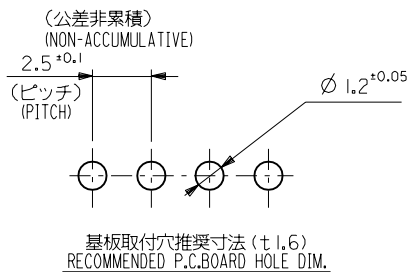
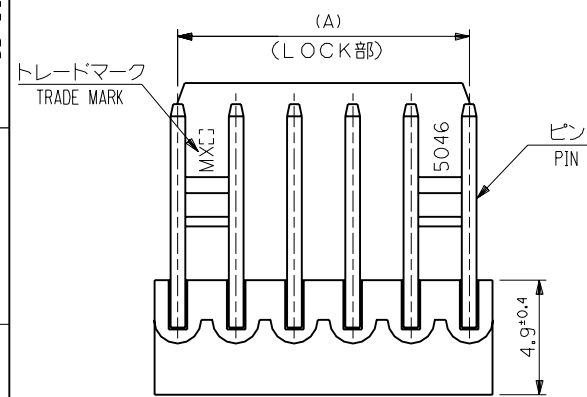
D

C

B

A

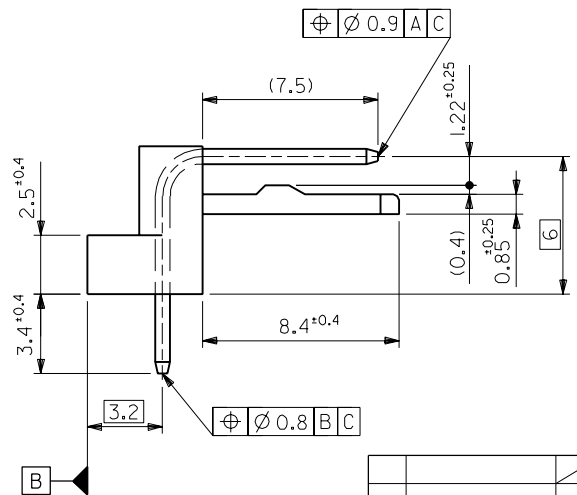
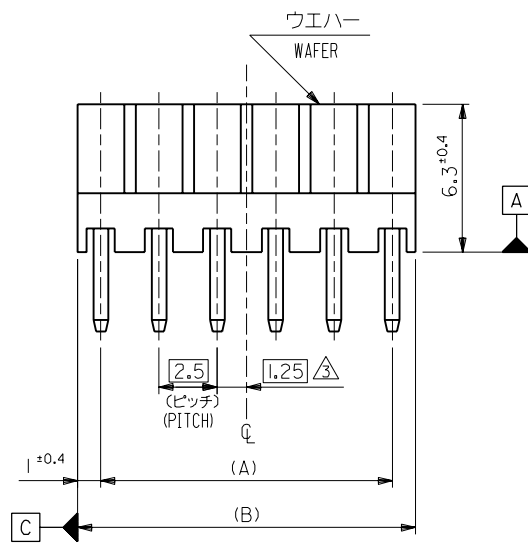
MM DIMENSIONS IN METRIC DO NOT SCALE DRAWING



注記 NOTES :

- それは長さ25.4に対して0.2MAX. CAMBER MUST BE WITHIN 0.2MAX. PER 25.4 .
  - 材料 (MATERIAL)  
 ウエハー : 66ナイロン, UL94V-0  
 WAFER: 66NYLON, UL94V-0  
 ピン : φ0.635 黄銅, 銅下地錫メッキ  
 PIN: φ0.635 BRASS, TIN OVER COPPER PLATING.
- △ 全極数が偶数の場合のみ適用。  
 APPLY FOR EVEN CIRCUITS PRODUCT ONLY.

49.5	47.5	22-05-1202	5046-20A	20
47	45	-1192	-19A	19
44.5	42.5	-1182	-18A	18
42	40	-1172	-17A	17
39.5	37.5	-1162	-16A	16
37	35	-1152	-15A	15
34.5	32.5	-1142	-14A	14
32	30	-1132	-13A	13
29.5	27.5	-1122	-12A	12
27	25	-1112	-11A	11
24.5	22.5	-1102	-10A	10
22	20	-1092	-09A	9
19.5	17.5	-1082	-08A	8
17	15	-1072	-07A	7
14.5	12.5	-1062	-06A	6
12	10	-1052	-05A	5
9.5	7.5	-1042	-04A	4
7	5	-1032	-03A	3
4.5	2.5	22-05-1022	5046-02A	2
(B)	(A)	EDP NO.	ENG.NO.	極数 CKT.



角度 ANGLE	±3°					
30以上 OVER	+0.3					
10以上 30未満 OVER UNDER	+0.25	H	変更 REVISD (40895)	N.S	H.H	94/1/1
10未満 UNDER	+0.2	G	変更及び再作図 REVISD & REDRAWN (20018)	Y.M	H.H	92/1/10
一般公差 GENERAL TOLERANCES		記号 LTR	変更内容 REVISION RECORD	DR. CHK.	日付 DATE	

材料 MATERIAL	注記参照 SEE NOTE
仕上げ FINISH	—
適用電線範囲 WIRE RANGE	—
被覆外径 INS. RANGE	—
DRAWN BY '92/1/3 Y.MIZUNO	CHK'D BY '94/1/1 Y.M.HIRAMOTO
APP'D BY '94/1/1 M.FUKUSHIMA	尺度 SCALE 5 : 1

**MOLEX-JAPAN CO.,LTD.**  
 日本モレックス株式会社

REVISE ONLY ON CAD SYSTEM

TITLE 名称  
 KK2.5 RIGHT ANGLE  
 WAFER ASS'Y

DWG. NO. SD-5046-NA

REV H