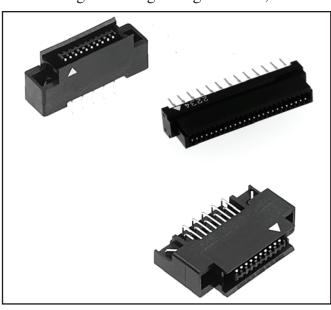
## 3M<sup>™</sup> Pak 50 Socket

.050" Straight and Right Angle Socket, with Ret. Clips, Flng. Option

P50 Series



- Contact design features two contact points and straight beam construction for connector reliability and low insertion force
- Available retention clip secures connector for wave soldering eliminating additional hardware expenses
- Horizontal, parallel or vertical mating available
- Insulator design prevents mis-insertion errors and contact damage
- Available with and without flanges
- RoHS Compliant. See the Regulatory Information Appendix (RIA) in the "RoHS Compliance" section of www.3Mconnector.com for compliance information (RIA E1 and C1 apply)

Date Modified: February 10, 2010

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## **Physical**

**Insulator:** 

Material: Glass Filled Nylon

Flammability: UL 94V-0

Color: Black

Contact Material: Phosphor Bronze

**Plating:** 

Underplating: Nickel

Wiping Area:  $10 \mu'' [0.25 \mu m]$  Gold

Solder Tails: Gold Flash Retaining Clips: Tin-Copper

Mating Compatibility: TS-1144, TS-1162, TS-2046, TS-2048

### **Electrical**

**Current Rating:** 0.5 A

**Insulation Resistance:**  $> 1 \times 10^9 \Omega$  at  $500 V_{DC}$ **Withstanding Voltage:**  $650 V_{AC}$  for 1 minute

### **Environmental**

**Temperature Rating:** -55°C to +85°C

**Process Rating:** 260°C Wave Solder Compatible

UL File No.: E68080

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#### Product Table / Dimensions for Straight Plug with Flanges, with and without Retention Clips



Contact Quantity	Α	В	С	D
20	25.43	20.32	15.43	11.43
	[1.001]	[0.800]	[0.608]	[0.450]
26	29.24	24.13	19.24	15.24
	[1.151]	[0.950]	[0.758]	[0.600]
30	31.78	26.67	21.78	17.78
	[1.251]	[1.050]	[0.858]	[0.700]
32	33.05	27.94	23.05	19.05
	[1.301]	[1.100]	[0.908]	[0.750]
34	34.32	29.21	24.32	20.32
	[1.351]	[1.150]	[0.958]	[0.800]
40	38.13	33.02	28.13	24.13
	[1.501]	[1.300]	[1.108]	[0.950]

Α	В	С	D
44.48	39.37	34.48	30.48
[1.751]	[1.550]	[1.358]	[1.200]
45.75	40.64	35.75	31.75
[1.801]	[1.600]	[1.408]	[1.250]
50.83	45.72	40.83	36.83
[2.001]	[1.800]	[1.608]	[1.450]
55.91	50.80	45.91	41.91
[2.201]	[2.000]	[1.808]	[1.650]
63.53	58.42	53.53	49.53
[2.501]	[2.300]	[2.108]	[1.950]
76.23	71.12	66.23	62.23
[3.001]	[2.800]	[2.608]	[2.450]
	44.48 [1.751] 45.75 [1.801] 50.83 [2.001] 55.91 [2.201] 63.53 [2.501] 76.23	44.48 39.37 [1.550] 45.75 40.64 [1.801] [1.600] 50.83 45.72 [2.001] [1.800] 55.91 50.80 [2.201] [2.000] 63.53 58.42 [2.501] [2.300] 76.23 71.12	44.48     39.37     34.48       [1.751]     [1.550]     [1.358]       45.75     40.64     35.75       [1.801]     [1.600]     [1.408]       50.83     45.72     40.83       [2.001]     [1.800]     [1.608]       55.91     50.80     45.91       [2.201]     [2.000]     [1.808]       63.53     58.42     53.53       [2.501]     [2.300]     [2.108]       76.23     71.12     66.23

## With Retention Clips Without Retention Clips X-X' Cross Section .8.8. -0-0-0-0-0-0-0//0-0-0-0-0-0 Polarity identification 7.3(0.287) 3.65(0.144) 2-\$\phi 2.3(2-\$\phi 0.091) 1.27(0.050) pitch Printed Circuit Board Layout (Component Side View) For 20,32,40,52,60,68,80,100 contacts For 26,30,34,50 contacts 2-\phi 2.3\pm 0.1 (2-\phi 0.091\pm 0.004) 2-\$\phi 2.3\pm 0.1 (2-\$\phi 0.091\pm 0.004) · φ0.8 min.(φ0.032 min.) n-φ0.8 min.(φ0.032 min.) 1.905±0.05 (0.075±0.002) 1.905±0.05 (0.075±0.002) 5.715±0.05 0.225±0.002) $5.715\pm0.05$ (0.225±0.002) 3.7(0.146) 146) 1.27±0.05(0.050±0.002) 1.27±0.05(0.050±0.002) 3.7(0. D±0.1(D±0.004) D±0.1(D±0.004) B±0.15(B±0.006) B±0.15(B±0.006) ■=Polarity identification Recommended PCB Thickness $t=1.6\pm0.19(0.063\pm0.007)$ "n" is number of contacts. TS-2047-B Sheet 2 of 5

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#### Product Table / Dimensions for Straight Plug without Flanges Contact С В С В Α Quantity Quantity 17.83 15.43 11.43 36.88 34.48 30.48 20 50 [0.702] [0.608] [0.450] [1.452] [1.358] [1.200] X-X´ Cross Section 21.64 19.24 15.24 38.15 35.75 31.75 26 52 [0.852] [0.600] [1.502] [1.408] [1.250] [0.758]9.7(0.382) 1(0.039) 3(0.118) 43.23 1.905 24.18 21.78 17.78 40.83 36.83 7.3(0.287) 30 60 [0.952][0.858][0.700][1.702][1.608][1.450]Ref. 1.905 Ref. 1 (0.075) (0.07 ef. 5.715(0.225) 25.45 23.05 19.05 48.31 45.91 41.91 32 68 .6(0.260) [1.002] [0.908] [0.750][1.808] [1.650] [1.902]55.93 [2.202] 53.53 [2.108] 24.32 20.32 49.53 26.72 80 [0.958] [1.950] [1.052] [0.800]Ref. 1.905 (0.075) 0.4(0.016) 30.53 28.13 24.13 68.63 66.23 62.23 40 100 [1.202][1.108][0.950][2.702][2.608][2.450]Ref. **Printed Circuit Board Layout** (Component Side View) Printed Circuit Board Layout (Component Side View) 0.0.0.0.0.0.0.0.0.0.0.0.0.0.0. For 20,32,40,52,60,68,80,100 contacts \_\_\_\_\_\_ Φ0.8 min.(Φ0.032 min.) Polarity identification 5.715±0.05 (0.225±0.002) 1.27±0.05(0.050±0.002) C±0.1(C±0.004) For 26,30,34,50 contacts 1.27(0.050) pitch \$0.8 min.(\$\phi 0.032 min.) <del>0000000000000</del> <del>9999999999</del> 5.715±0.05 (0.225±0.002) 1.27±0.05(0.050±0.002) C±0.1(C±0.004) Recommended PCB Thickness $t=1.6\pm0.19(0.063\pm0.007)$ "n" is number of contacts. **Ordering Information** P5X - XXXS - XXX - EA Mounting Options: Solder Tail and Clip Options: 0 = With Flanges S1 = Straight without Retention Clips 1 = Without Flanges SR1 = Right Angle without Retention Clips offered without \*R1 = Straight with Retention Clips retention clips only Contact Quantity: \*RR1 = Right Angle with Retention Clips See Table TS-2047-B \*Note: R1 and RR1 do not apply to P51 Sheet 3 of 5

#### **3M**

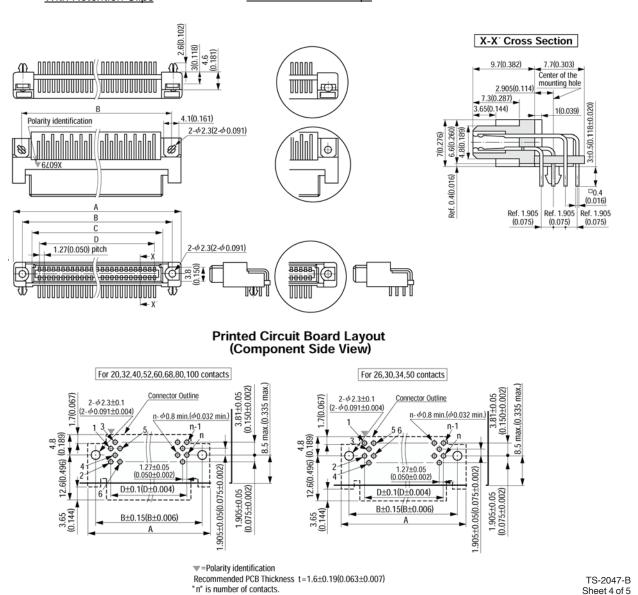
#### Product Table / Dimensions for Right Angle Plug with Flanges, with and without Retention Clips

			,	
Contact Quantity	А	В	С	D
20	25.43	20.32	15.43	11.43
	[1.001]	[0.800]	[0.608]	[0.450]
26	29.24	24.13	19.24	15.24
	[1.151]	[0.950]	[0.758]	[0.600]
30	31.78	26.67	21.78	17.78
	[1.251]	[1.050]	[0.858]	[0.700]
32	33.05	27.94	23.05	19.05
	[1.301]	[1.100]	[0.908]	[0.750]
34	34.32	29.21	24.32	20.32
	[1.351]	[1.150]	[0.958]	[0.800]
40	38.13	33.02	28.13	24.13
	[1.501]	[1.300]	[1.108]	[0.950]

Contact Quantity	А	В	С	D
50	44.48	39.37	34.48	30.48
	[1.751]	[1.550]	[1.358]	[1.200]
52	45.75	40.64	35.75	31.75
	[1.801]	[1.600]	[1.408]	[1.250]
60	50.83	45.72	40.83	36.83
	[2.001]	[1.800]	[1.608]	[1.450]
68	55.91	50.80	45.91	41.91
	[2.201]	[2.000]	[1.808]	[1.650]
80	63.53	58.42	53.53	49.53
	[2.501]	[2.300]	[2.108]	[1.950]
100	76.23	71.12	66.23	62.23
	[3.001]	[2.800]	[2.608]	[2.450]

#### With Retention Clips

#### Without Retention Clips



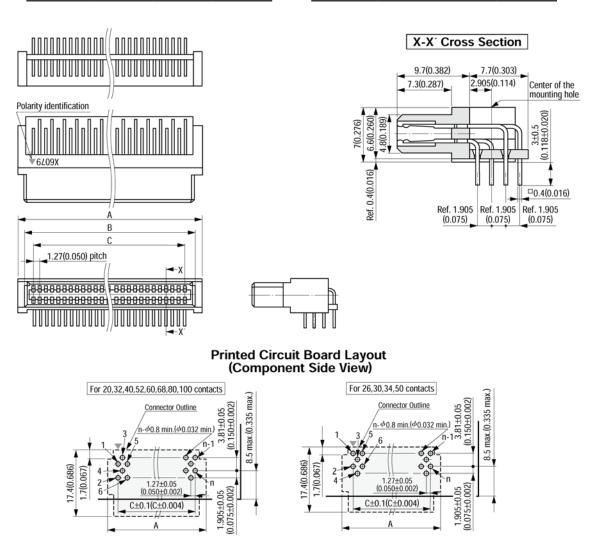
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#### Product Table / Dimensions for Right Angle Plug without Flanges

Contact Quantity	А	В	С
20	17.83	15.43	11.43
	[0.702]	[0.608]	[0.450]
26	21.64	19.24	15.24
	[0.852]	[0.758]	[0.600]
30	24.18	21.78	17.78
	[0.952]	[0.858]	[0.700]
32	25.45	23.05	19.05
	[1.002]	[0.908]	[0.750]
34	26.72	24.32	20.32
	[1.052]	[0.958]	[0.800]
40	30.53	28.13	24.13
	[1.202]	[1.108]	[0.950]

Contact Quantity	Α	В	С
50	36.88	34.48	30.48
	[1.452]	[1.358]	[1.200]
52	38.15	35.75	31.75
	[1.502]	[1.408]	[1.250]
60	43.23	40.83	36.83
	[1.702]	[1.608]	[1.450]
68	48.31	45.91	41.91
	[1.902]	[1.808]	[1.650]
80	55.93	53.53	49.53
	[2.202]	[2.108]	[1.950]
100	68.63	66.23	62.23
	[2.702]	[2.608]	[2.450]



■=Polarity identification

"n" is number of contacts.

Recommended PCB Thickness  $t=1.6\pm0.19(0.063\pm0.007)$ 

## ЗМ

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TS-2047-B Sheet 5 of 5

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