

# 3M™ Pak 50 Boardmount Plug

.050" Through-Hole, Straight and Right Angle, with Ret. Clips, Flng. Option

P50 Series



- Contact design features two contact points and straight beam construction for connector reliability and low insertion force
- 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](http://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 μ" [ 0.25 μm ] Gold

Solder Tails: Gold Flash

Retaining Clips: Tin-Copper

Mating Compatibility: TS-2047

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## Electrical

**Current Rating:** 0.5 A

**Insulation Resistance:**  $> 1 \times 10^9 \Omega$  at 500 V<sub>DC</sub>

**Withstanding Voltage:** 500 V<sub>rms</sub> at Sea Level

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## Environmental

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

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

UL File No.: E68080

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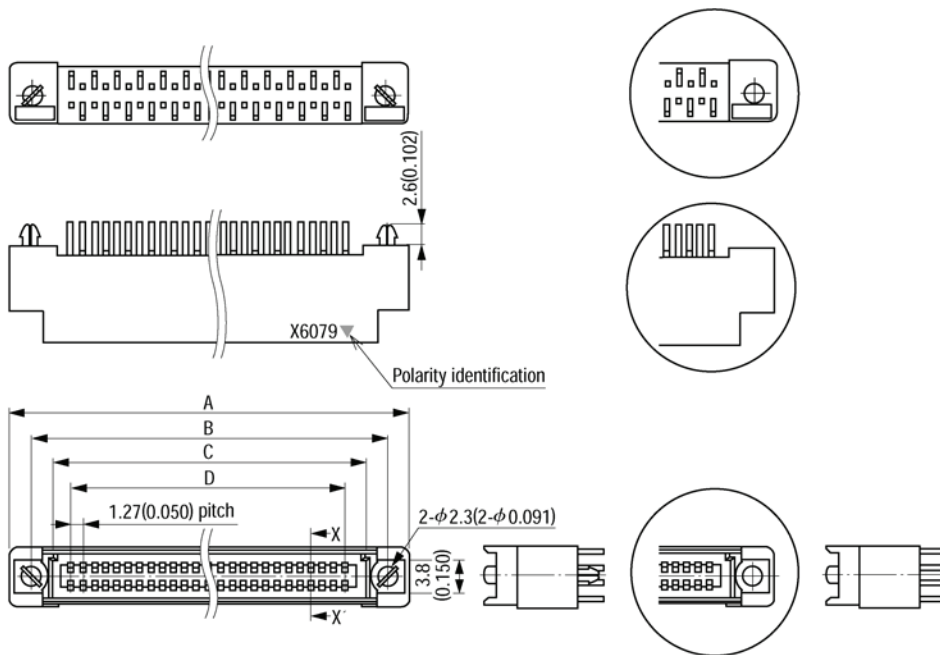
Product Table / Dimensions for Straight with Flanges, with or without Retention Clips

Contact Quantity	A	B	C	D
20	25.43 [1.001]	20.32 [0.800]	15.83 [0.623]	11.43 [0.450]
26	29.24 [1.151]	24.13 [0.950]	19.64 [0.773]	15.24 [0.600]
30	31.78 [1.251]	26.67 [1.050]	22.18 [0.873]	17.78 [0.700]
32	33.05 [1.301]	27.94 [1.100]	23.45 [0.923]	19.05 [0.750]
34	34.32 [1.351]	29.21 [1.150]	24.72 [0.973]	20.32 [0.800]
40	38.13 [1.501]	33.02 [1.300]	28.53 [1.123]	24.13 [0.950]

Contact Quantity	A	B	C	D
50	44.48 [1.751]	39.37 [1.550]	34.88 [1.373]	30.48 [1.200]
52	45.75 [1.801]	40.64 [1.600]	36.15 [1.423]	31.75 [1.250]
60	50.83 [2.001]	45.72 [1.800]	41.23 [1.623]	36.83 [1.450]
68	55.91 [2.201]	50.80 [2.000]	46.31 [1.823]	41.91 [1.650]
80	63.53 [2.501]	58.42 [2.300]	53.93 [2.123]	49.53 [1.950]
100	76.23 [3.001]	71.12 [2.800]	66.63 [2.623]	62.23 [2.450]

With Retention Clips

Without Retention Clips



**X-X' Cross Section**



Shown with Retention Clips

# 3M™ Pak 50 Boardmount Plug

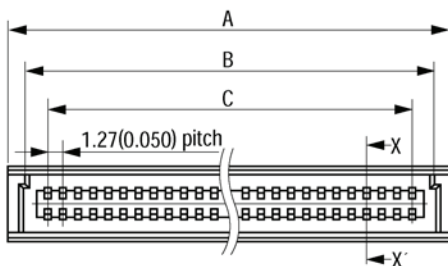
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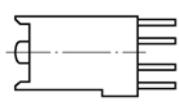
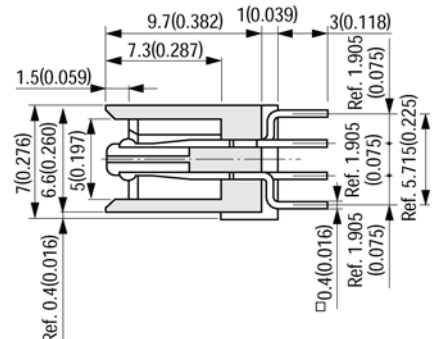
## Product Table / Dimensions for Straight without Flanges

Contact Quantity	A	B	C
20	17.83 [0.702]	15.83 [0.623]	11.43 [0.450]
26	21.64 [0.852]	19.64 [0.773]	15.24 [0.600]
30	24.18 [0.952]	22.18 [0.873]	17.78 [0.700]
32	25.45 [1.002]	23.45 [0.923]	19.05 [0.750]
34	26.72 [1.052]	24.72 [0.973]	20.32 [0.800]
40	30.53 [1.202]	28.53 [1.123]	24.13 [0.950]

Contact Quantity	A	B	C
50	36.88 [1.452]	34.88 [1.373]	30.48 [1.200]
52	38.15 [1.502]	36.15 [1.423]	31.75 [1.250]
60	43.23 [1.702]	41.23 [1.623]	36.83 [1.450]
68	48.31 [1.902]	46.31 [1.823]	41.91 [1.650]
80	55.93 [2.202]	53.93 [2.123]	49.53 [1.950]
100	68.63 [2.702]	66.63 [2.623]	62.23 [2.450]



### X-X' Cross Section



## Ordering Information

**P5X - XXXP - XXX - EA**

Mounting Options:

- 0 = With Flanges
- 1 = Without Flanges, offered without retention clips only

Contact Quantity:  
See Table

Solder Tail and Clip Options:

- S1 = Straight without Retention Clips
- SR1 = Right Angle without Retention Clips
- R1 = Straight with Retention Clips
- RR1 = Right Angle with Retention Clips

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# 3M™ Pak 50 Boardmount Plug

.050" Through-Hole, Straight and Right Angle, with Ret. Clips, Flng. Option

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**Product Table / Dimensions for Right Angle with Flanges, with or without Retention Clips**

Contact Quantity	A	B	C	D
20	25.43 [1.001]	20.32 [0.800]	15.83 [0.623]	11.43 [0.450]
26	29.24 [1.151]	24.13 [0.950]	19.64 [0.773]	15.24 [0.600]
30	31.78 [1.251]	26.67 [1.050]	22.18 [0.873]	17.78 [0.700]
32	33.05 [1.301]	27.94 [1.100]	23.45 [0.923]	19.05 [0.750]
34	34.32 [1.351]	29.21 [1.150]	24.72 [0.973]	20.32 [0.800]
40	38.13 [1.501]	33.02 [1.300]	28.53 [1.123]	24.13 [0.950]

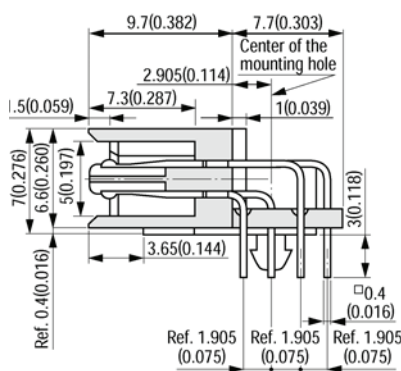
Contact Quantity	A	B	C	D
50	44.48 [1.751]	39.37 [1.550]	34.88 [1.373]	30.48 [1.200]
52	45.75 [1.801]	40.64 [1.600]	36.15 [1.423]	31.75 [1.250]
60	50.83 [2.001]	45.72 [1.800]	41.23 [1.623]	36.83 [1.450]
68	55.91 [2.201]	50.80 [2.000]	46.31 [1.823]	41.91 [1.650]
80	63.53 [2.501]	58.42 [2.300]	53.93 [2.123]	49.53 [1.950]
100	76.23 [3.001]	71.12 [2.800]	66.63 [2.623]	62.23 [2.450]

With Retention Clips

Without Retention Clips



**X-X' Cross Section**



Shown with Retention Clips

# 3M™ Pak 50 Boardmount Plug

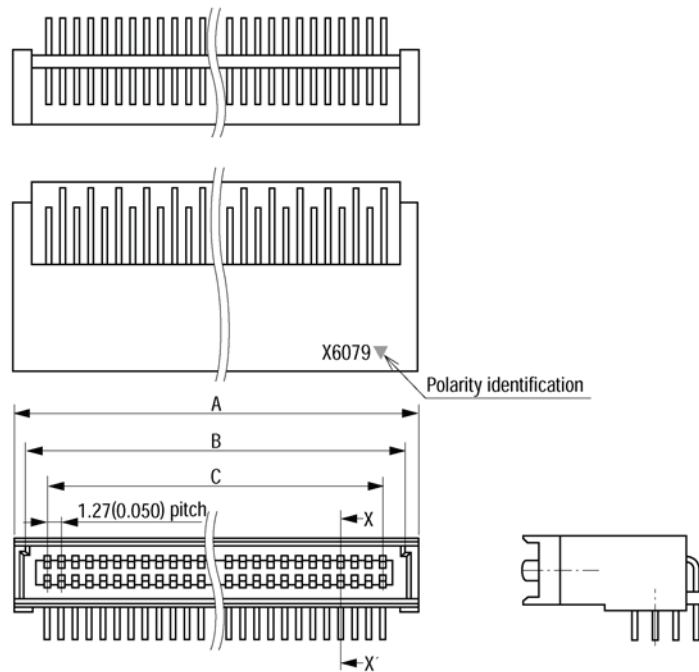
.050" Through-Hole, Straight and Right Angle, with Ret. Clips, Flng. Option

P50 Series

Product Table / Dimensions for Right Angle without Flanges

Contact Quantity	A	B	C
20	17.83 [0.702]	15.83 [0.623]	11.43 [0.450]
26	21.64 [0.852]	19.64 [0.773]	15.24 [0.600]
30	24.18 [0.952]	22.18 [0.873]	17.78 [0.700]
32	25.45 [1.002]	23.45 [0.923]	19.05 [0.750]
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Contact Quantity	A	B	C
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52	38.15 [1.502]	36.15 [1.423]	31.75 [1.250]
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X-X' Cross Section



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## Printed Circuit Board Layout (Component Side View)

### STRAIGHT WITH FLANGES (with and without Retention Clips)



### STRAIGHT WITHOUT FLANGES

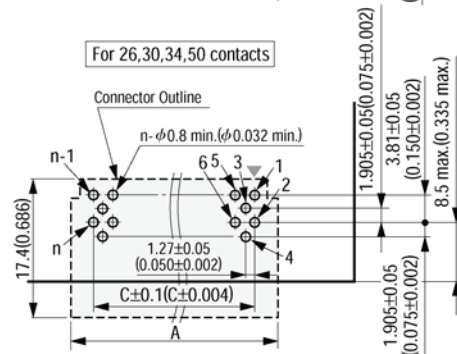
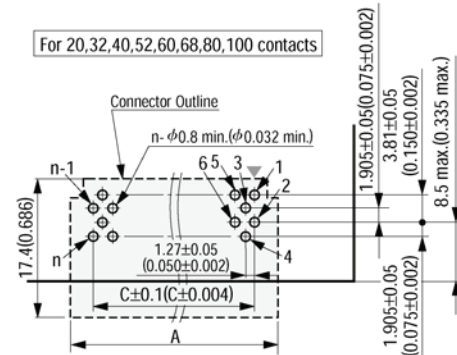


▼=Polarity identification  
Recommended PCB Thickness  $t = 1.6 \pm 0.19 (0.063 \pm 0.007)$   
"n" is number of contacts.

### RIGHT ANGLE WITH FLANGES (with and without Retention Clips)



### RIGHT ANGLE WITHOUT FLANGES



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