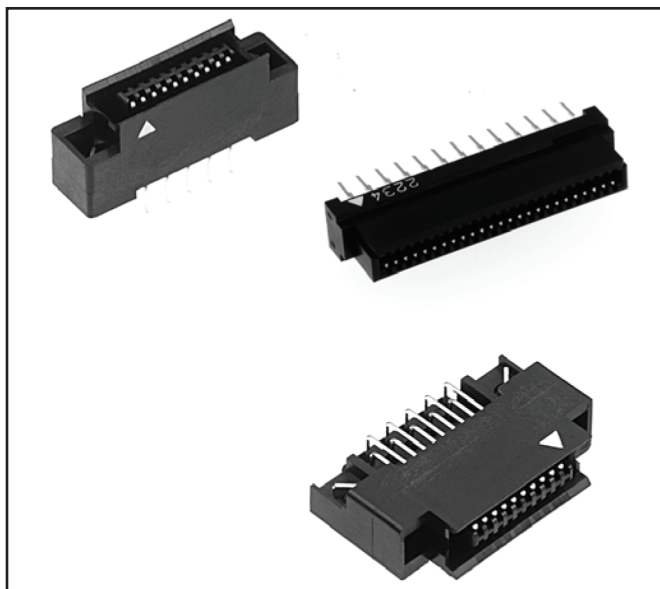


# 3M™ Pak 50 Socket

.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](http://www.3Mconnector.com) for compliance information (RIA E1 and C1 apply)

Date Modified: February 10, 2010

TS-2047-B  
Sheet 1 of 6

## 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<sub>DC</sub>

**Withstanding Voltage:** 650 V<sub>AC</sub> 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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# 3M™ Pak 50 Socket

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

P50 Series

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

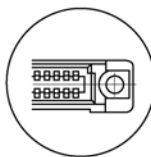
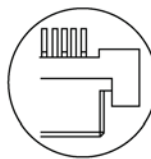
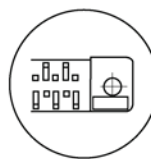
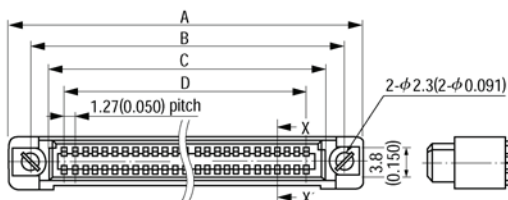
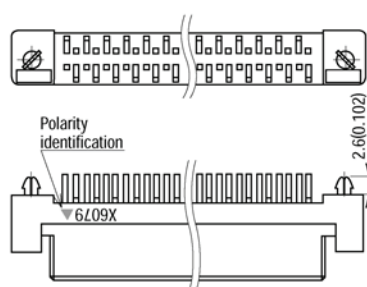


Contact Quantity	A	B	C	D
20	25.43 [1.001]	20.32 [0.800]	15.43 [0.608]	11.43 [0.450]
26	29.24 [1.151]	24.13 [0.950]	19.24 [0.758]	15.24 [0.600]
30	31.78 [1.251]	26.67 [1.050]	21.78 [0.858]	17.78 [0.700]
32	33.05 [1.301]	27.94 [1.100]	23.05 [0.908]	19.05 [0.750]
34	34.32 [1.351]	29.21 [1.150]	24.32 [0.958]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

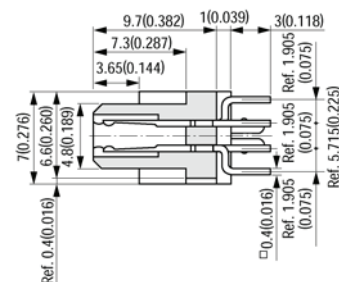
Contact Quantity	A	B	C	D
50	44.48 [1.751]	39.37 [1.550]	34.48 [1.358]	30.48 [1.200]
52	45.75 [1.801]	40.64 [1.600]	35.75 [1.408]	31.75 [1.250]
60	50.83 [2.001]	45.72 [1.800]	40.83 [1.608]	36.83 [1.450]
68	55.91 [2.201]	50.80 [2.000]	45.91 [1.808]	41.91 [1.650]
80	63.53 [2.501]	58.42 [2.300]	53.53 [2.108]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

With Retention Clips

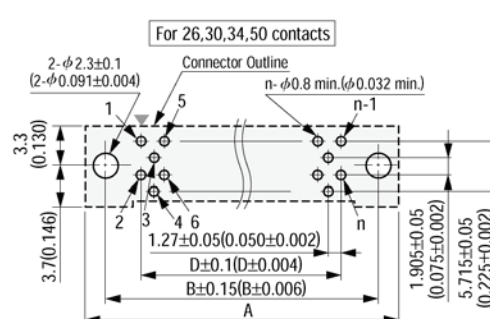
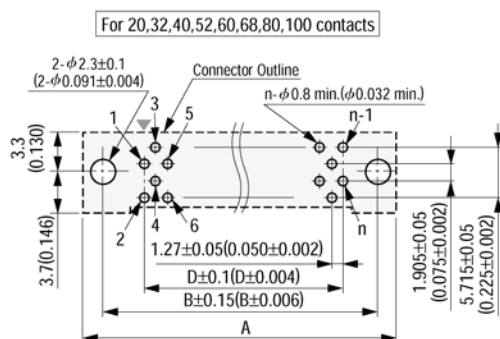
Without Retention Clips



X-X' Cross Section



Printed Circuit Board Layout (Component Side View)



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

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Sheet 2 of 5



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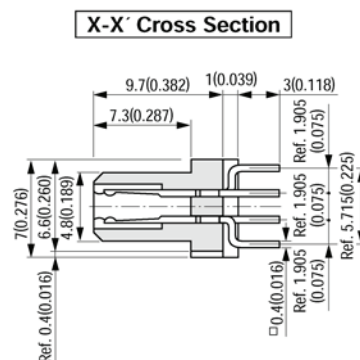
# 3M™ Pak 50 Socket

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

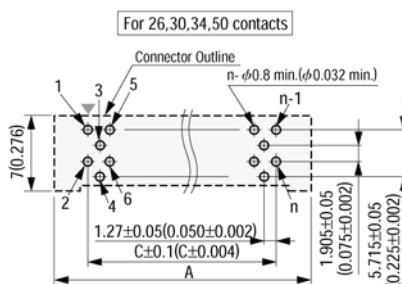
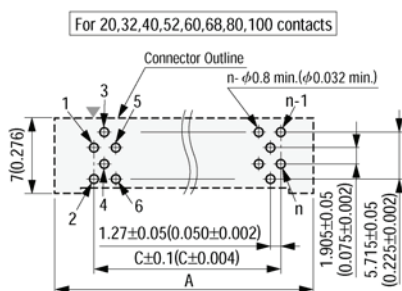
P50 Series

**Product Table / Dimensions for Straight Plug without Flanges**

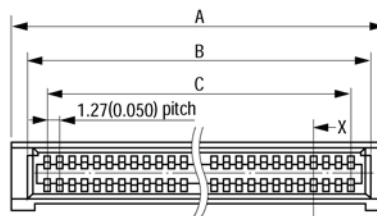
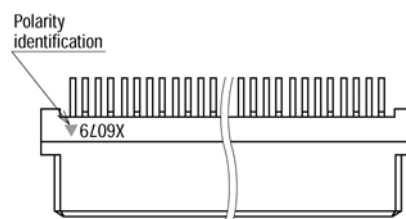
Contact Quantity	A	B	C	Contact Quantity	A	B	C
20	17.83 [0.702]	15.43 [0.608]	11.43 [0.450]	50	36.88 [1.452]	34.48 [1.358]	30.48 [1.200]
26	21.64 [0.852]	19.24 [0.758]	15.24 [0.600]	52	38.15 [1.502]	35.75 [1.408]	31.75 [1.250]
30	24.18 [0.952]	21.78 [0.858]	17.78 [0.700]	60	43.23 [1.702]	40.83 [1.608]	36.83 [1.450]
32	25.45 [1.002]	23.05 [0.908]	19.05 [0.750]	68	48.31 [1.902]	45.91 [1.808]	41.91 [1.650]
34	26.72 [1.052]	24.32 [0.958]	20.32 [0.800]	80	55.93 [2.202]	53.53 [2.108]	49.53 [1.950]
40	30.53 [1.202]	28.13 [1.108]	24.13 [0.950]	100	68.63 [2.702]	66.23 [2.608]	62.23 [2.450]



**Printed Circuit Board Layout  
(Component Side View)  
Printed Circuit Board Layout  
(Component Side View)**



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



## Ordering Information

**P5X - XXXS - 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

\*Note: R1 and RR1 do not apply to P51

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Sheet 3 of 5



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# 3M™ Pak 50 Socket

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

P50 Series

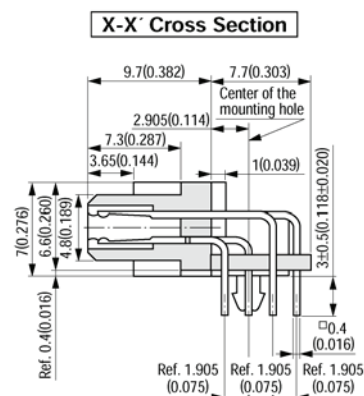
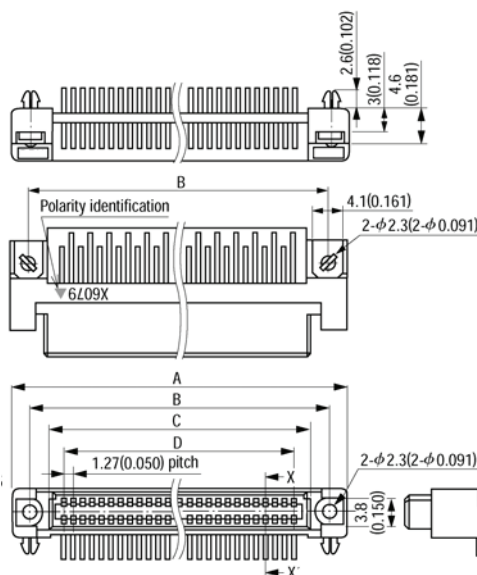
**Product Table / Dimensions for Right Angle Plug with Flanges, with and without Retention Clips**

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

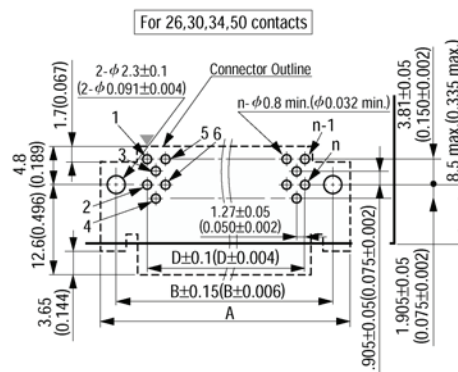
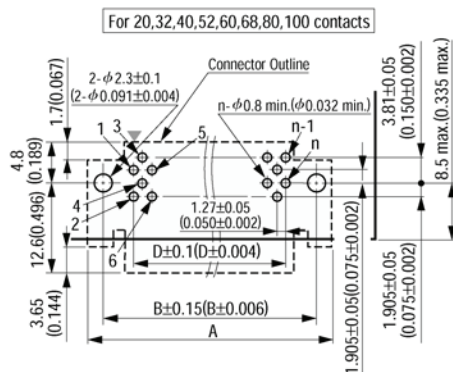
Contact Quantity	A	B	C	D
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52	45.75 [1.801]	40.64 [1.600]	35.75 [1.408]	31.75 [1.250]
60	50.83 [2.001]	45.72 [1.800]	40.83 [1.608]	36.83 [1.450]
68	55.91 [2.201]	50.80 [2.000]	45.91 [1.808]	41.91 [1.650]
80	63.53 [2.501]	58.42 [2.300]	53.53 [2.108]	49.53 [1.950]
100	76.23 [3.001]	71.12 [2.800]	66.23 [2.608]	62.23 [2.450]

With Retention Clips

Without Retention Clips



**Printed Circuit Board Layout  
(Component Side View)**



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

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Sheet 4 of 5

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# 3M™ Pak 50 Socket

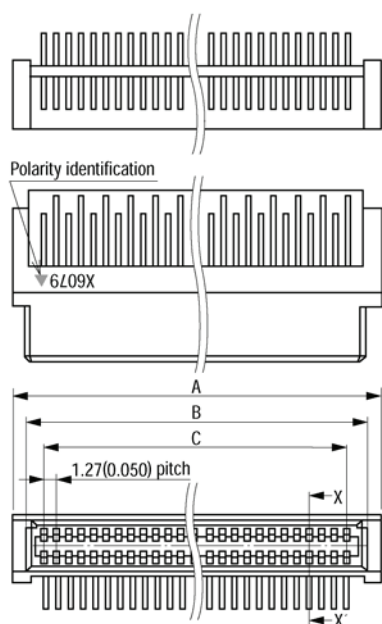
.050" Straight and Right Angle Socket, with Ret. Clips, Flng. Option

P50 Series

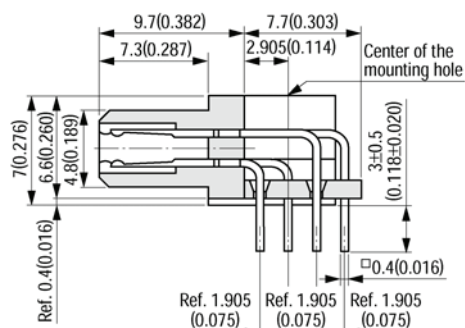
**Product Table / Dimensions for Right Angle Plug without Flanges**

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

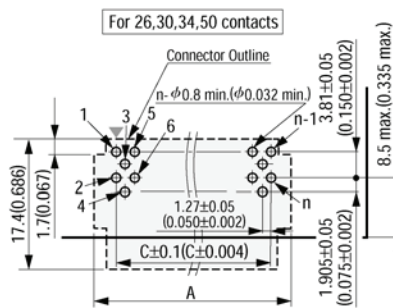
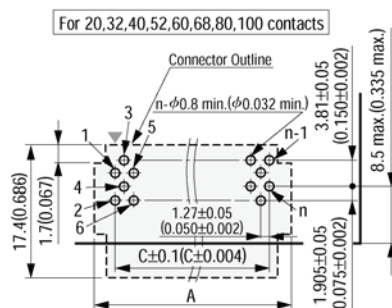
Contact Quantity	A	B	C
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68	48.31 [1.902]	45.91 [1.808]	41.91 [1.650]
80	55.93 [2.202]	53.53 [2.108]	49.53 [1.950]
100	68.63 [2.702]	66.23 [2.608]	62.23 [2.450]



**X-X' Cross Section**



**Printed Circuit Board Layout  
(Component Side View)**



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Recommended PCB Thickness  $t = 1.6 \pm 0.19 (0.063 \pm 0.007)$   
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