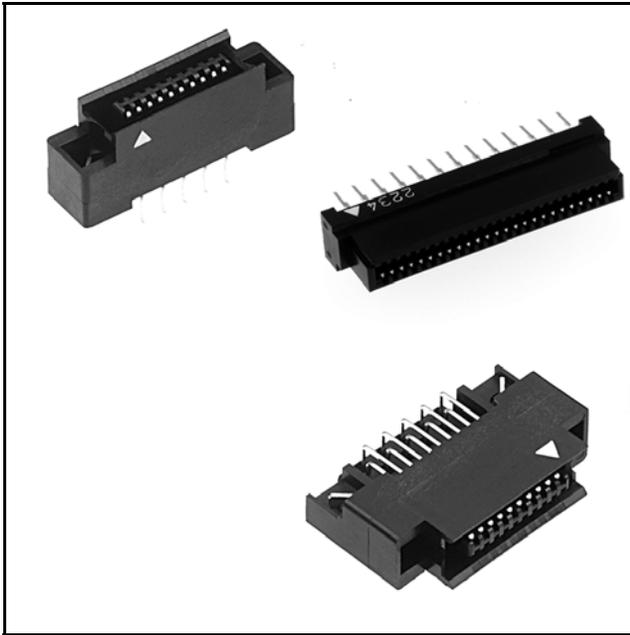


# 3M™ Pak 50 Socket

.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

Date Modified: November 11, 2006

TS-2047-03  
Sheet 1 of 5

## Physical

### Insulation

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

## Electrical

**Current Rating:** 0.5 A

**Insulation Resistance:**  $> 1 \times 10^3 \Omega$  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 (per J-STD-020C)

"RoHS compliant" means that the product or part does not contain any of the following substances in excess of the following maximum concentration values in any homogeneous material, unless the substance is in an application that is exempt under RoHS: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M's knowledge and belief based upon information provided by third party suppliers to 3M.

UL File No.: E68080



Interconnect Solutions

<http://www.3M.com/interconnects/>

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# 3M™ Pak 50 Socket

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

P50 Series

Straight with Flanges, with and without Retention Clips

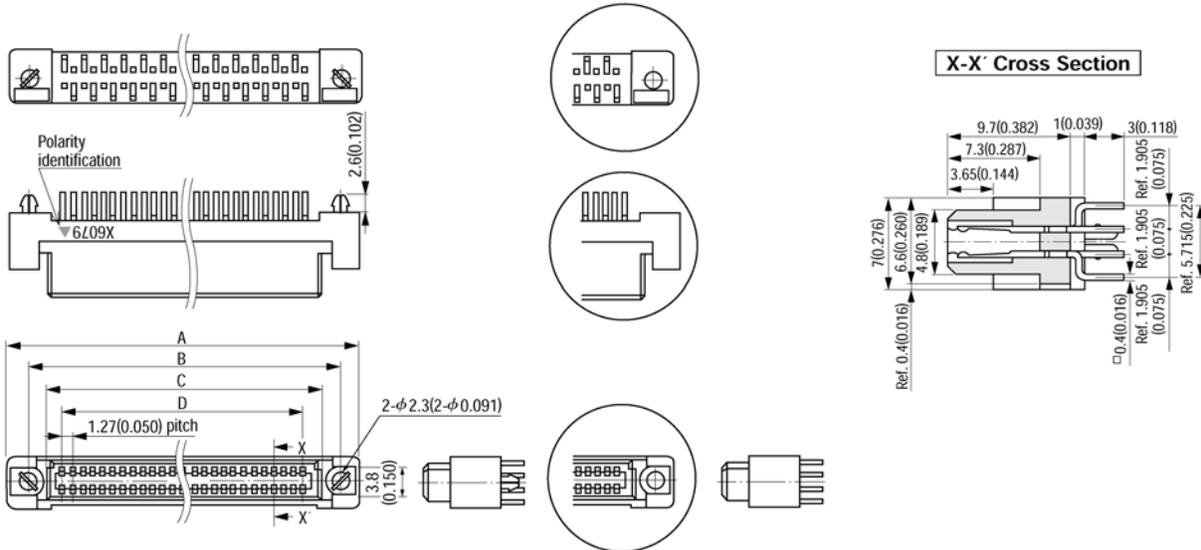
Product Table / Dimensions for Straight Plug with and without Retention Clips

Contact Quantity	A	B	C	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]

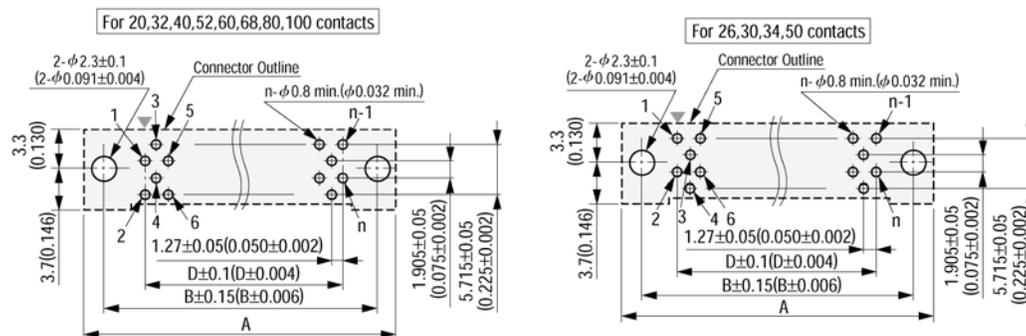
Contact Quantity	A	B	C	D
50	44.48	39.37	34.48	30.48
	[1.751]	[1.550]	[1.358]	[1.200]
52	45.75	40.64	35.75	31.75
	[1.801]	[1.600]	[1.408]	[1.250]
60	50.83	45.72	40.83	36.83
	[2.001]	[1.800]	[1.608]	[1.450]
68	55.91	50.80	45.91	41.91
	[2.201]	[2.000]	[1.808]	[1.650]
80	63.53	58.42	53.53	49.53
	[2.501]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



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.

TS-2047-03  
 Sheet 2 of 5

# 3M™ Pak 50 Socket

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

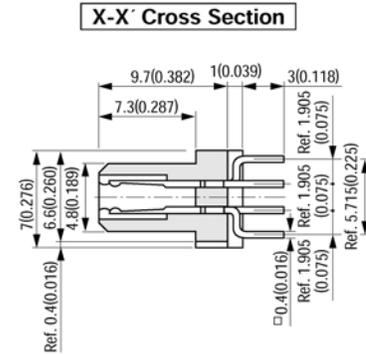
P50 Series

## Without Flanges

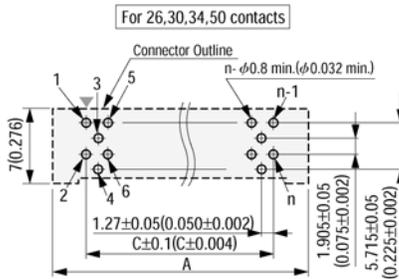
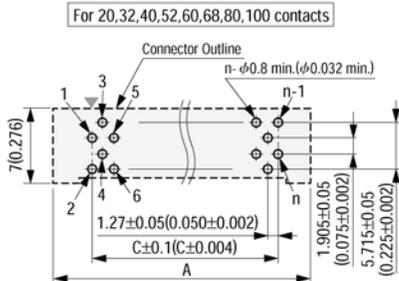
Product Table / Dimensions for Straight Plug without Flanges

Contact Quantity	A	B	C
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]

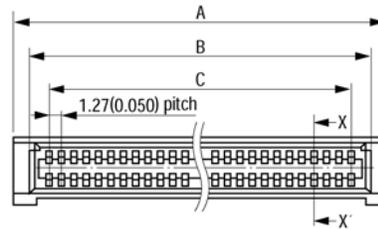
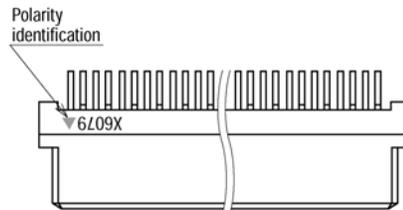
Contact Quantity	A	B	C
50	36.88	34.48	30.48
	[1.452]	[1.358]	[1.200]
52	38.15	35.75	31.75
	[1.502]	[1.408]	[1.250]
60	43.23	40.83	36.83
	[1.702]	[1.608]	[1.450]
68	48.31	45.91	41.91
	[1.902]	[1.808]	[1.650]
80	55.93	53.53	49.53
	[2.202]	[2.108]	[1.950]
100	68.63	66.23	62.23
	[2.702]	[2.608]	[2.450]



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

TS-2047-03  
Sheet 3 of 5

# 3M™ Pak 50 Socket

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

P50 Series

## Right Angle with Flanges

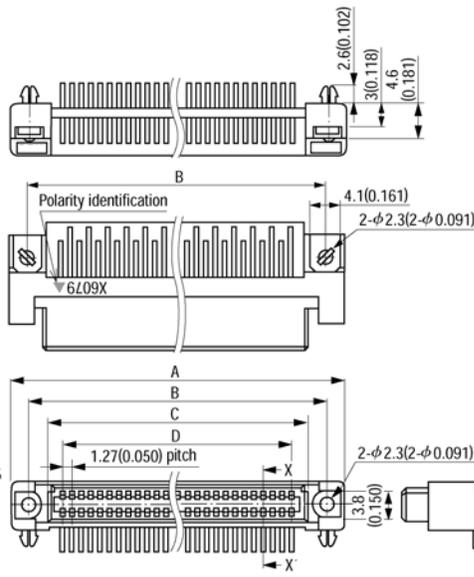
Product Table / Dimensions for Right Angle Plug with and without Retention Clips

Contact Quantity	A	B	C	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]

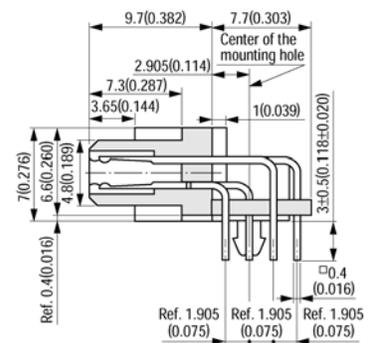
Contact Quantity	A	B	C	D
50	44.48	39.37	34.48	30.48
	[1.751]	[1.550]	[1.358]	[1.200]
52	45.75	40.64	35.75	31.75
	[1.801]	[1.600]	[1.408]	[1.250]
60	50.83	45.72	40.83	36.83
	[2.001]	[1.800]	[1.608]	[1.450]
68	55.91	50.80	45.91	41.91
	[2.201]	[2.000]	[1.808]	[1.650]
80	63.53	58.42	53.53	49.53
	[2.501]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

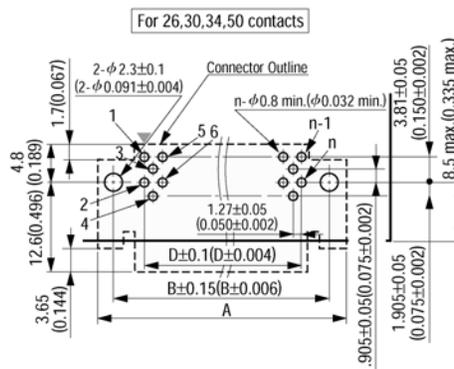
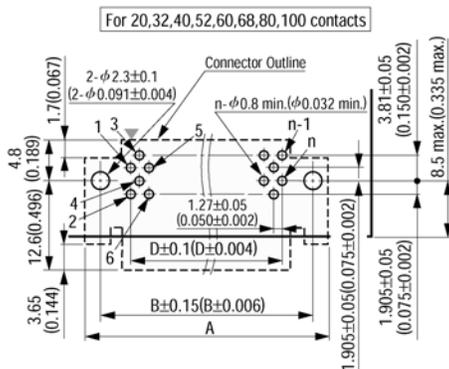
### Without Retention Clips



### 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.

TS-2047-03  
 Sheet 4 of 5

# 3M™ Pak 50 Socket

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

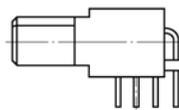
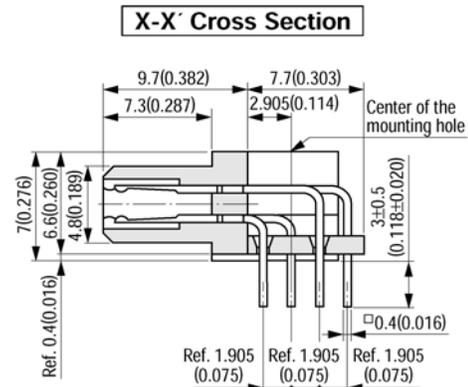
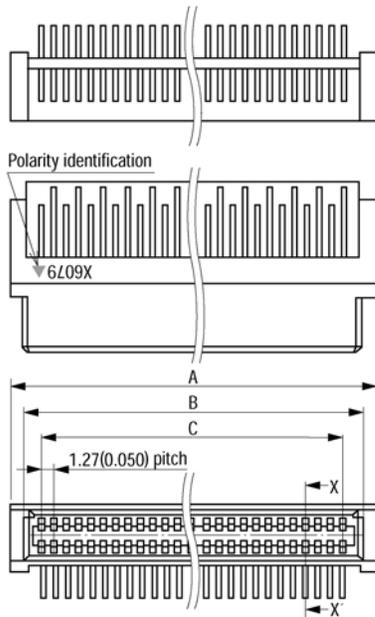
P50 Series

Right Angle without Flanges

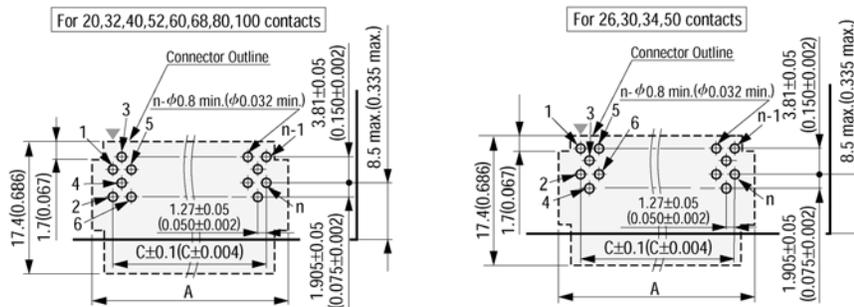
Product Table / Dimensions for Right Angle Plug without Flanges

Contact Quantity	A	B	C
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	A	B	C
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]



Printed Circuit Board Layout (Component Side View)



▽=Polarity identification  
 Recommended PCB Thickness  $t=1.6\pm0.19(0.063\pm0.007)$   
 "n" is number of contacts.

TS-2047-03  
 Sheet 5 of 5

## Important Notice

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