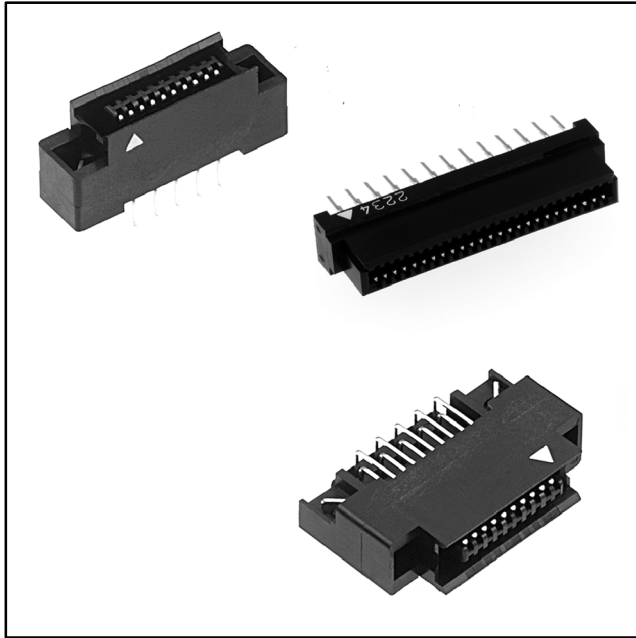


# 3M™ Pak 50 Socket

.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

Date Modified: May 15, 2003

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Sheet 1 of 5

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## Physical

**Insulation**  
Material: Glass Filled Nylon  
Flammability: UL 94V-0  
Color: Black

**Contact**  
Material: Phosphor Bronze

**Plating**  
Underplating: Nickel  
Wiping Area: See Ordering Information  
Solder Tails: Tin Alloy over Nickel

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## Electrical

**Current Rating:** 0.5 A  
**Insulation Resistance:**  $10^3$  M $\Omega$  min. at 500V DC  
**Withstanding Voltage:** 650V AC for 1 minute

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## Environmental

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

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

Straight with Flanges, with and without Retention Clips

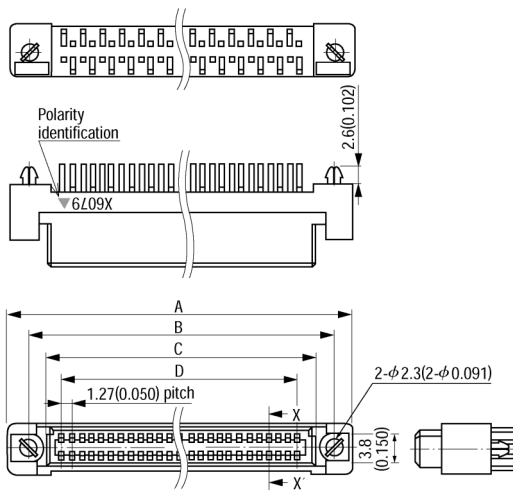
Product Table / Dimensions for Straight Plug with and without Retention Clips

Contact Quantity	A	B	C	D
20	25.43 [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]

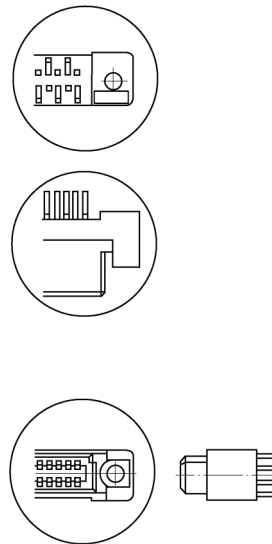
Contact Quantity	A	B	C	D
50	44.48 [1.751]	39.37 [1.550]	34.48 [1.358]	30.48 [1.200]
52	45.75 [1.801]	40.64 [1.600]	35.75 [1.408]	31.75 [1.250]
60	50.83 [2.001]	45.72 [1.800]	40.83 [1.608]	36.83 [1.450]
68	55.91 [2.201]	50.80 [2.000]	45.91 [1.808]	41.91 [1.650]
80	63.53 [2.501]	58.42 [2.300]	53.53 [2.108]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



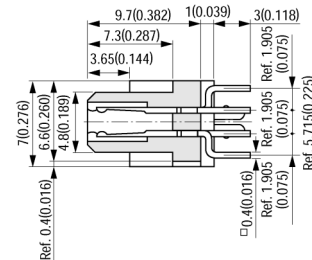
### With Retention Clips



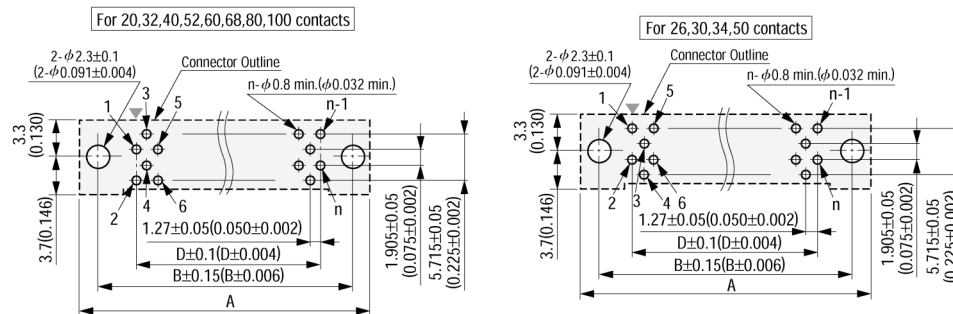
### Without Retention Clips



### 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

# 3M™ Pak 50 Socket

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

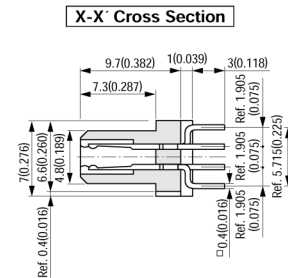
P50 Series

Without Flanges

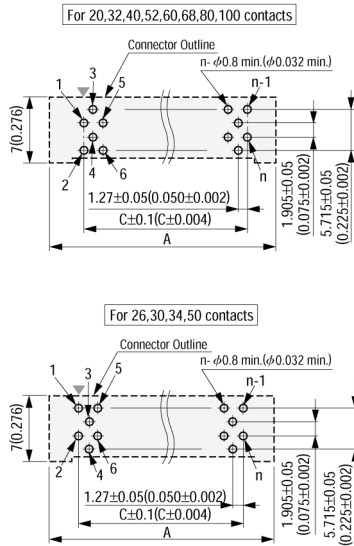
Product Table / Dimensions for Straight Plug without Flanges

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]

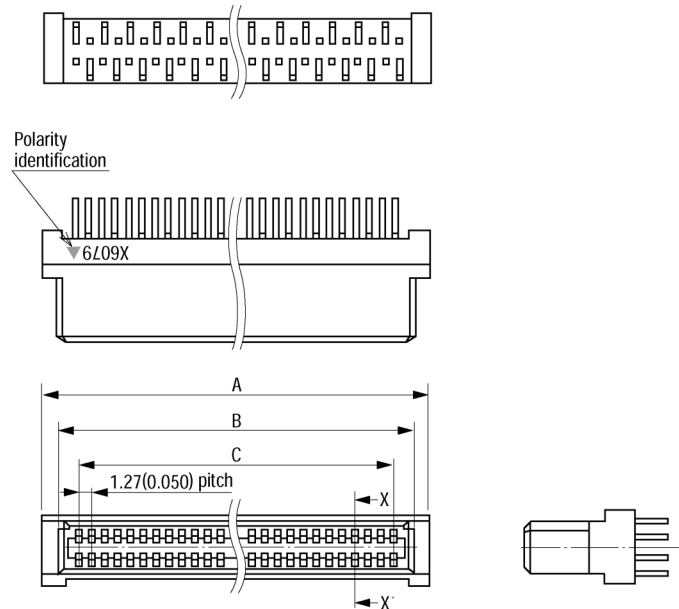
Contact Quantity	A	B	C
50	36.88	34.48	30.48
	[1.452]	[1.358]	[1.200]
52	38.15	35.75	31.75
	[1.502]	[1.408]	[1.250]
60	43.23	40.83	36.83
	[1.702]	[1.608]	[1.450]
68	48.31	45.91	41.91
	[1.902]	[1.808]	[1.650]
80	55.93	53.53	49.53
	[2.202]	[2.108]	[1.950]
100	68.63	66.23	62.23
	[2.702]	[2.608]	[2.450]



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



▼ = 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 - XXXX**

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

Plating Options:  
 TGF =  $2 \mu$  [  $0.05 \mu$  ] min. Gold  
 TG =  $10 \mu$  [  $0.25 \mu$  ] min. Gold  
 TG30 =  $30 \mu$  [  $0.75 \mu$  ] min. Gold

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

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 Sheet 3 of 5

# 3M™ Pak 50 Socket

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

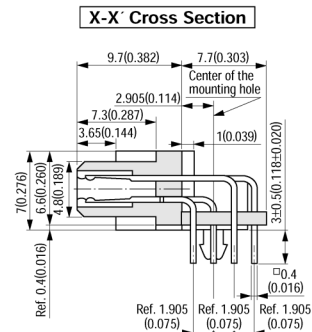
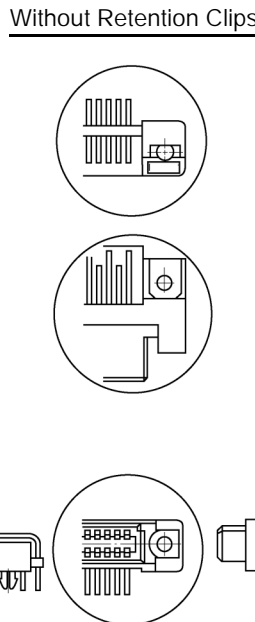
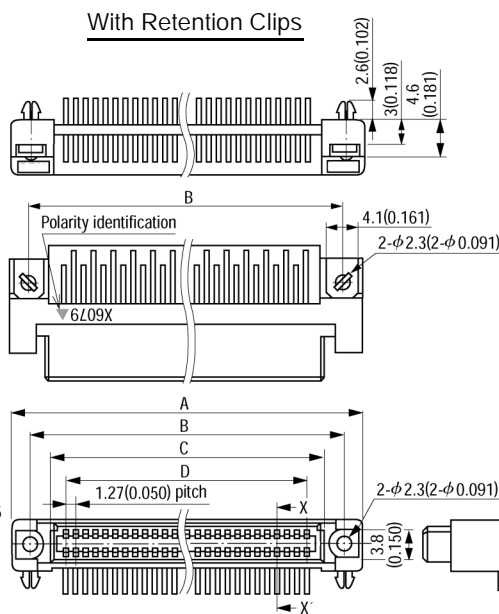
P50 Series

### Right Angle with Flanges

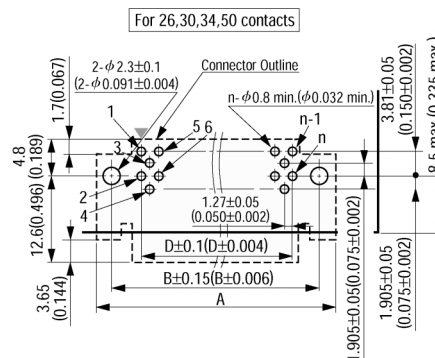
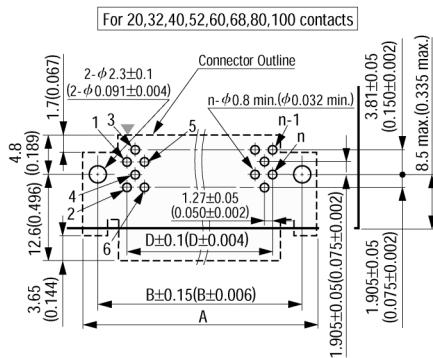
Product Table / Dimensions for Right Angle Plug with and without Retention

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]



### 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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# 3M™ Pak 50 Socket

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

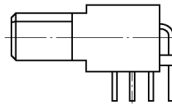
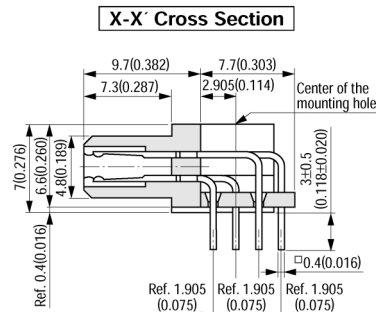
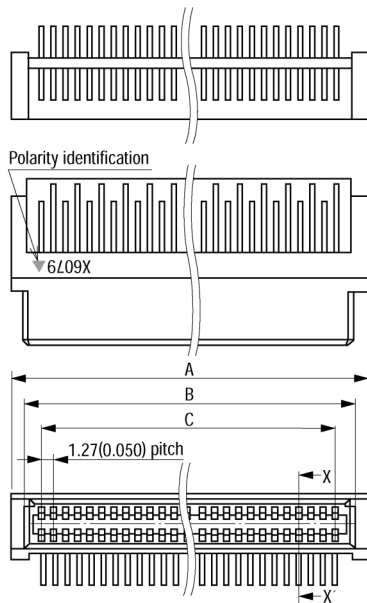
## P50 Series

### Right Angle without Flanges

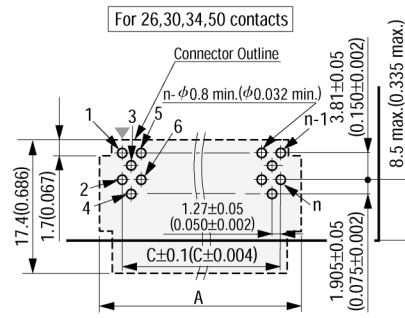
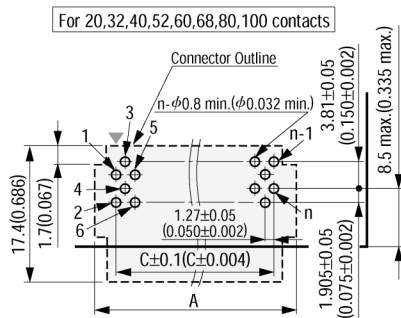
Product Table / Dimensions for Right Angle Plug without Flanges

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  $t = 1.6 \pm 0.19 (0.063 \pm 0.007)$   
 "n" is number of contacts.

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