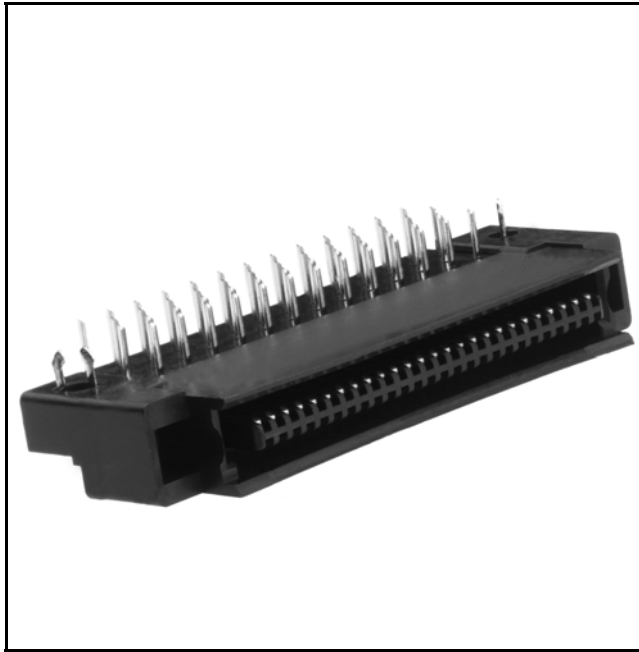


# 3M™ Pak 50 Boardmount Plug

.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 miss-insertion errors and contact damage
- Available with or without flanges
- RoHS\* compliant

Date Modified: December 8, 2006

TS-2046-04  
Sheet 1 of 6

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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: 10 μ" [ 0.25 μm ] Gold  
Solder Tails: Gold Flash  
Retaining Clips: Tin Copper

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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 Vrms at Sea Level

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## 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

# 3M™ Pak 50 Boardmount Plug

.050" Through-Hole, Straight and Right Angle, With Ret. Clips, Flng. Option P50 Series

Straight with Flanges. With or Without Retention Clips

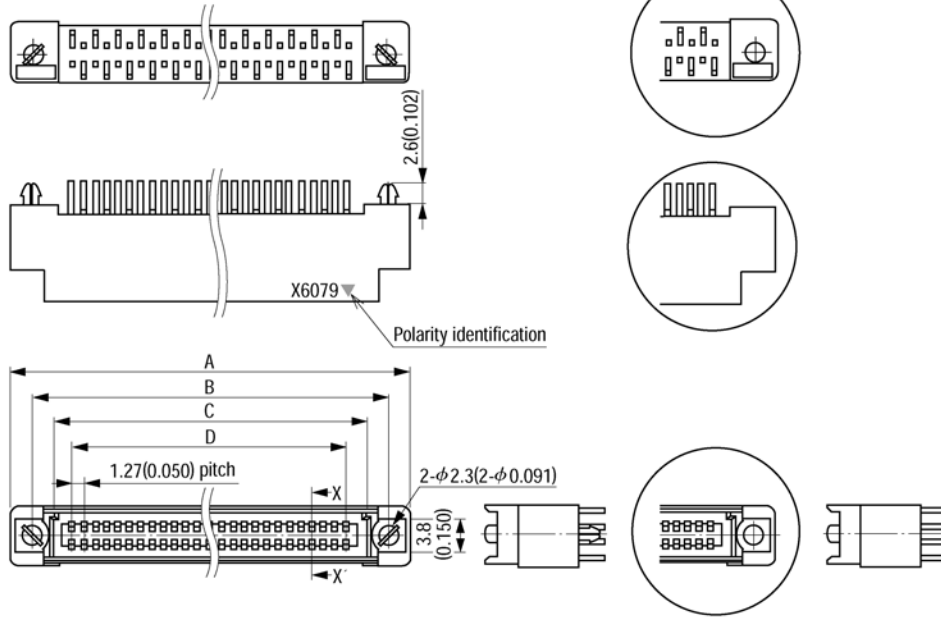
**Product Table / Dimensions**

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

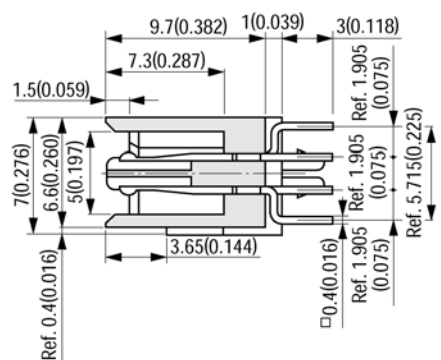
Contact Quantity	A	B	C	D
50	44.48	39.37	34.88	30.48
	[1.751]	[1.550]	[1.373]	[1.200]
52	45.75	40.64	36.15	31.75
	[1.801]	[1.600]	[1.423]	[1.250]
60	50.83	45.72	41.23	36.83
	[2.001]	[1.800]	[1.623]	[1.450]
68	55.91	50.80	46.31	41.91
	[2.201]	[2.000]	[1.823]	[1.650]
80	63.53	58.42	53.93	49.53
	[2.501]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

With Retention Clips

Without Retention Clips



**X-X' Cross Section**



Shown with Retention Clips

# 3M™ Pak 50 Boardmount Plug

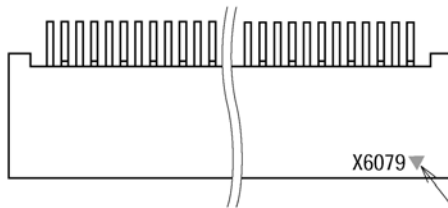
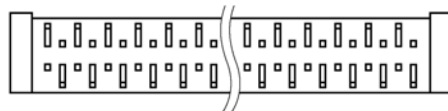
.050" Through-Hole, Straight and Right Angle, With Ret. Clips, Flng. Option P50 Series

Straight, Without Flanges

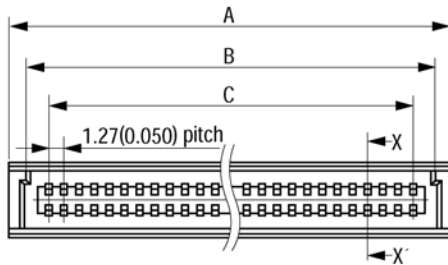
**Product Table / Dimensions**

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

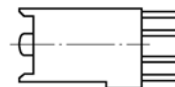
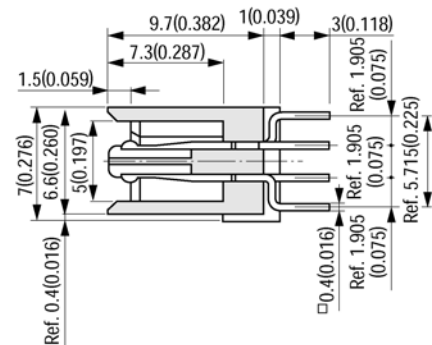
Contact Quantity	A	B	C
50	36.88	34.88	30.48
	[1.452]	[1.373]	[1.200]
52	38.15	36.15	31.75
	[1.502]	[1.423]	[1.250]
60	43.23	41.23	36.83
	[1.702]	[1.623]	[1.450]
68	48.31	46.31	41.91
	[1.902]	[1.823]	[1.650]
80	55.93	53.93	49.53
	[2.202]	[2.123]	[1.950]
100	68.63	66.63	62.23
	[2.702]	[2.623]	[2.450]



Polarity identification



**X-X' Cross Section**



## Ordering Information

**P5X - XXXP - XXX - EA**

Contact Quantity  
See Table

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

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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Sheet 3 of 6

# 3M™ Pak 50 Boardmount Plug

.050" Through-Hole, Straight and Right Angle, With Ret. Clips, Flng. Option P50 Series

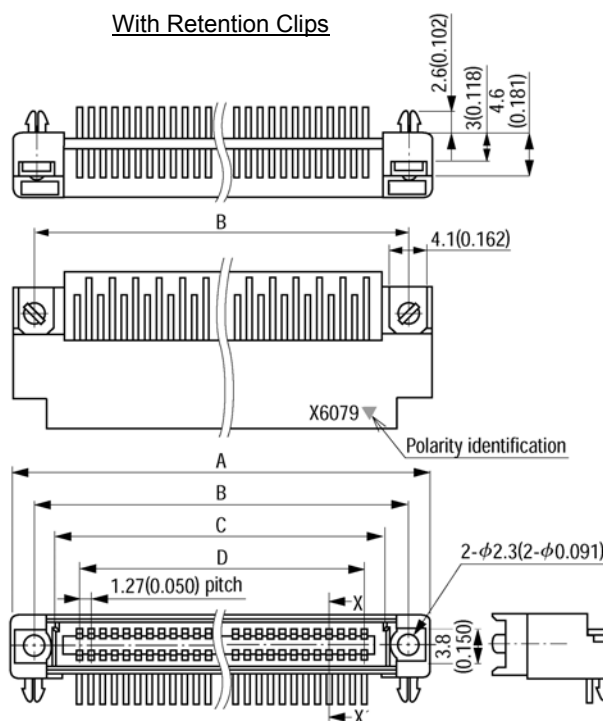
Right Angle with Flanges, with or without Retention Clips

Product Table / Dimensions

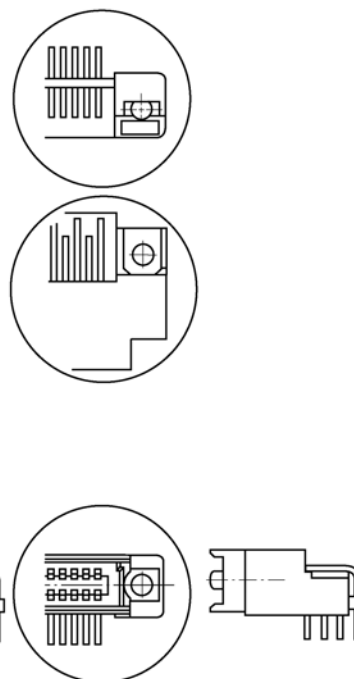
Contact Quantity	A	B	C	D
20	25.43	20.32	15.83	11.43
	[1.001]	[0.800]	[0.623]	[0.450]
26	29.24	24.13	19.64	15.24
	[1.151]	[0.950]	[0.773]	[0.600]
30	31.78	26.67	22.18	17.78
	[1.251]	[1.050]	[0.873]	[0.700]
32	33.05	27.94	23.45	19.05
	[1.301]	[1.100]	[0.923]	[0.750]
34	34.32	29.21	24.72	20.32
	[1.351]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

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

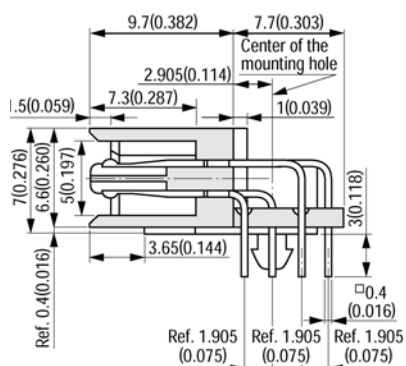
With Retention Clips



Without Retention Clips



X-X' Cross Section



Shown with Retention Clips

# 3M™ Pak 50 Boardmount Plug

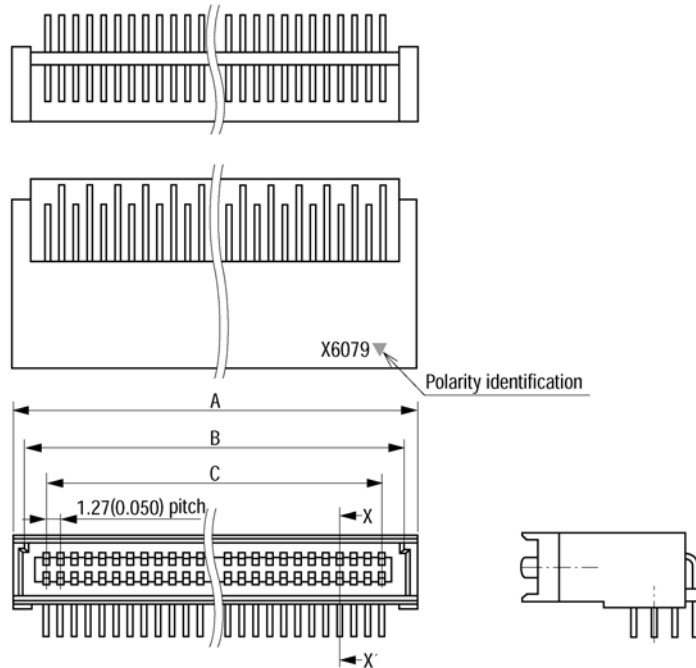
.050" Through-Hole, Straight and Right Angle, With Ret. Clips, Flng. Option P50 Series

Right Angle without Flanges

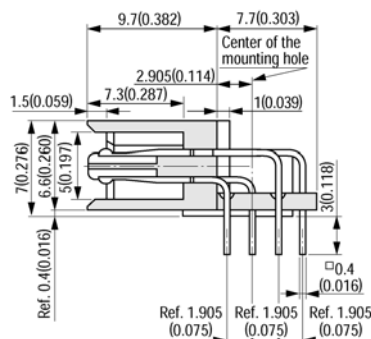
Product Table / Dimensions

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

Contact Quantity	A	B	C
50	36.88	34.88	30.48
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52	38.15	36.15	31.75
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68	48.31	46.31	41.91
	[1.902]	[1.823]	[1.650]
80	55.93	53.93	49.53
	[2.202]	[2.123]	[1.950]
100	68.63	66.63	62.23
	[2.702]	[2.623]	[2.450]



X-X' Cross Section



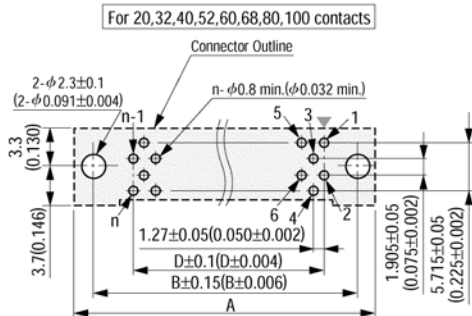
TS-2046-04  
Sheet 5 of 6

# 3M™ Pak 50 Boardmount Plug

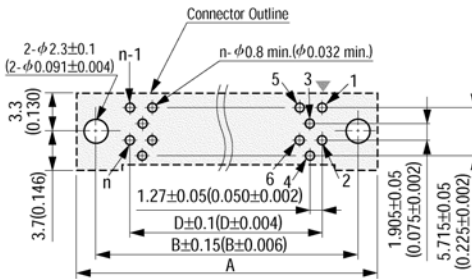
.050" Through-Hole, Straight and Right Angle, With Ret. Clips, Flng. Option P50 Series

## Printed Circuit Board Layout (Component Side View)

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

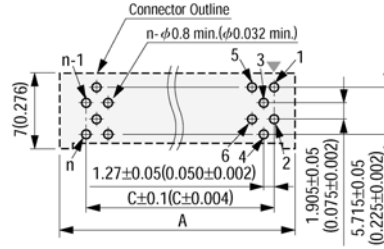


For 26,30,34,50 contacts

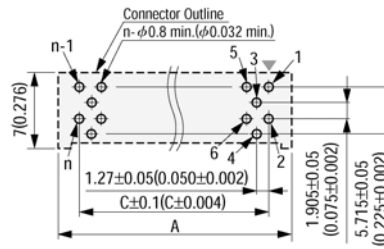


### STRAIGHT WITHOUT FLANGES

For 20,32,40,52,60,68,80,100 contacts



For 26,30,34,50 contacts



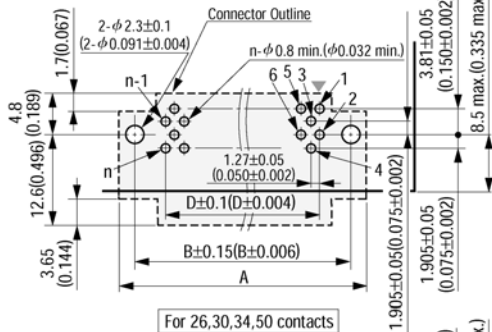
▼=Polarity identification

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

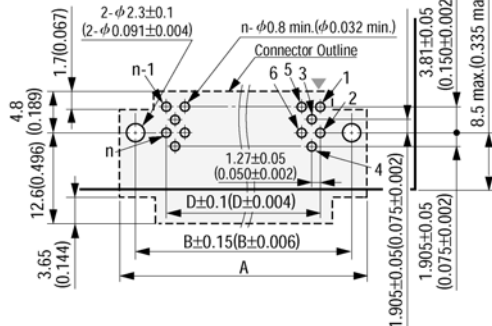
\*"n" is number of contacts.

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

For 20,32,40,52,60,68,80,100 contacts

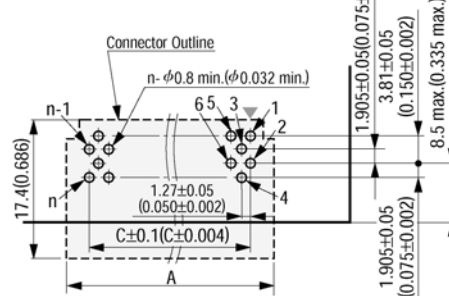


For 26,30,34,50 contacts

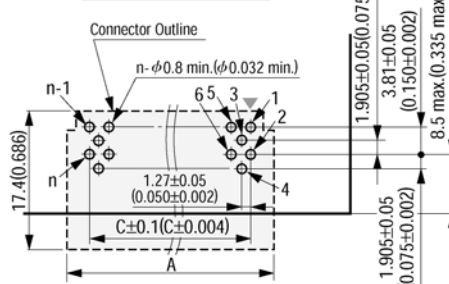


### RIGHT ANGLE WITHOUT FLANGES

For 20,32,40,52,60,68,80,100 contacts



For 26,30,34,50 contacts



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Sheet 6 of 6

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