

# 3M™ Pak 50 Boardmount Plug

.050" Straight and Right Angle Maxi-Mate

P50 Series



- High density connectors with up to 200 contacts
- Horizontal, parallel and vertical mating availability
- Insulator designed to prevent mating misalignment

Date Modified: March 10, 2003

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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 500 VDC  
**Withstanding Voltage:** 650 VAC for 1 minute

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## Environmental

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

UL File No.: E68080

**3M**  
Interconnect Solutions  
<http://www.3M.com/interconnects/>

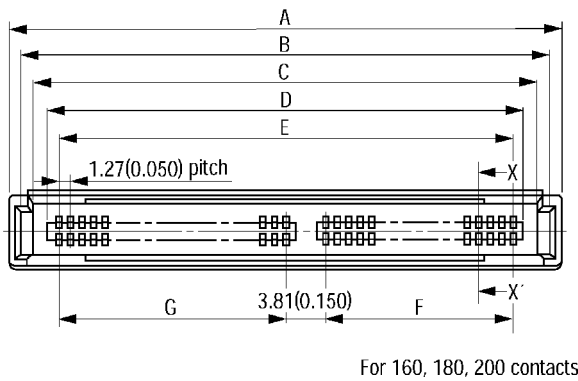
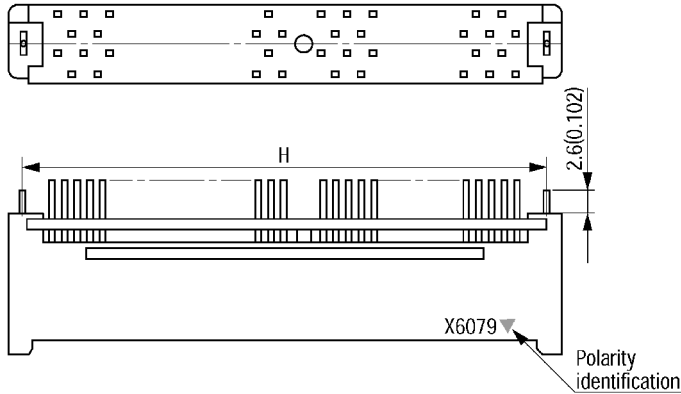
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# 3M™ Pak 50 Boardmount Plug

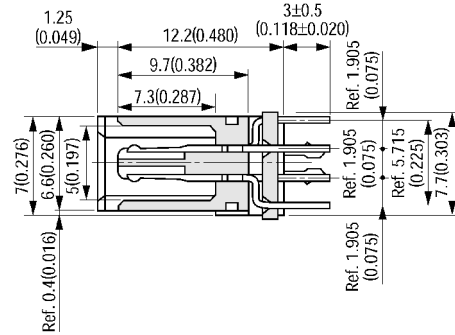
## .050" Straight and Right Angle Maxi-Mate

P50 Series

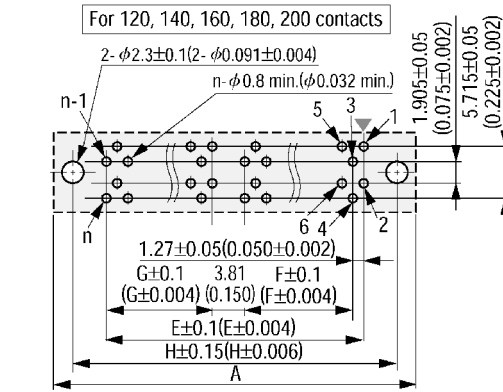
### Straight without Flanges and with Retention Clips



### 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.

### Ordering Information

P50 - XXXP - XXX - XXXX

Contact Quantity  
See Table

Solder Tail, Flange and Clip Options:  
 S1 = Straight, with Flanges, without Retention Clips  
 SR1 = Right Angle, with Flanges, without Retention Clips  
 R1 = Straight, without Flanges, with Retention Clips  
 RR1 = Right Angle, without Flanges, with Retention Clips

Plating Options:  
 TGF = 2 μ" [ 0.05 μm ] min. Gold  
 TG = 10 μ" [ 0.25 μm ] min. Gold  
 TG30 = 30 μ" [ 0.75 μm ] min. Gold

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# 3M™ Pak 50 Boardmount Plug

## .050" Straight and Right Angle Maxi-Mate

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

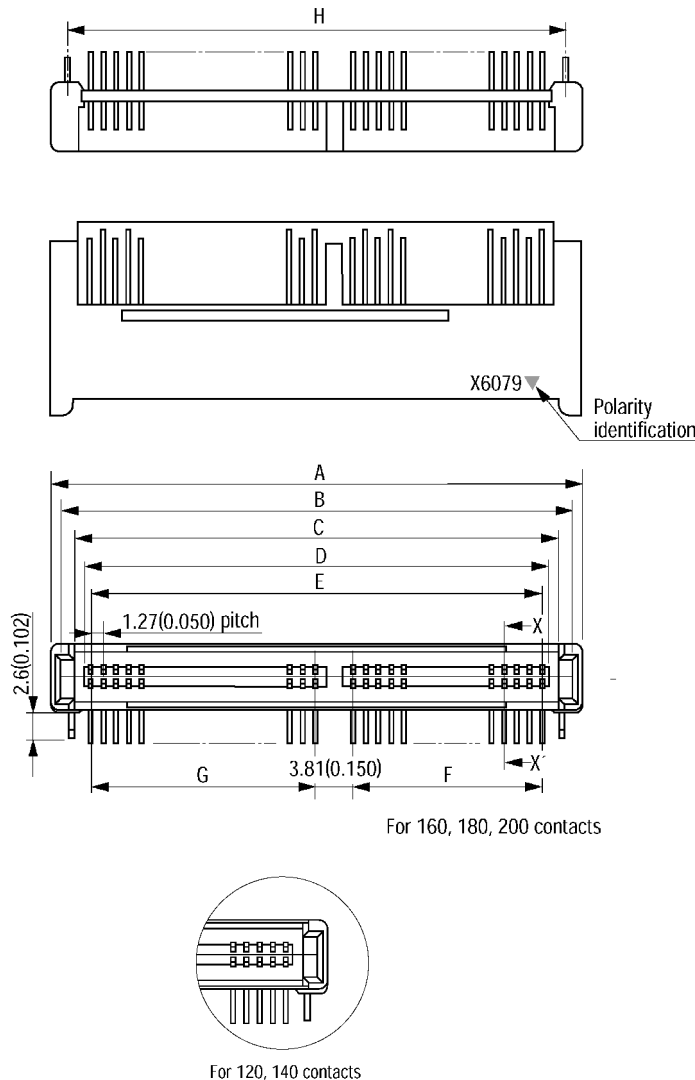
Contact Quantity	A	B	C	D	E	F	G	H
120	86.50	84.50	81.87	79.17	77.47	24.13	49.53	83.82
	[3.406]	[3.327]	[3.223]	[3.117]	[3.050]	[0.950]	[1.950]	[3.300]
140	99.20	97.20	94.57	91.87	90.17	24.13	62.23	96.52
	[3.906]	[3.827]	[3.723]	[3.617]	[3.550]	[0.950]	[2.450]	[3.800]
160	111.90	109.90	107.27	104.57	102.87	36.83	62.23	109.22
	[4.406]	[4.327]	[4.223]	[4.117]	[4.050]	[1.450]	[2.450]	[4.300]
180	124.60	122.60	119.97	117.27	115.57	49.53	62.23	121.92
	[4.906]	[4.827]	[4.723]	[4.617]	[4.550]	[1.950]	[2.450]	[4.800]
200	137.30	135.30	132.67	129.97	128.27	62.23	62.23	134.62
	[5.406]	[5.327]	[5.223]	[5.117]	[5.050]	[2.450]	[2.450]	[5.300]



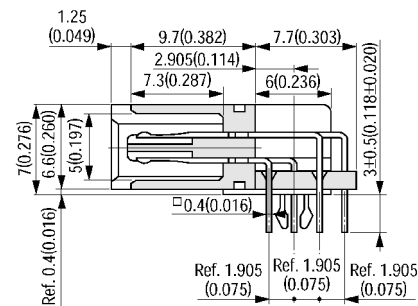
Note:

These connectors do not have a symmetrical board layout pattern. The 120 pin connectors have 80 pins on one side and 40 pins on the other. All other pin counts have 100 pins on one side and the balance on the other side.

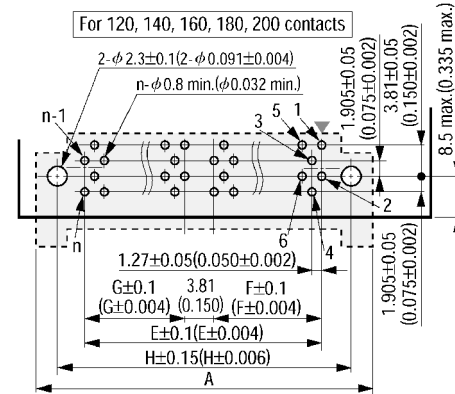
### Right Angle without Flanges and with Retention Clips



### X-X' Cross Section



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



▼ = Polarity identification  
 Recommended PCB Thickness  $t = 1.6 \pm 0.19 (0.063 \pm 0.007)$   
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## .050" Straight and Right Angle Maxi-Mate

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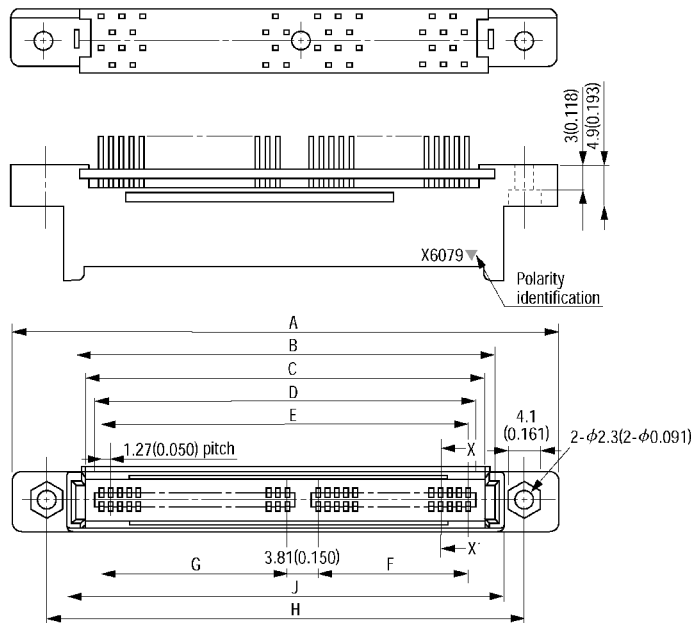
Product Table / Dimensions for Straight and Right Angle with Flanges and without Retention Clips

Contact Quantity	A	B	C	D	E	F	G	H	J
120	99.20	84.50	81.87	79.17	77.47	24.13	49.53	91.44	86.50
	[3.906]	[3.327]	[3.223]	[3.117]	[3.050]	[0.950]	[1.950]	[3.600]	[3.406]
140	111.90	97.20	94.57	91.87	90.17	24.13	62.23	104.14	99.20
	[4.406]	[3.827]	[3.723]	[3.617]	[3.550]	[0.950]	[2.450]	[4.100]	[3.906]
160	124.60	109.90	107.27	104.57	102.87	36.83	62.23	116.84	111.90
	[4.906]	[4.327]	[4.223]	[4.117]	[4.050]	[1.450]	[2.450]	[4.600]	[4.406]
180	137.30	122.60	119.97	117.27	115.57	49.53	62.23	129.54	124.60
	[5.406]	[4.827]	[4.723]	[4.617]	[4.550]	[1.950]	[2.450]	[5.100]	[4.906]
200	150.00	135.30	132.67	129.97	128.27	62.23	62.23	142.24	137.30
	[5.906]	[5.327]	[5.223]	[5.117]	[5.050]	[2.450]	[2.450]	[5.600]	[5.406]

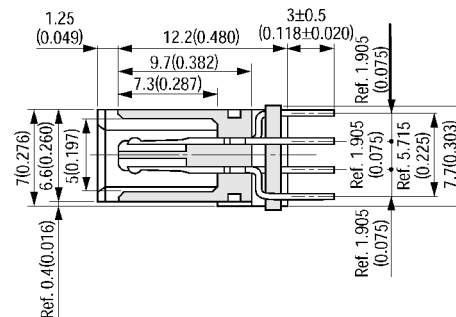
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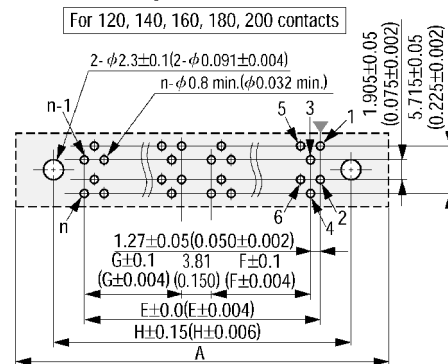
### Straight with Flanges and without Retention Clips



### X-X' Cross Section



### 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.

### X-X' Cross Section Straight

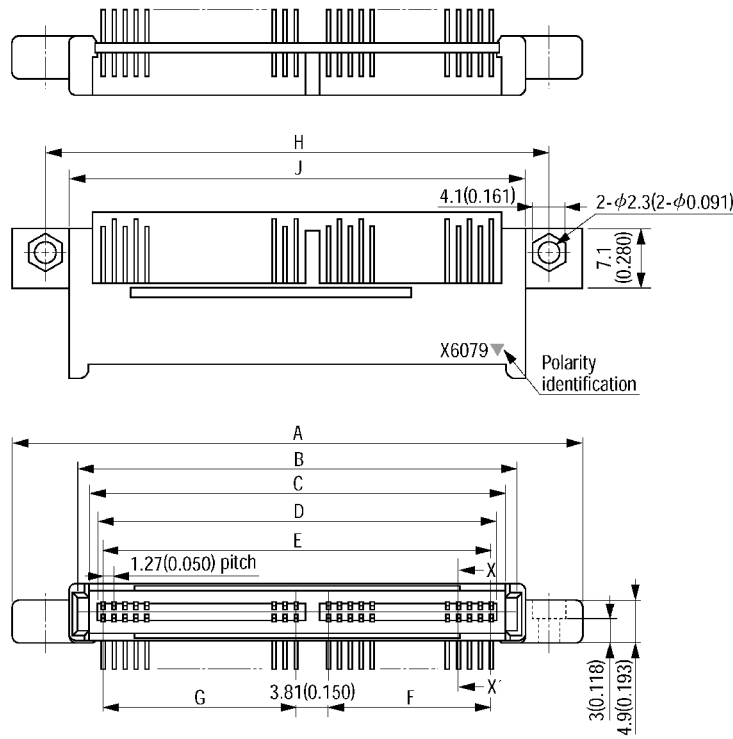
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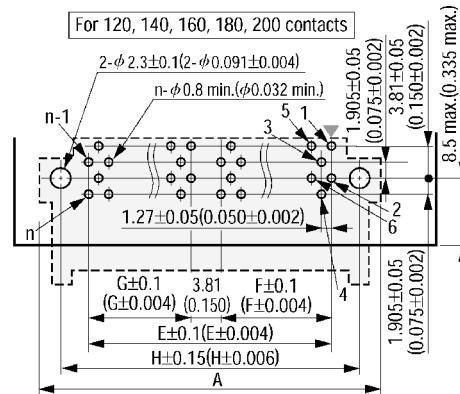
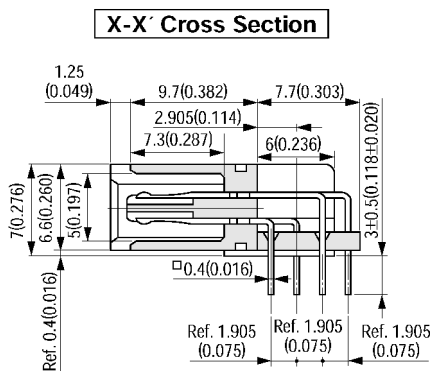
## .050" Straight and Right Angle Maxi-Mate

P50 Series

### Right Angle with Flanges and without Retention Clips



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



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