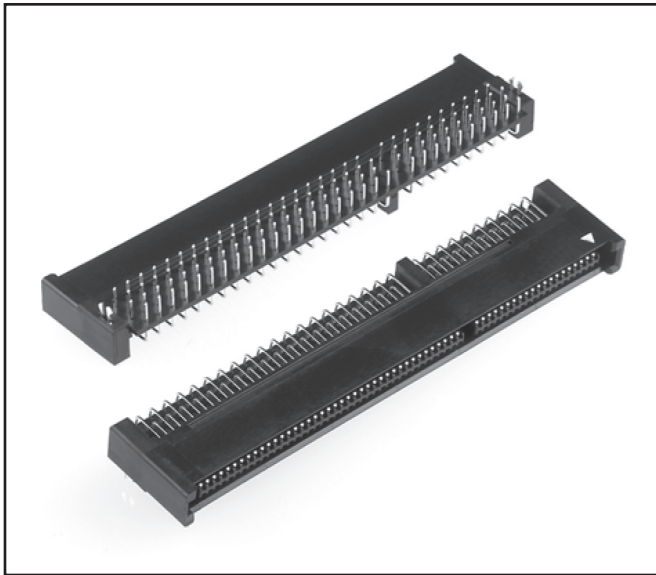


# 3M™ Pak 50 Boardmount Plug

.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
- 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 17, 2010

TS-2049-B  
Sheet 1 of 5

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## Physical

### Insulator:

Material: Glass Filled Nylon

Flammability: UL 94V-0

Color: Black

Contact Material: Phosphor Bronze

### Plating:

Underplating: Nickel

Wiping Area: 10  $\mu$ m [ .25  $\mu$ m ] Gold

Solder Tails: Gold Flash

Retaining Clips: Tin-Copper

Mating Compatibility: TS-2050

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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:** 650 V<sub>AC</sub> for 1 minute

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## Environmental

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

**Process Rating:** 260°C Wave Solder Compatible

UL File No.: E68080

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**3M**  
Electronic Solutions Division  
Interconnect Solutions  
<http://www.3Mconnector.com>

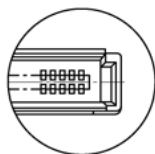
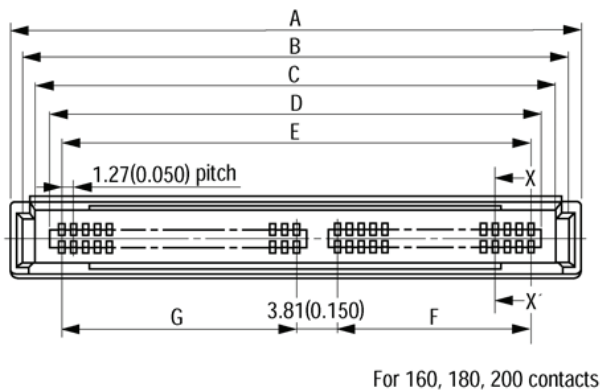
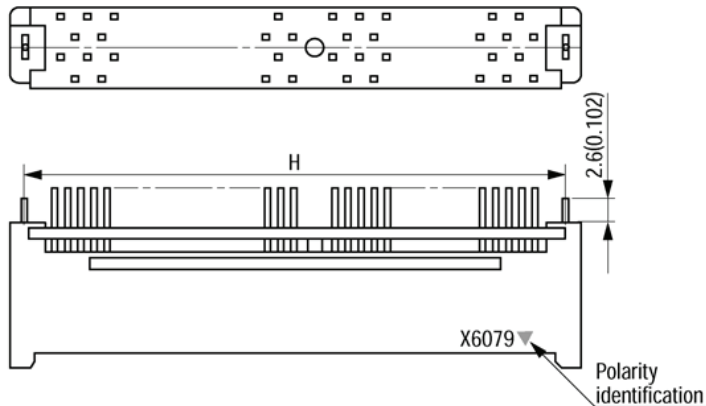
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For technical, sales or ordering information call  
**800-225-5373**

# 3M™ Pak 50 Boardmount Plug

.050" Straight and Right Angle Maxi-Mate

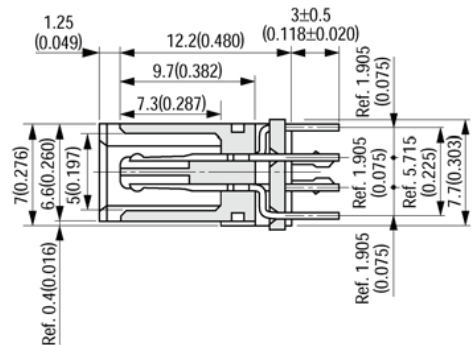
P50 Series

## Straight without Flanges and with Retention Clips

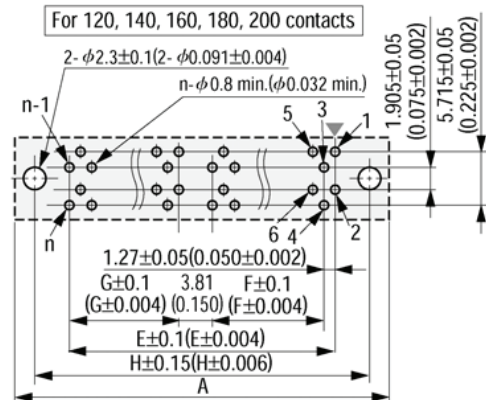


For 120, 140 contacts

## 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

**P50L - XXXP - XXX - EA**

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

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Sheet 2 of 5

# 3M™ Pak 50 Boardmount Plug

.050" Straight and Right Angle Maxi-Mate

P50 Series



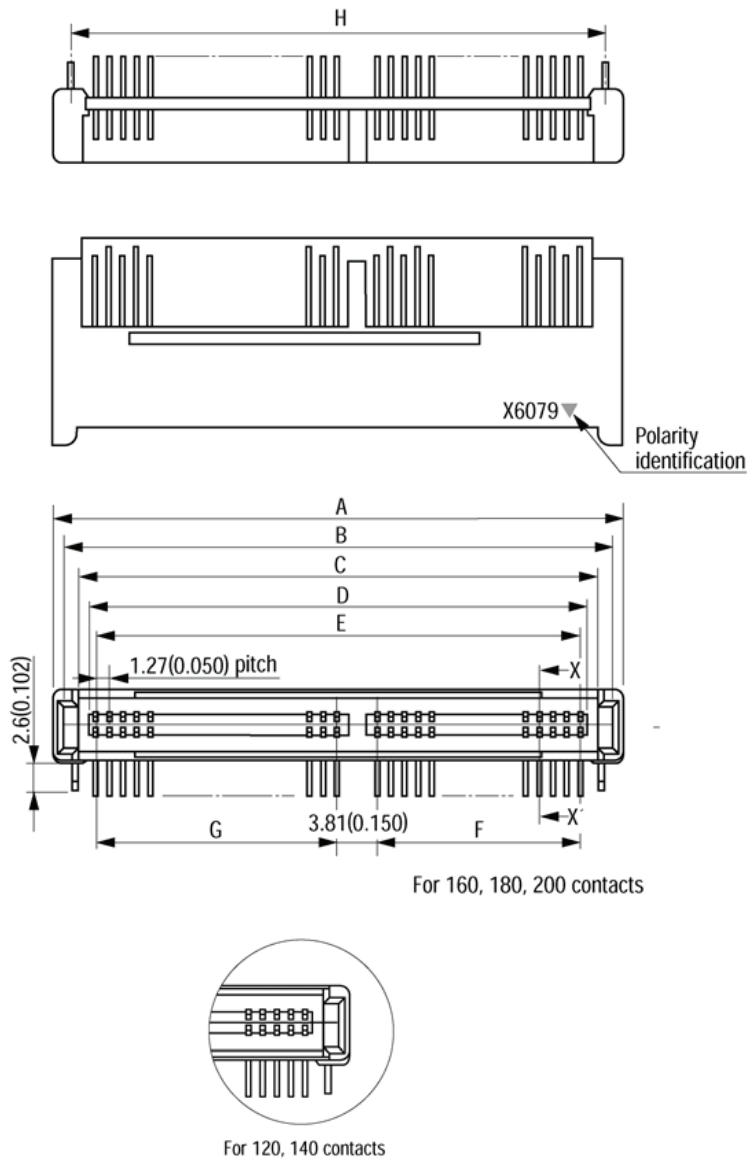
**Product Table / Dimensions for Straight and Right Angle without Flanges and with Retention Clips**

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

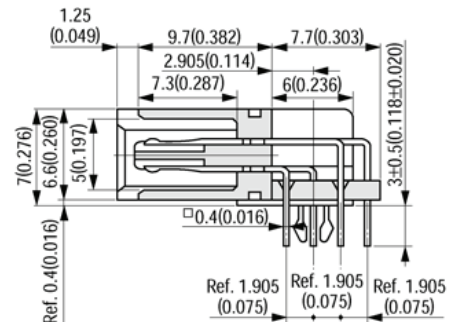
**Notes:**

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.

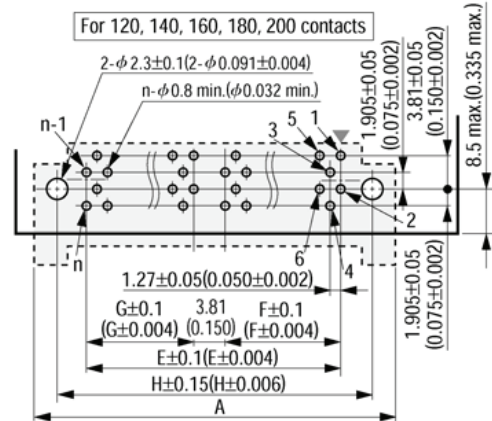
**Right Angle without Flanges and with Retention Clips**



**X-X' Cross Section**



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



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

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 Sheet 3 of 5

# 3M™ Pak 50 Boardmount Plug

.050" Straight and Right Angle Maxi-Mate

P50 Series

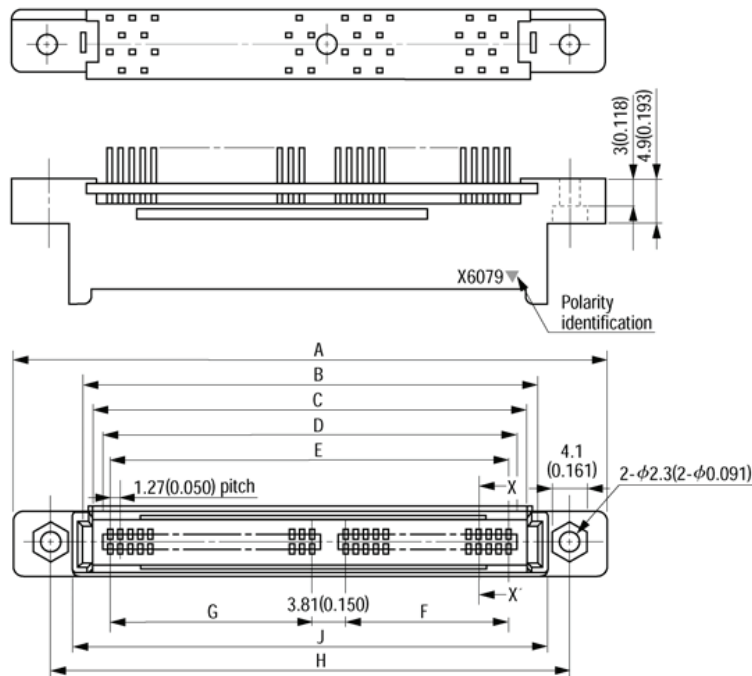
**Product Table / Dimensions for Straight and Right Angle with Flanges and without Retention Clips**

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

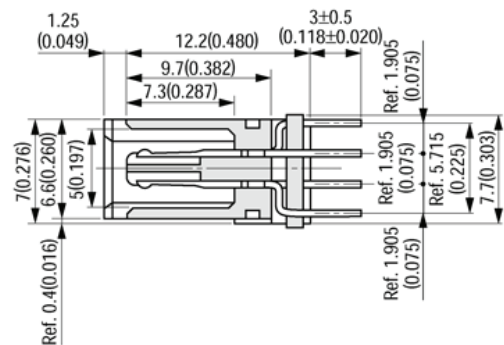
**Notes:**

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.

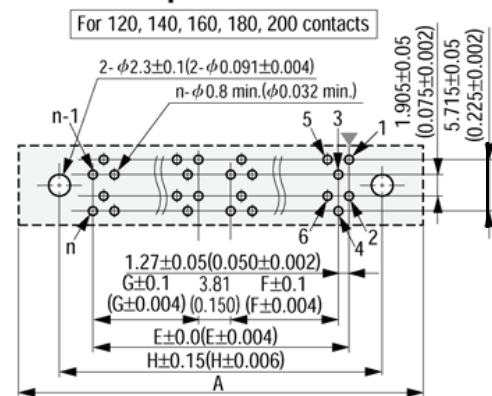
**Straight with Flanges and without Retention Clips**



**X-X' Cross Section**



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



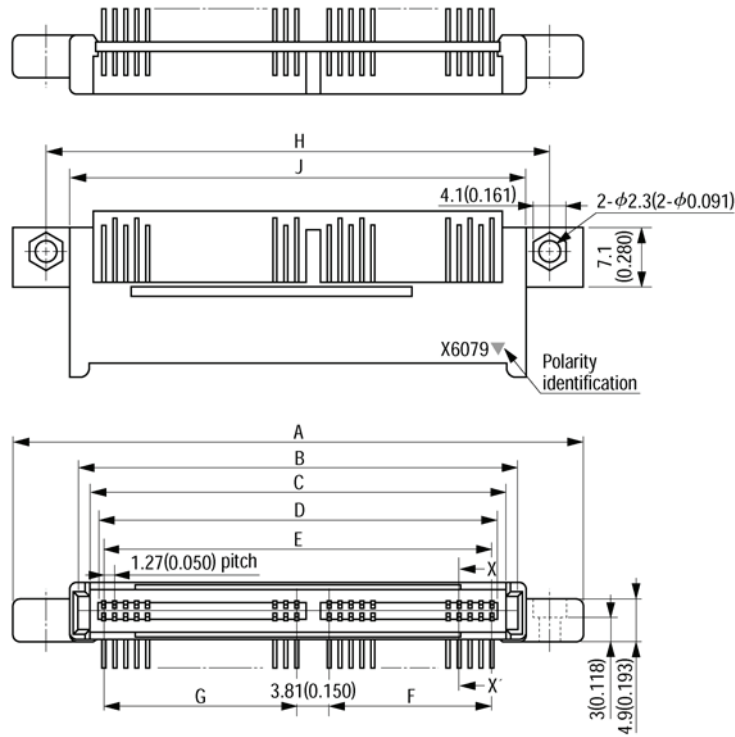
▼=Polarity identification  
Recommended PCB Thickness t=1.6±0.19(0.063±0.007)  
"n" is number of contacts.

# 3M™ Pak 50 Boardmount Plug

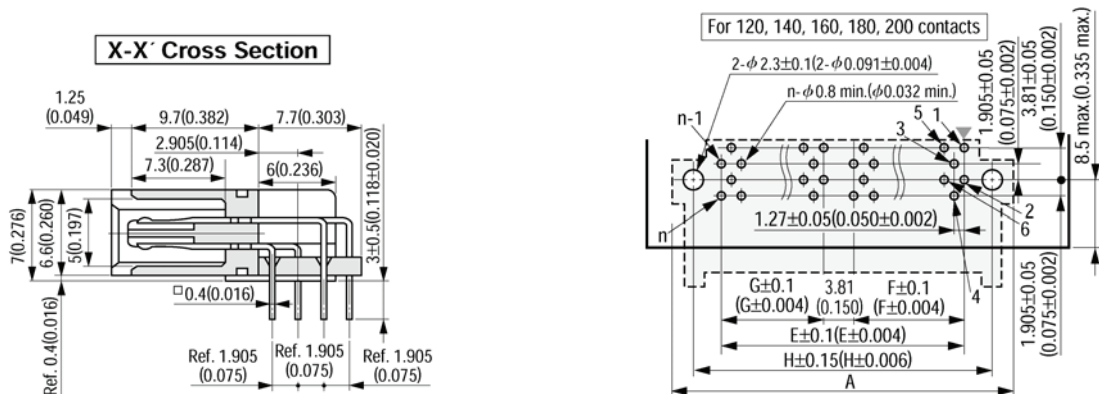
.050" Straight and Right Angle Maxi-Mate

P50 Series

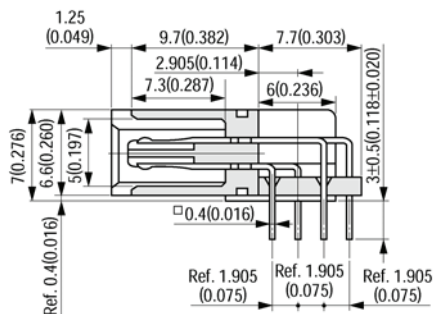
## Right Angle with Flanges and without Retention Clips



## Printed Circuit Board Layout (Component Side View)



## X-X' Cross Section



▼ = 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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6801 River Place Blvd.  
Austin, TX 78726-9000  
U.S.A.  
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