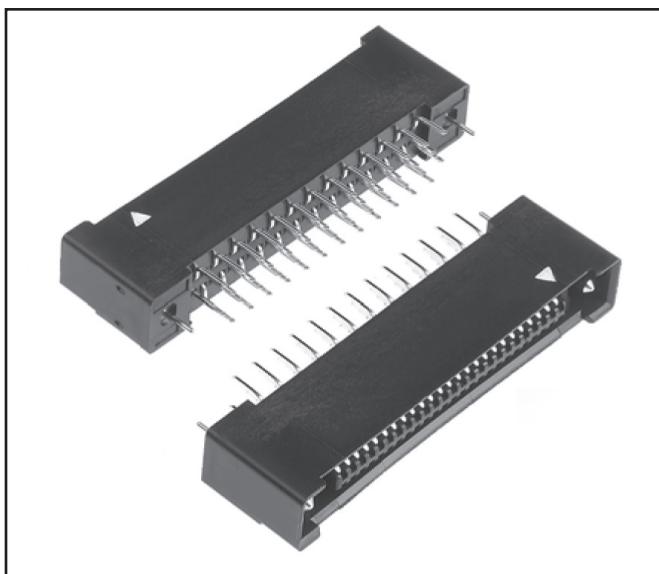


# 3M™ Pak 50 Plug

.050" Straight and Right Angle Plug, with Power Ground Pin

P50 Series



- Power/ground contacts enable separation of power and signals
- EMLB power/ground contacts control static discharge and allow "hot board" replacement
- 2 amp power/ground contact rating for high current applications maximizes signal contact utilization
- 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 18, 2010

TS-2051-C  
Sheet 1 of 3

## Physical

### Insulator:

Material: Glass Filled Nylon

Flammability: UL 94V-0

Color: Black

Contact Material: Phosphor Bronze

### Plating:

Underplating: Nickel

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

Solder Tails: Gold Flash

Retainer Clips: Tin-Copper

Mating Compatibility: TS-2052

## Electrical

**Current Rating:** 0.5 A per Signal Contact, 2 A per Power Contact

**Insulation Resistance:**  $> 1 \times 10^9 \Omega$  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 Wave Solder Compatible

UL File No.: E68080

**3M**

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

3M is a trademark of 3M Company.  
For technical, sales or ordering information call  
**800-225-5373**

# 3M™ Pak 50 Plug

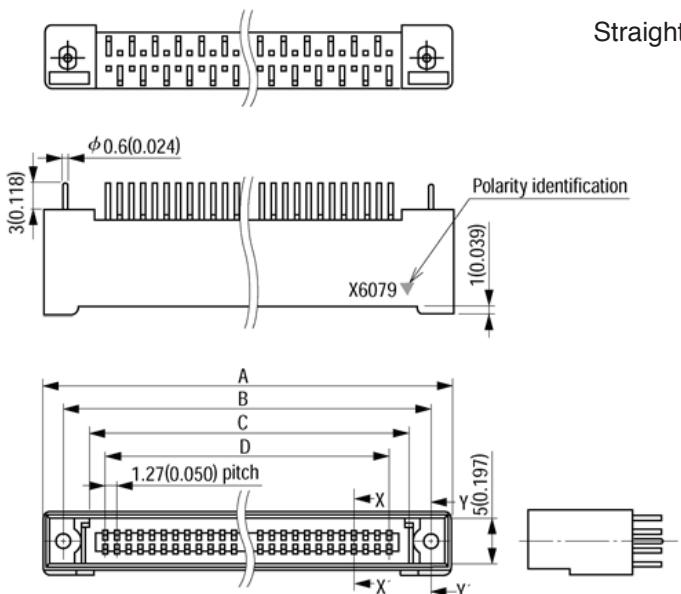
.050" Straight and Right Angle Plug, with Power Ground Pin

P50 Series

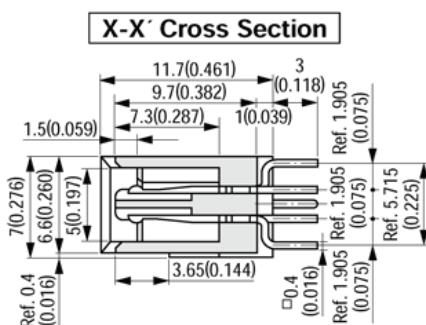
## Product Table / Dimensions for Straight and Right Angle Plugs

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

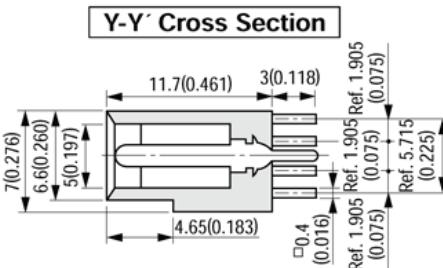
Contact Quantity	A	B	C	D
50	44.48 [1.751]	39.37 [1.550]	34.88 [1.373]	30.48 [1.200]
52	45.75 [1.801]	40.64 [1.593]	36.15 [1.423]	31.75 [1.250]
60	50.83 [2.001]	45.72 [1.800]	41.23 [1.623]	36.83 [1.450]
68	55.91 [2.201]	50.8 [2.000]	46.31 [1.823]	41.91 [1.650]
80	63.53 [2.501]	58.42 [2.300]	53.93 [2.123]	49.53 [1.950]
100	76.23 [3.001]	71.12 [2.800]	66.63 [2.623]	62.23 [2.450]



Straight

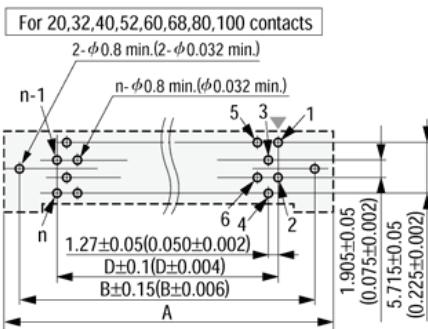


X-X' Cross Section



Y-Y' Cross Section

## Printed Circuit Board Layout (Component Side View)



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

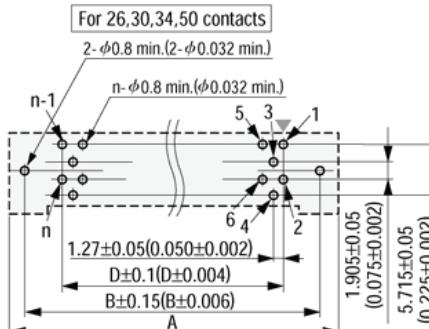
2-φ0.8 min.(2-φ0.032 min.)

n- φ0.8 min.(φ0.032 min.)

▼=Polarity identification

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

"n" is number of contacts.



For 26,30,34,50 contacts

2-φ0.8 min.(2-φ0.032 min.)

n- φ0.8 min.(φ0.032 min.)

TS-2051-C  
Sheet 2 of 3

3M

Electronic Solutions Division

Interconnect Solutions

<http://www.3Mconnector.com>

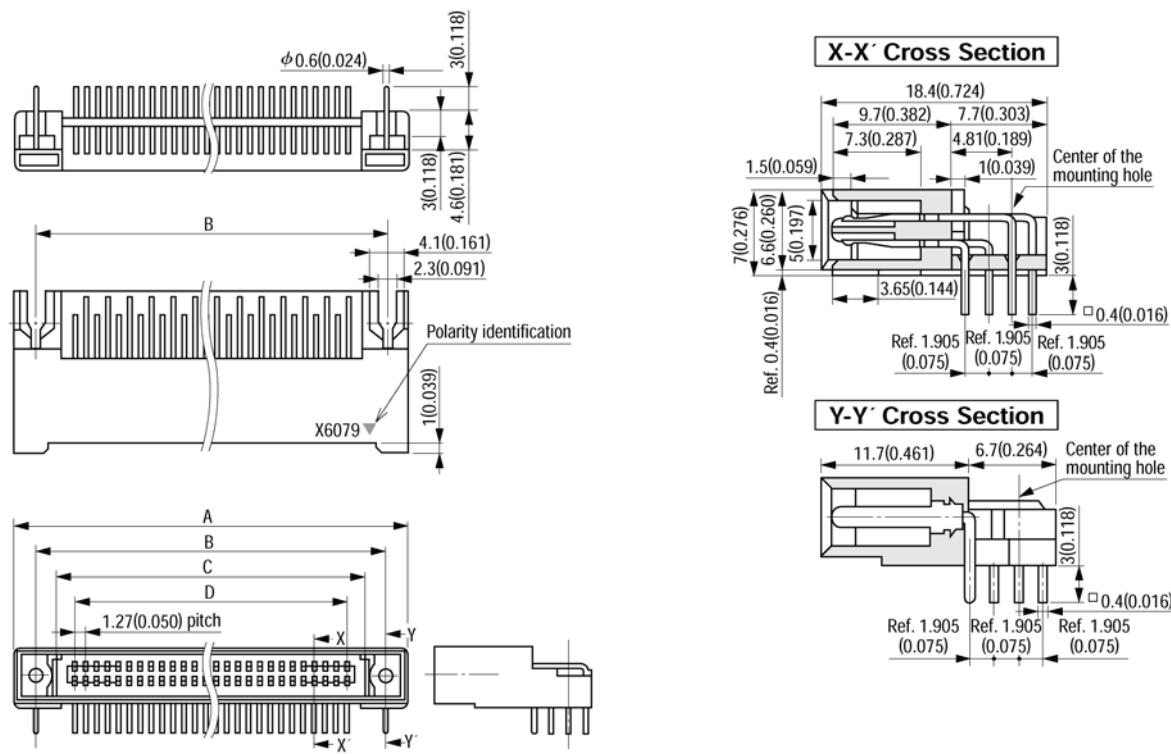
3M is a trademark of 3M Company.  
For technical, sales or ordering information call  
**800-225-5373**

# 3M™ Pak 50 Plug

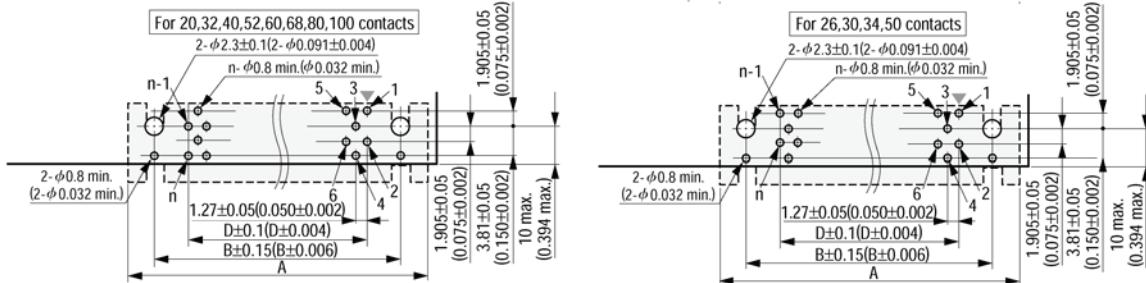
.050" Straight and Right Angle Plug, with Power Ground Pin

P50 Series

## Right Angle



## 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 - XXXPG - XXX - EA** (RIA E1 and C1 apply)

Contact Quantity: \_\_\_\_\_  
See Table

Solder Tail Options:::  
S1 = Straight  
SR1 = Right Angle

TS-2051-C  
Sheet 3 of 3

**3M**

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

3M is a trademark of 3M Company.  
For technical, sales or ordering information call  
**800-225-5373**

### **Important Notice**

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

### **Warranty; Limited Remedy; Limited Liability.**

This product will be free from defects in material and manufacture for a period of one (1) year from the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



### **3M Electronics Solutions Division**

6801 River Place Blvd.  
Austin, TX 78726-9000  
U.S.A.  
1-800-225-5373  
[www.3Mconnector.com](http://www.3Mconnector.com)

Please recycle. Printed in USA.  
© 3M 2010. All rights reserved.  
RIA-2217B-E

3M is a trademark of 3M Company.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

3M:

[P50-068PG-S1-EA](#) [P50-100PG-S1-EA](#)