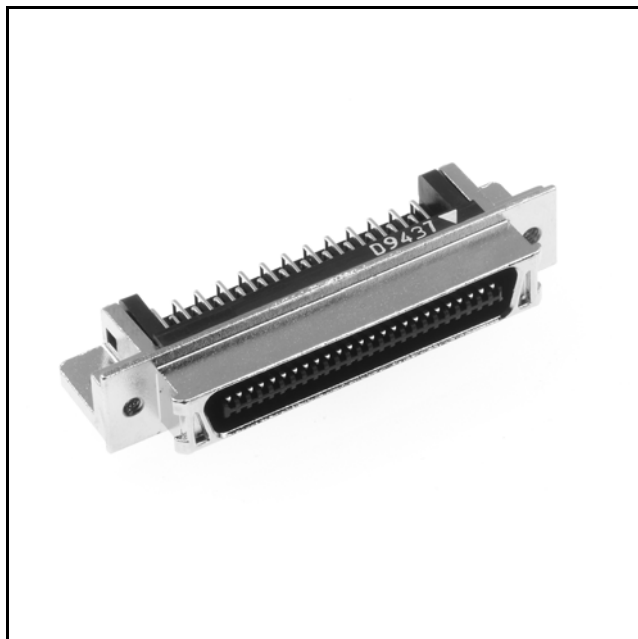


# 3M™ Pak 50 I/O Plug

.050" Straight and Right Angle, Boardmount

P50 Series



- EMI shielded
- 20 to 100 position
- Mates to P50 Series cable mount socket
- RoHS\* compliant

Date Modified: October 2, 2006

TS-1147-02  
Sheet 1 of 7

---

## 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

---

## Electrical

**Current Rating:** 0.5 A  
**Insulation Resistance:** 10<sup>3</sup> MΩ min. at 500 VDC  
**Withstanding Voltage:** 650 VAC for 1 minute

---

## 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 in writing by 3M, this information represents 3M's knowledge and belief based on information provided by third party suppliers to 3M.

# 3M™ Pak 50 I/O Plug

.050" Straight and Right Angle, Boardmount

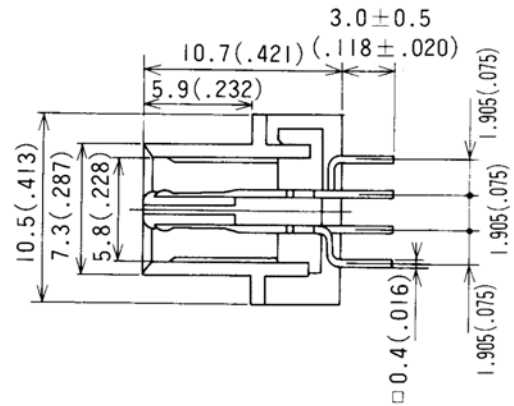
P50 Series

## Straight Plug

Product Table / Dimensions

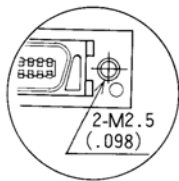
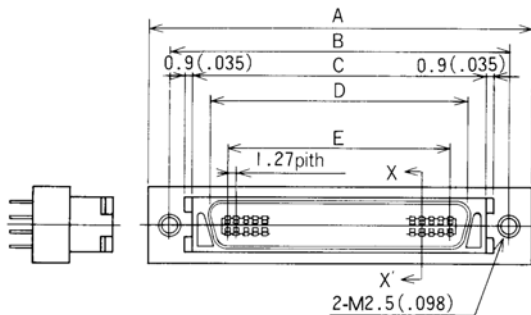
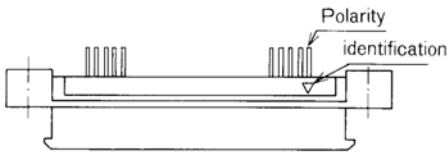
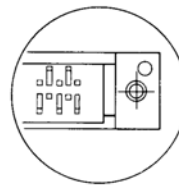
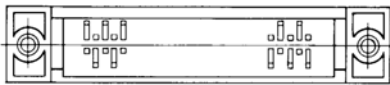
| Contact Quantity | A                | B                | C                | D                | E                |
|------------------|------------------|------------------|------------------|------------------|------------------|
| 20               | 33.40<br>[1.315] | 27.40<br>[1.079] | 21.60<br>[0.850] | 16.73<br>[0.659] | 11.43<br>[0.450] |
| 28               | 38.48<br>[1.515] | 32.48<br>[1.279] | 26.68<br>[1.050] | 21.81<br>[0.859] | 16.51<br>[0.650] |
| 34               | 42.29<br>[1.665] | 36.29<br>[1.429] | 30.49<br>[1.200] | 25.62<br>[1.009] | 20.32<br>[0.800] |
| 50               | 52.45<br>[2.065] | 46.45<br>[1.829] | 40.65<br>[1.600] | 35.78<br>[1.409] | 30.48<br>[1.200] |
| 60               | 58.80<br>[2.315] | 52.80<br>[2.079] | 47.00<br>[1.850] | 42.13<br>[1.659] | 36.83<br>[1.450] |
| 68               | 63.88<br>[2.515] | 57.88<br>[2.279] | 52.08<br>[2.050] | 47.21<br>[1.859] | 41.91<br>[1.650] |
| 80               | 71.50<br>[2.815] | 65.50<br>[2.579] | 59.70<br>[2.350] | 54.83<br>[2.159] | 49.53<br>[1.950] |

X-X' Cross Section



20, 50 pins

28, 34, 60, 80 pins



## Ordering Information

**P50 - XXX - DDP - XXX - EA**

Contact Quantity  
See Table

S1 = Straight  
SR1 = Right Angle

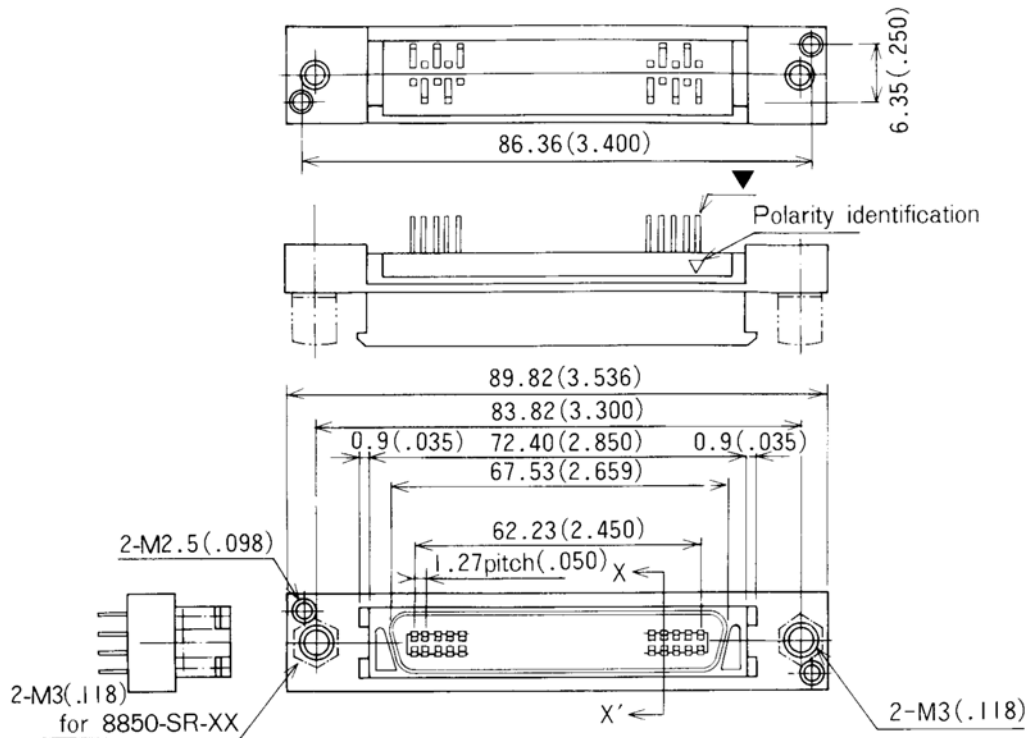
TS-1147-02  
Sheet 2 of 7

# 3M™ Pak 50 I/O Plug

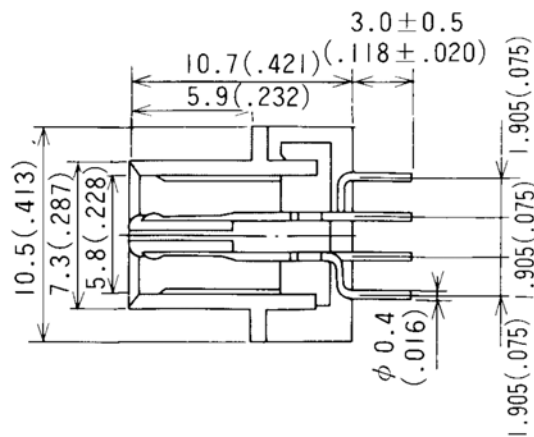
.050" Straight and Right Angle, Boardmount

P50 Series

Straight Plug, 100 Pins



### X-X' Cross Section



TS-1147-02  
Sheet 3 of 7

# 3M™ Pak 50 I/O Plug

.050" Straight and Right Angle, Boardmount

P50 Series

## Straight Plug

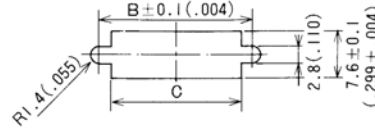
Product Table / Dimensions

| Contact Quantity | A       | B       | C       |
|------------------|---------|---------|---------|
| 20               | 11.43   | 27.40   | 24.40   |
|                  | [0.450] | [1.079] | [0.961] |
| 28               | 16.51   | 32.48   | 29.48   |
|                  | [0.650] | [1.279] | [1.161] |
| 34               | 20.32   | 36.29   | 33.29   |
|                  | [0.800] | [1.429] | [1.311] |
| 50               | 30.48   | 46.45   | 43.45   |
|                  | [1.200] | [1.829] | [1.711] |
| 60               | 36.83   | 52.80   | 49.80   |
|                  | [1.450] | [2.079] | [1.961] |
| 68               | 41.91   | 57.88   | 54.88   |
|                  | [1.650] | [2.279] | [2.161] |
| 80               | 49.53   | 65.50   | 62.50   |
|                  | [1.950] | [2.579] | [2.461] |

## Panel Cutout Dimensions

20, 28, 34, 50, 60, 68, 80 pins

Recommended panel thickness : 2.0max(.079)

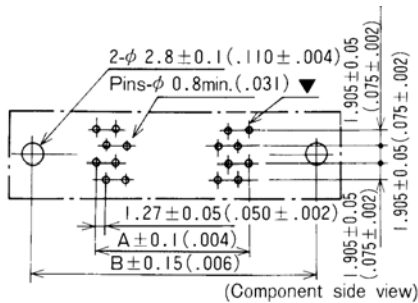


Recommended PCB Thickness: 1.6 ± 0.19 mm [ 0.063 ± .007 ]

## Printed Circuit Board Layout

Recommended PCB Thickness: 1.6 ± 0.19 mm [ 0.063 ± .007 ]

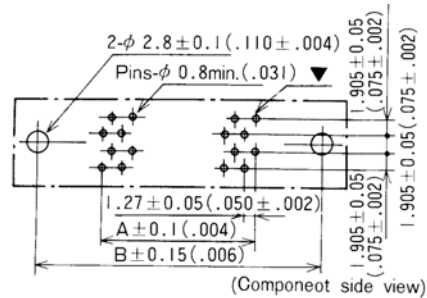
### 34, 50 Pins



## Printed Circuit Board Layout

Recommended PCB Thickness: 1.6 ± 0.19 mm [ 0.063 ± .007 ]

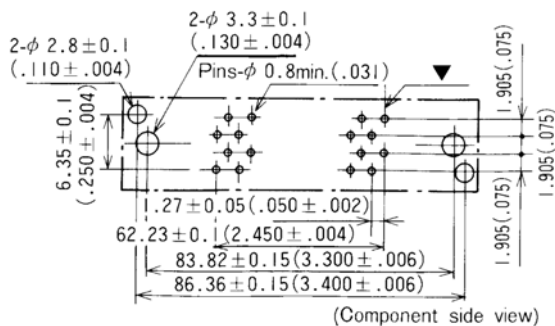
### 20, 28, 60, 68, 80 Pins



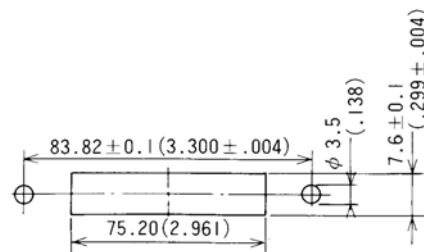
## Panel Cutout Dimensions

Recommended Panel Thickness: 1.6 mm max. [ 0.063 ]

### 100 Pins



### 100 Pins



TS-1147-01  
Sheet 4 of 7

# 3M™ Pak 50 I/O Plug

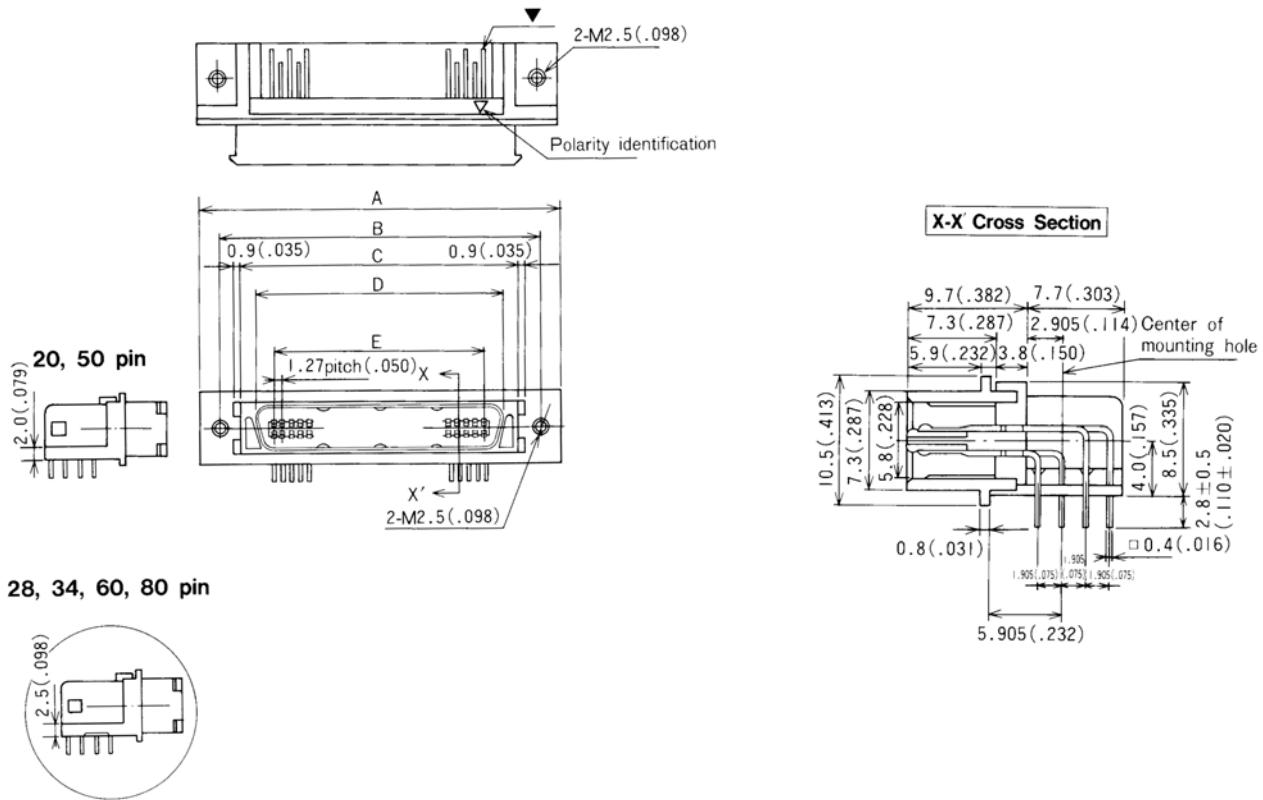
.050" Straight and Right Angle, Boardmount

P50 Series

## Right Angle Plug

Product Table / Dimensions

| Contact Quantity | A       | B       | C       | D       | E       |
|------------------|---------|---------|---------|---------|---------|
| 20               | 33.40   | 27.40   | 21.60   | 16.73   | 11.43   |
|                  | [1.315] | [1.079] | [0.850] | [0.659] | [0.450] |
| 28               | 38.48   | 32.48   | 26.68   | 21.81   | 16.51   |
|                  | [1.515] | [1.279] | [1.050] | [0.859] | [0.650] |
| 34               | 42.29   | 36.29   | 30.49   | 25.62   | 20.32   |
|                  | [1.665] | [1.429] | [1.200] | [1.009] | [0.800] |
| 50               | 52.45   | 46.45   | 40.65   | 35.78   | 30.48   |
|                  | [2.065] | [1.829] | [1.600] | [1.409] | [1.200] |
| 60               | 58.80   | 52.80   | 47.00   | 42.13   | 36.83   |
|                  | [2.315] | [2.079] | [1.850] | [1.659] | [1.450] |
| 68               | 63.88   | 57.88   | 52.08   | 47.21   | 41.91   |
|                  | [2.515] | [2.279] | [2.050] | [1.859] | [1.650] |
| 80               | 71.50   | 65.50   | 59.70   | 54.83   | 49.53   |
|                  | [2.815] | [2.579] | [2.350] | [2.159] | [1.950] |



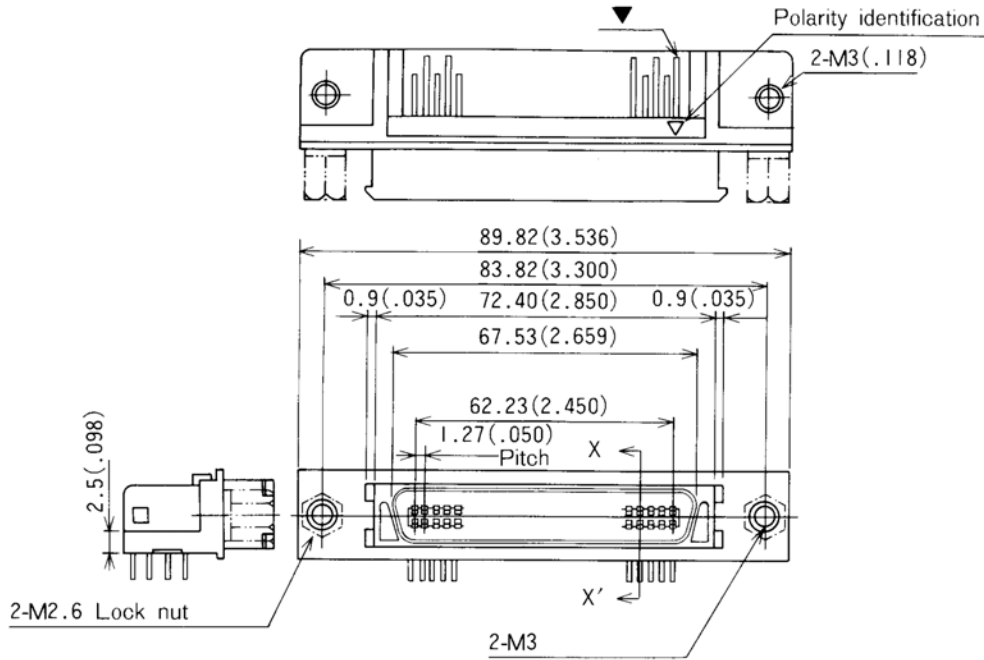
TS-1147-02  
Sheet 5 of 7

# 3M™ Pak 50 I/O Plug

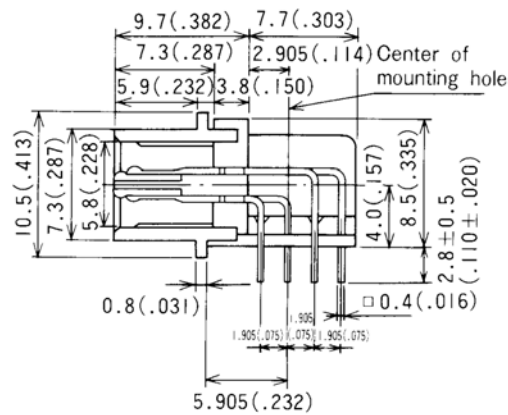
.050" Straight and Right Angle, Boardmount

P50 Series

## Right Angle Plug, 100 Pins



### X-X' Cross Section



TS-1147-02  
Sheet 6 of 7

# 3M™ Pak 50 I/O Plug

.050" Straight and Right Angle, Boardmount

P50 Series

## Right Angle

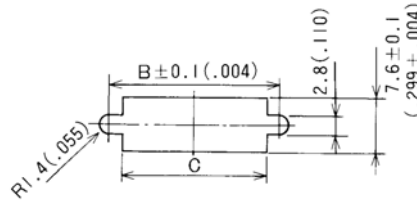
Product Table / Dimensions

| Contact Quantity | A       | B       | C       |
|------------------|---------|---------|---------|
| 20               | 11.43   | 27.40   | 24.40   |
|                  | [0.450] | [1.079] | [0.961] |
| 28               | 16.51   | 32.48   | 29.48   |
|                  | [0.650] | [1.279] | [1.161] |
| 34               | 20.32   | 36.29   | 33.29   |
|                  | [0.800] | [1.429] | [1.311] |
| 50               | 30.48   | 46.45   | 43.45   |
|                  | [1.200] | [1.829] | [1.711] |
| 60               | 36.83   | 52.80   | 49.80   |
|                  | [1.450] | [2.079] | [1.961] |
| 68               | 41.91   | 57.88   | 54.88   |
|                  | [1.650] | [2.279] | [2.161] |
| 80               | 49.53   | 65.50   | 62.50   |
|                  | [1.950] | [2.579] | [2.461] |

## Panel Cutout Dimensions

Recommended Panel Thickness: 2.0 mm [ 0.079 ]

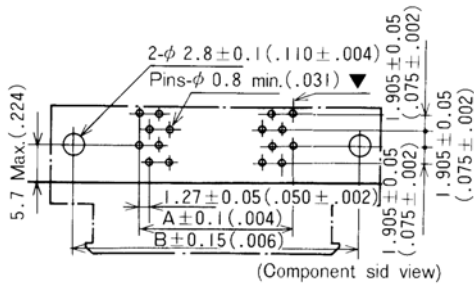
20, 28, 34, 50, 60, 68, 80 Pins



## Printed Circuit Board Layout

Recommended PCB Thickness: 1.6 \$ 0.19 mm [ 0.063 \$ .007 ]

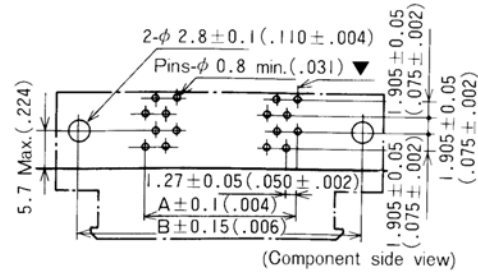
34, 50 Pins



## Printed Circuit Board Layout

Recommended PCB Thickness: 1.6 \$ 0.19 mm [ 0.063 \$ .007 ]

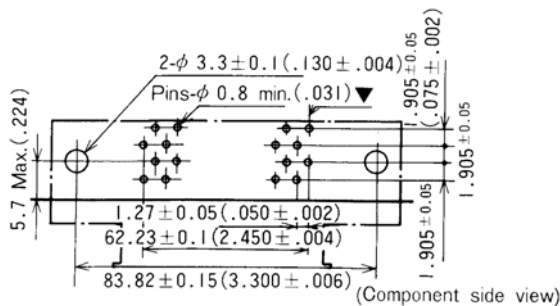
20, 28, 60, 68, 80 Pins



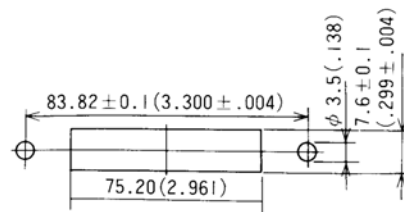
## Panel Cutout Dimensions

Recommended Panel Thickness: 1.6 mm max. [ 0.063 ]

100 Pins



100 Pins



TS-1147-02  
Sheet 7 of 7

## 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.

# 3M

## 3M Electronics

6801 River Place Blvd.  
Austin, TX 78726-9000  
800/225-5373  
[www.3M.com/electronics](http://www.3M.com/electronics)

## 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.**



*Minimum 10%  
Post-Consumer Fiber*

Printed in USA.

© 3M 2006