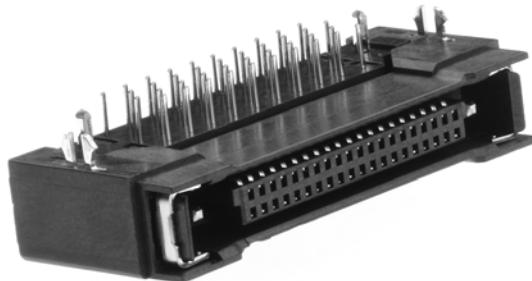


# 3M™ Pak 10 Boardmount Plug

1 mm Right Angle, Through-Hole

PK10M Series



- 1 mm pitch connector system
- Four mating heights available
- Available power contacts rated at 5A
- Available frame ground connection through surfacemount retention clips
- Keyed design helps prevent mating misalignment
- RoHS compliant\* version (DA plating suffix) available

Date Modified: January 9, 2007

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## Physical

### Insulation

Material: Glass Filled LCP

Flammability: UL 94V-0

Color: Black

### Materials

Signal Contact: Copper Alloy

Power Contact: Copper Alloy

Retention Clips: Copper Alloy

### Contact Plating

Underplating: 120  $\mu$ " [ 3.0  $\mu$ m ] Nickel

Wiping Area: 4  $\mu$ " [ 0.10  $\mu$ m ] min. Gold

Solder Tails: Tin Alloy or Gold Flash (RoHS compliant)

**Retention Clip Plating:** Tin Copper over 120  $\mu$ " [ 3.0  $\mu$ m ] Nickel

Marking: Polarity Identification Triangle, Lot Number, Standoff Indicator Code

## Electrical

**Current Rating:** 0.5 A per Signal Contact, 5 A Power Contact

**Insulation Resistance:**  $1 \times 10^3$  M $\Omega$  min at 250 V<sub>DC</sub>

**Withstanding Voltage:** 300 V<sub>AC</sub> for 1 minute

## Environmental

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

**Process Rating:** Maximum 260°C

"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.



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# 3M™ Pak 10 Boardmount Plug

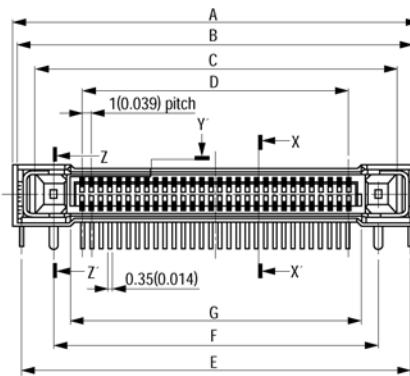
1 mm Right Angle, Through-Hole

PK10M Series

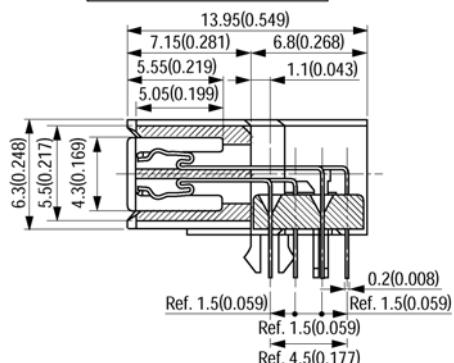
Plug with Power Contacts and without Standoff

Product Table / Dimensions

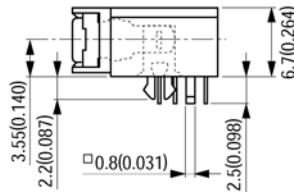
Contact Quantity	A	B	C	D	E	F	G
40	34.30 [1.350]	33.20 [1.307]	29.80 [1.173]	19.00 [0.748]	32.36 [1.274]	25.40 [1.000]	21.80 [0.858]
50	39.30 [1.547]	38.20 [1.504]	34.80 [1.370]	24.00 [0.945]	37.36 [1.471]	30.40 [1.197]	26.80 [1.055]
60	44.30 [1.744]	43.20 [1.701]	39.80 [1.567]	29.00 [1.142]	42.36 [1.668]	35.40 [1.394]	31.80 [1.252]
80	54.30 [2.138]	53.20 [2.094]	49.80 [1.961]	39.00 [1.535]	52.36 [2.061]	45.40 [1.787]	41.80 [1.646]



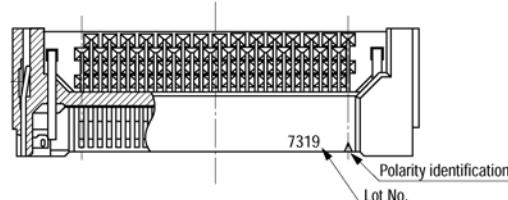
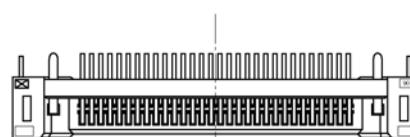
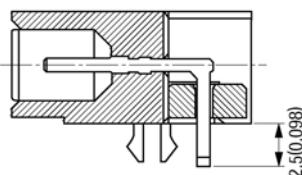
X-X' Cross Section



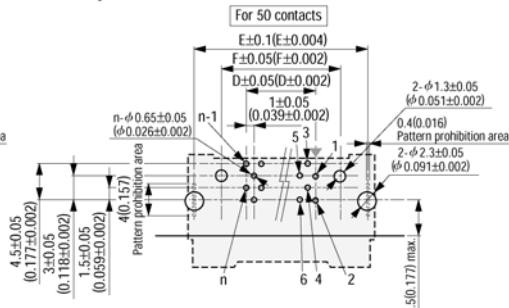
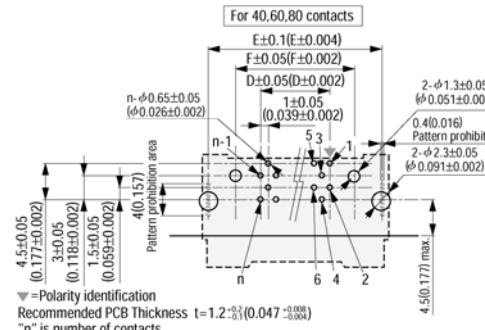
Y-Y' Cross Section



Z-Z' Cross Section



Printed Circuit Board Layout (Component Side View)



## Ordering Information

PK10M - XXXPX - THX - XX

Contact Quantity  
See Table

P = With Power Contacts  
Omit = Without Power Contacts

Plating Suffix:  
TGF = Gold flash with tin-lead tails  
DA = Gold flash overall (RoHS compliant)

Standoff Height:  
R = Without Standoff  
1 = Standoff Height 1 mm [ 0.039" ]  
2 = Standoff Height 2 mm [ 0.079" ]  
3 = Standoff Height 3 mm [ 0.118" ]  
4 = Standoff Height 4 mm [ 0.157" ]

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# 3M™ Pak 10 Boardmount Plug

1 mm Right Angle, Through-Hole

PK10M Series

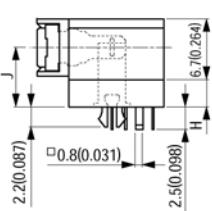
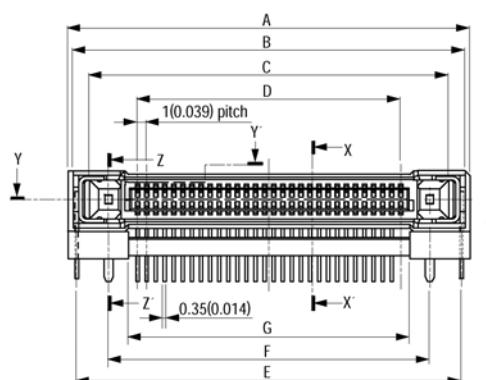
Plug with Power Contacts with Standoff

Product Table / Dimensions

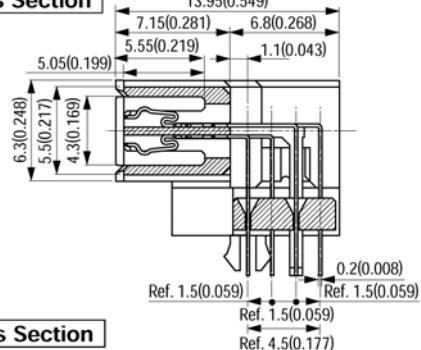
Contact Quantity	A	B	C	D	E	F	G
40	34.30	33.20	29.80	19.00	32.36	25.40	21.00
	[1.350]	[1.307]	[1.173]	[0.748]	[1.274]	[1.000]	[0.827]
50	39.30	38.20	34.80	24.00	37.36	30.40	26.00
	[1.547]	[1.504]	[1.370]	[0.945]	[1.471]	[1.197]	[1.024]
60	44.30	43.20	39.80	29.00	42.36	35.40	31.00
	[1.744]	[1.701]	[1.567]	[1.142]	[1.668]	[1.394]	[1.220]
80	54.30	53.20	49.80	39.00	52.36	45.40	41.00
	[2.138]	[2.094]	[1.961]	[1.535]	[2.061]	[1.787]	[1.614]

## Standoff Height Table

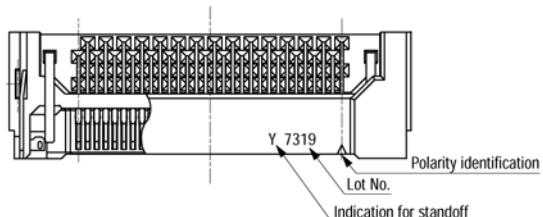
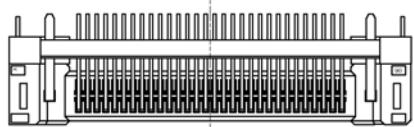
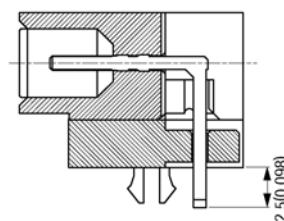
Standoff Code	Connector Height	H	J
1	7.70	1.00	4.55
	[0.303]	[0.039]	[0.179]
2	8.70	2.00	5.55
	[0.343]	[0.079]	[0.219]
3	9.70	3.00	6.55
	[0.382]	[0.118]	[0.258]
4	10.70	4.00	7.55
	[0.421]	[0.157]	[0.297]



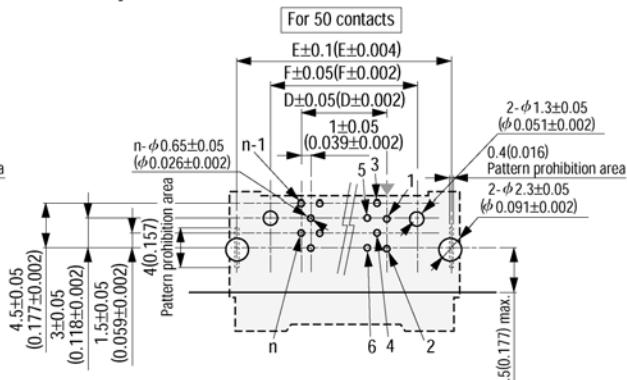
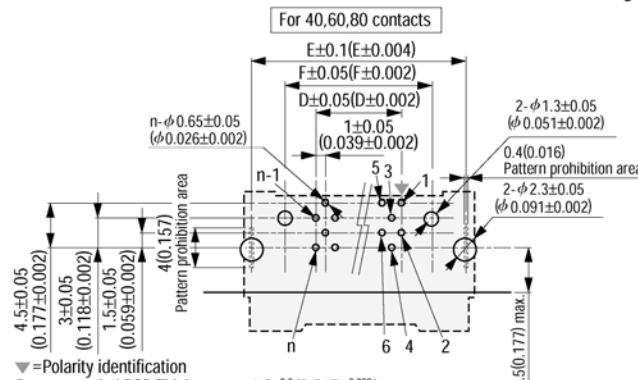
## X-X' Cross Section



## Z-Z' Cross Section



## Printed Circuit Board Layout (Component Side View)



## 3M™ Pak 10 Boardmount Plug

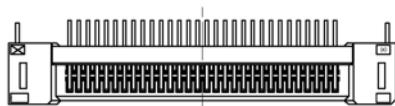
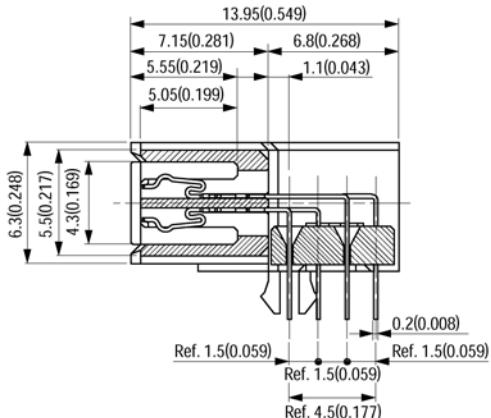
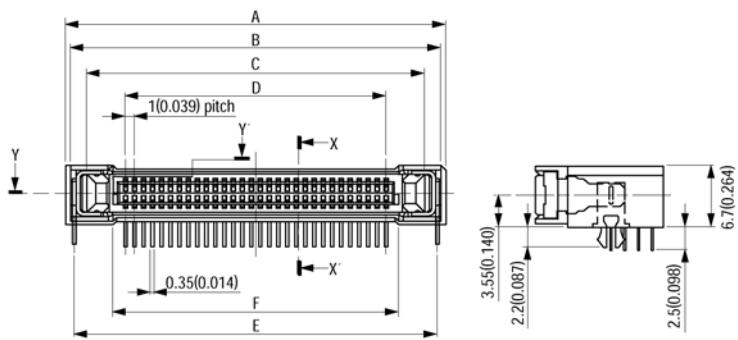
### 1 mm Right Angle, Through-Hole

## PK10M Series

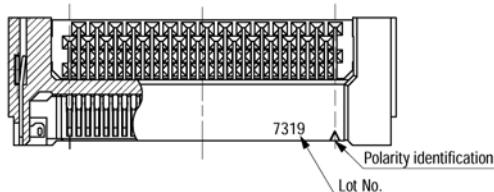
### Plug without Power Contacts and Standoff

## Product Table / Dimensions

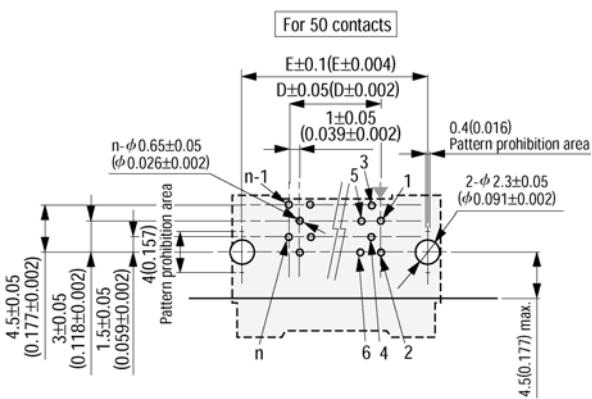
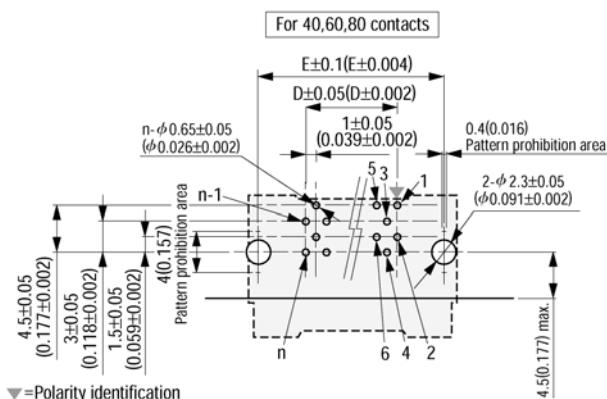
Contact Quantity	A	B	C	D	E	F
40	32.30	31.20	27.80	19.00	30.36	21.80
	[1.272]	[1.228]	[1.094]	[0.748]	[1.195]	[0.858]
50	37.30	36.20	32.80	24.00	35.36	26.80
	[1.469]	[1.425]	[1.291]	[0.945]	[1.392]	[1.055]
60	42.30	41.20	37.80	29.00	40.36	31.80
	[1.665]	[1.622]	[1.488]	[1.142]	[1.589]	[1.252]
80	52.30	51.20	47.80	39.00	50.36	41.80
	[2.059]	[2.016]	[1.882]	[1.535]	[1.983]	[1.646]



## Y-Y' Cross Section



## Printed Circuit Board Layout (Component Side View)



▼=Polarity identification

Recommended PCB Thickness  $t=1.2^{+0.2}_{-0.1}(0.047^{+0.008}_{-0.004})$   
 "n" is number of contacts.

## II. IS Number of contacts:

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Sheet 4 of 5

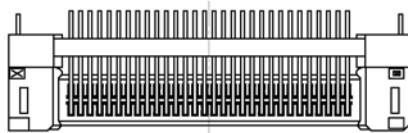
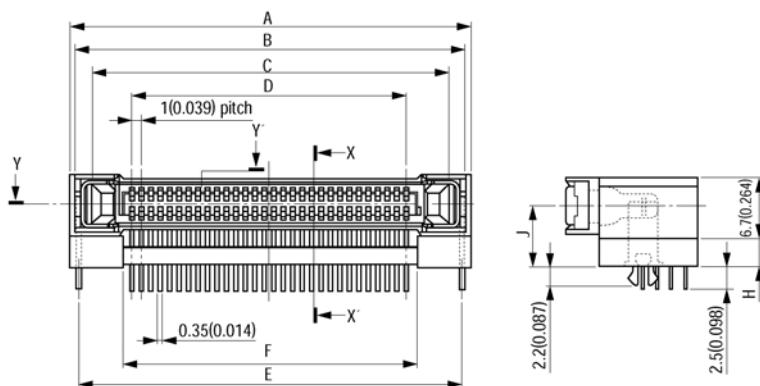
# 3M™ Pak 10 Boardmount Plug

1 mm Right Angle, Through-Hole

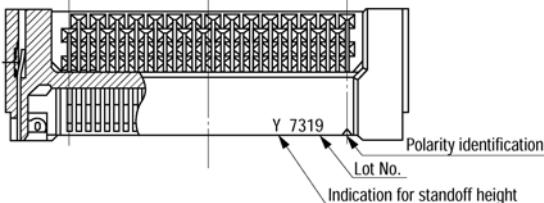
PK10M Series

## Plug without Power Contacts and with Standoff Product Table / Dimensions

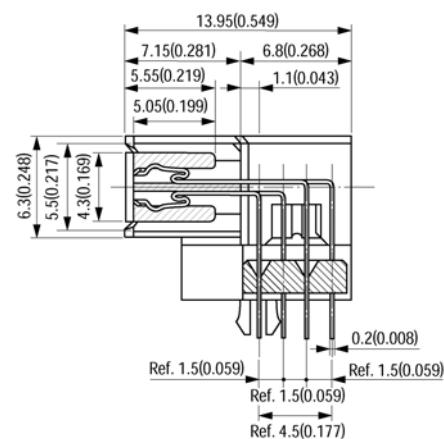
Contact Quantity	A	B	C	D	E	F
40	32.30	31.20	27.80	19.00	30.36	21.00
	[1.272]	[1.228]	[1.094]	[0.748]	[1.195]	[0.827]
50	37.30	36.20	32.80	24.00	35.36	26.00
	[1.469]	[1.425]	[1.291]	[0.945]	[1.392]	[1.024]
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	[1.665]	[1.622]	[1.488]	[1.142]	[1.589]	[1.220]
80	52.30	51.20	47.80	39.00	50.36	41.00
	[2.059]	[2.016]	[1.882]	[1.535]	[1.983]	[1.614]



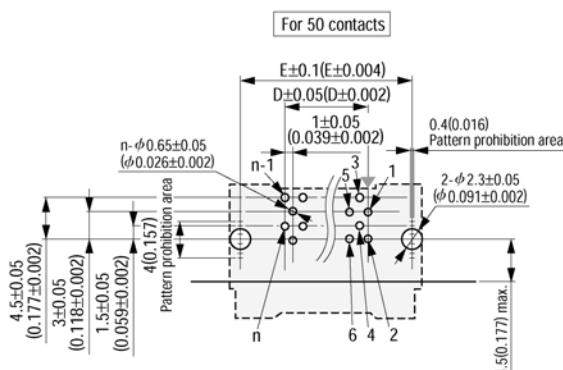
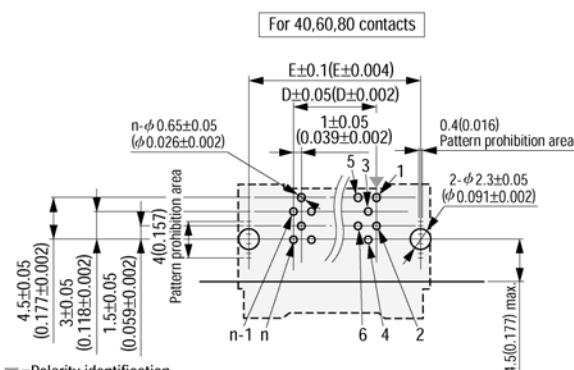
Y-Y' Cross Section



X-X' Cross Section



Printed Circuit Board Layout (Component Side View)



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