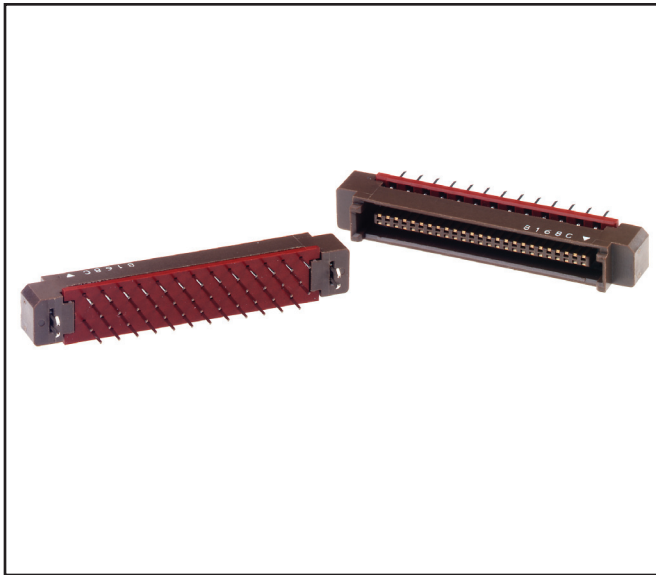


# 3M™ Pak 50 Low Profile Plug

.050" Vertical Stacking with and without Flanges

P50L Series



- Low profile offers mating heights between 0.276" - 0.472" (7-12 mm) for board stacking applications
- High temperature insulator compatible with IR and wave soldering
- Guide posts for easy mating/unmating
- Retention clips stabilize connector to the board during wave soldering
- 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: August 4, 2010

TS-2053-C  
Sheet 1 of 3

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## Physical

### Insulator:

Material: Glass Filled PPS

Flammability: UL 94V-0

Color: Black

Contact Material: Phosphor Bronze

### Plating:

Underplating: Nickel

Wiping Area: Gold Flash

Solder Tails: Gold Flash

Retaining Clips: Tin-Copper

Mating Compatibility: TS-1146, TS-2054

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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 MSL1 (per J-STD-020C)

UL File No.: E68080

# 3M™ Pak 50 Low Profile Plug

.050" Vertical Stacking with and without Flanges

P50L Series

## Plug with Flanges and Retention Clips

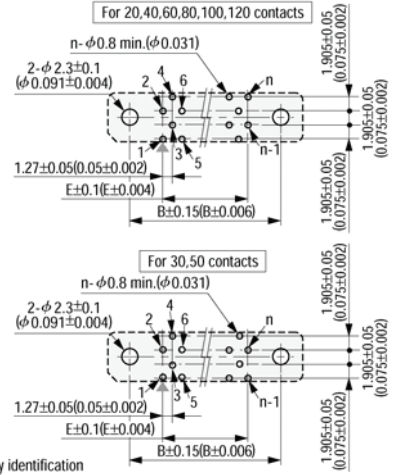
### Product Table / Dimensions

Contact Quantity	A	B	C	D	E
20	25.43 [1.001]	20.32 [0.800]	17.43 [0.686]	15.83 [0.623]	11.43 [0.450]
30	31.78 [1.251]	26.67 [1.050]	23.78 [0.936]	22.18 [0.873]	17.78 [0.700]
40	38.13 [1.501]	33.02 [1.300]	20.13 [1.186]	28.53 [1.123]	24.13 [0.950]
50	44.48 [1.751]	39.37 [1.550]	36.48 [1.436]	34.88 [1.373]	30.48 [1.200]
60	50.83 [2.001]	45.72 [1.800]	42.83 [1.686]	41.23 [1.623]	36.83 [1.450]
80	63.53 [2.501]	58.42 [2.300]	55.53 [2.186]	53.93 [2.123]	49.53 [1.950]
100	76.23 [3.001]	71.12 [2.800]	68.23 [2.686]	66.63 [2.623]	62.23 [2.450]
120	88.93 [3.501]	83.82 [3.300]	80.93 [3.186]	79.33 [3.123]	74.93 [2.950]

Type	F	G
A	3.50 [0.138]	0.80 [0.032]
C	5.50 [0.217]	2.80 [0.110]

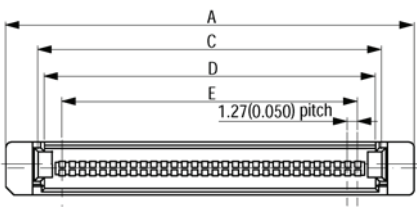


### Printed Circuit Board Layout (Component Side View)

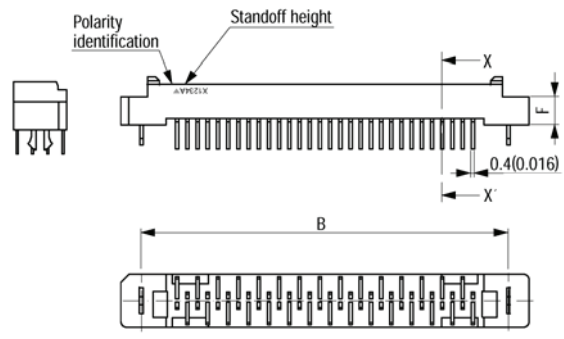
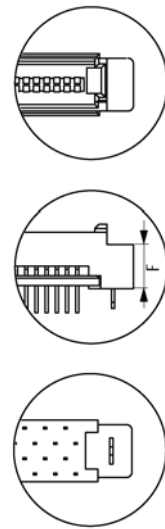


▽ = Polarity identification  
 Recommended PCB Thickness  $t = 1.6 \pm 0.19$  (0.063 ± 0.007)  
 \*n\* is number of contacts.

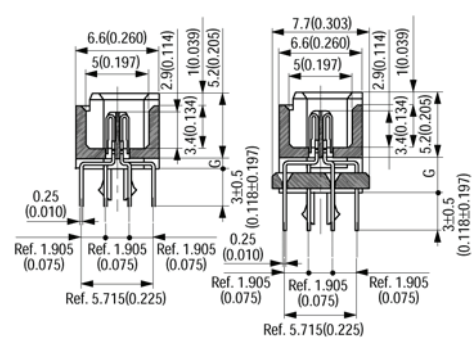
### A type (Standoff height)



### C type



### X-X' Cross Section



Note:  
 Plugs/Sockets with flanges and retention clips are not interchangeable with plugs/sockets without flanges and retention clips

## Ordering Information

**P5XL - XXXP - X - DA** (RIA E1 and C1 apply)

0 = With Flanges and Retention Clips  
 1 = Without Flanges and Retention Clips

A = Type A  
 C = Type C

Contact Quantity  
 See Table

# 3M™ Pak 50 Low Profile Plug

.050" Vertical Stacking with and without Flanges

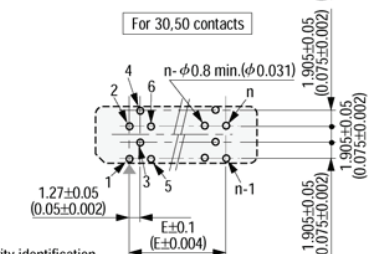
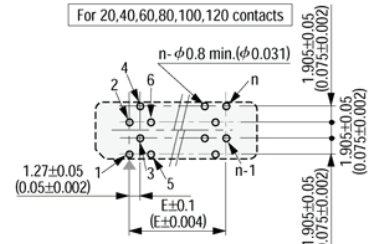
P50L Series

## Product Table / Dimensions

Plug without Flanges and Retention Clips

Contact Quantity	A	B	C	D	E
20	18.83 [0.741]	17.43 [0.686]	15.83 [0.623]	14.23 [0.560]	11.43 [0.450]
30	25.18 [0.991]	23.78 [0.936]	22.18 [0.873]	20.58 [0.810]	17.78 [0.700]
40	31.53 [1.241]	30.13 [1.186]	28.53 [1.123]	26.93 [1.060]	24.13 [0.950]
50	37.88 [1.491]	36.48 [1.436]	34.88 [1.373]	33.28 [1.310]	30.48 [1.200]
60	44.23 [1.741]	42.83 [1.686]	41.23 [1.623]	39.63 [1.560]	36.83 [1.450]
80	56.93 [2.241]	55.53 [2.186]	53.93 [2.123]	52.33 [2.060]	49.53 [1.950]
100	69.63 [2.741]	68.23 [2.686]	66.63 [2.623]	65.03 [2.560]	62.23 [2.450]
120	82.33 [3.241]	80.93 [3.186]	79.33 [3.123]	77.73 [3.060]	74.93 [2.950]

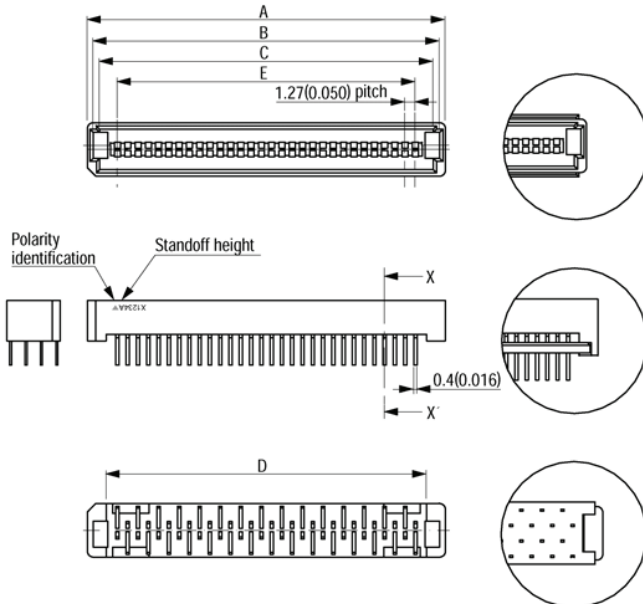
## Printed Circuit Board Layout (Component Side View)



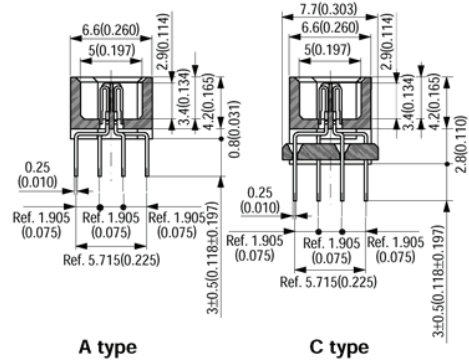
▽ = Polarity identification  
Recommended PCB Thickness  $t = 1.6 \pm 0.19 (0.063 \pm 0.007)$   
"n" is number of contacts.

## A type (Standoff height)

## C type

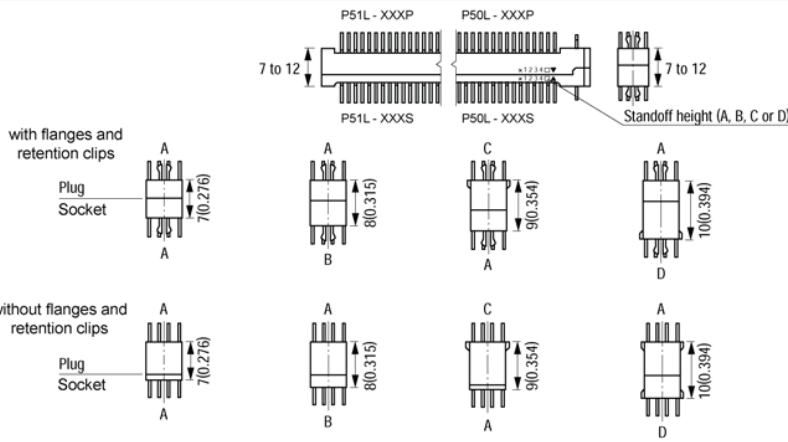


## X-X' Cross Section



A type

C type



TS-2053-C  
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