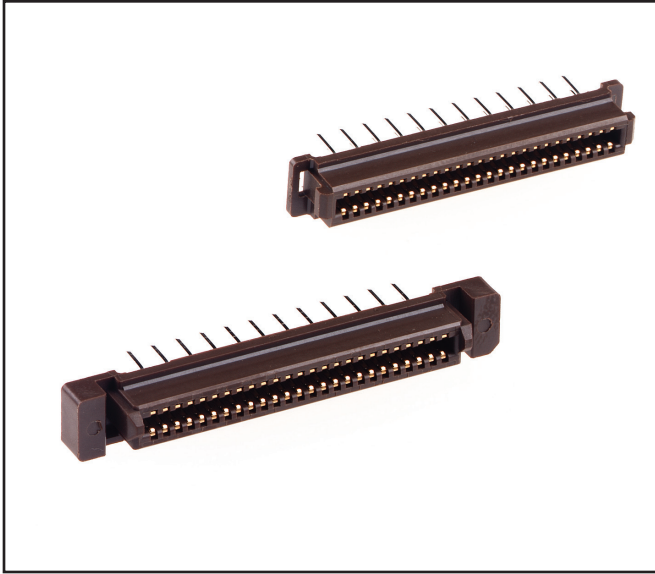


# 3M™ Pak 50 Low Profile Socket

.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-2054-C  
Sheet 1 of 3

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## Physical

### Insulator:

Material: Glass Filled PPS

Flammability: UL 94V-0

Color: Brown

Alignment Plate: Glass Filled Nylon (Brown)

Contact Material: Phosphor Bronze

### Plating:

Underplating: Nickel

Wiping Area: Gold Flash

Solder Tails: Gold Flash

Retaining Clips: Tin-Copper

Mating Compatibility: TS-1145, TS-1161, TS-2053

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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 Socket

.050" Vertical Stacking with and without Flanges

P50L Series

## Socket with Flanges and Retention Clips

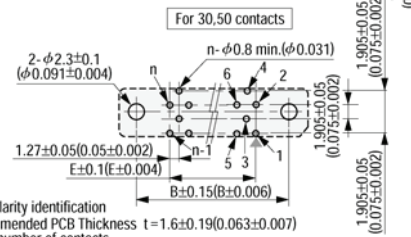
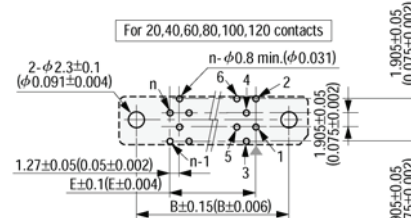
### Product Table / Dimensions

| Contact Quantity | A                | B                | C                | D                | E                |
|------------------|------------------|------------------|------------------|------------------|------------------|
| 20               | 25.43<br>[1.001] | 20.32<br>[0.800] | 17.03<br>[0.670] | 15.43<br>[0.607] | 11.43<br>[0.450] |
| 30               | 31.78<br>[1.251] | 26.67<br>[1.050] | 23.38<br>[0.920] | 21.78<br>[0.857] | 17.78<br>[0.700] |
| 40               | 38.13<br>[1.501] | 33.02<br>[1.300] | 29.73<br>[1.170] | 28.13<br>[1.107] | 24.13<br>[0.950] |
| 50               | 44.48<br>[1.751] | 39.37<br>[1.550] | 36.08<br>[1.420] | 34.48<br>[1.357] | 30.48<br>[1.200] |
| 60               | 50.83<br>[2.001] | 45.72<br>[1.800] | 42.43<br>[1.670] | 40.83<br>[1.607] | 36.83<br>[1.450] |
| 80               | 63.53<br>[2.501] | 58.42<br>[2.300] | 55.13<br>[2.170] | 53.53<br>[2.107] | 49.53<br>[1.950] |
| 100              | 76.23<br>[3.001] | 71.12<br>[2.800] | 67.83<br>[2.670] | 66.23<br>[2.607] | 62.23<br>[2.450] |
| 120              | 88.93<br>[3.501] | 83.82<br>[3.300] | 80.53<br>[3.170] | 78.93<br>[3.107] | 74.93<br>[2.950] |



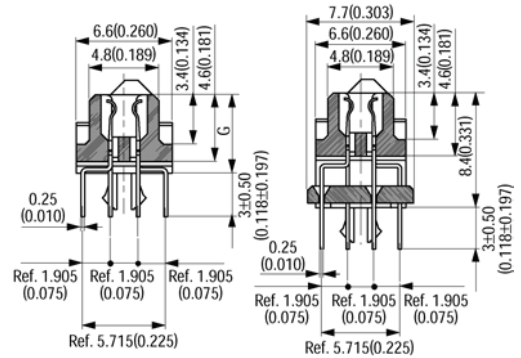
| Type | F               | G               |
|------|-----------------|-----------------|
| A    | 3.50<br>[0.138] | 5.40<br>[0.213] |
| B    | 4.50<br>[0.177] | 6.40<br>[0.252] |
| D    | 6.50<br>[0.256] | NA<br>NA        |

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

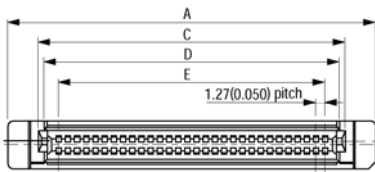


▽ = Polarity identification  
Recommended PCB Thickness t = 1.6±0.19(0.063±0.007)  
"n" is number of contacts.

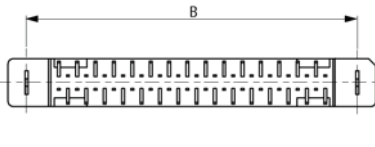
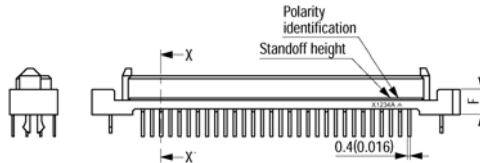
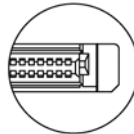
### X-X' Cross Section



### A, B type (Standoff height)



### D type



Note:

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

## Ordering Information

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

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

A = Type A  
B = Type B  
D = Type D

Contact Quantity  
See Table

TS-2054-C  
Sheet 2 of 3

# 3M™ Pak 50 Low Profile Socket

.050" Vertical Stacking with and without Flanges

P50L Series

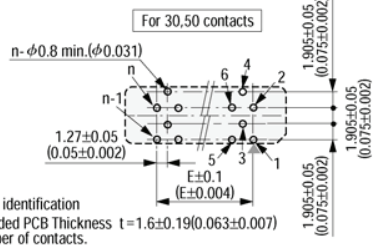
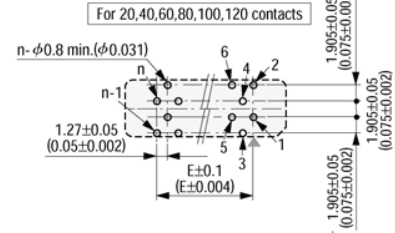
## Product Table / Dimensions

Socket without Flanges and Retention Clips

| Contact Quantity | A                | B                | C                | D                | E                |
|------------------|------------------|------------------|------------------|------------------|------------------|
| 20               | 18.83<br>[0.741] | 17.03<br>[0.670] | 14.53<br>[0.572] | 13.43<br>[0.529] | 11.43<br>[0.450] |
| 30               | 25.18<br>[0.991] | 23.38<br>[0.920] | 20.88<br>[0.822] | 19.78<br>[0.779] | 17.78<br>[0.700] |
| 40               | 31.53<br>[1.241] | 29.73<br>[1.170] | 27.23<br>[1.072] | 26.13<br>[1.029] | 24.13<br>[0.950] |
| 50               | 37.88<br>[1.491] | 36.08<br>[1.420] | 33.58<br>[1.322] | 32.48<br>[1.279] | 30.48<br>[1.200] |
| 60               | 44.23<br>[1.741] | 42.43<br>[1.670] | 39.93<br>[1.572] | 38.83<br>[1.529] | 36.83<br>[1.450] |
| 80               | 56.93<br>[2.241] | 55.13<br>[2.170] | 52.63<br>[2.072] | 51.53<br>[2.029] | 49.53<br>[1.950] |
| 100              | 69.63<br>[2.741] | 67.83<br>[2.670] | 65.33<br>[2.572] | 64.23<br>[2.529] | 62.23<br>[2.450] |
| 120              | 82.33<br>[3.241] | 80.53<br>[3.170] | 78.03<br>[3.072] | 76.93<br>[3.029] | 74.93<br>[2.950] |

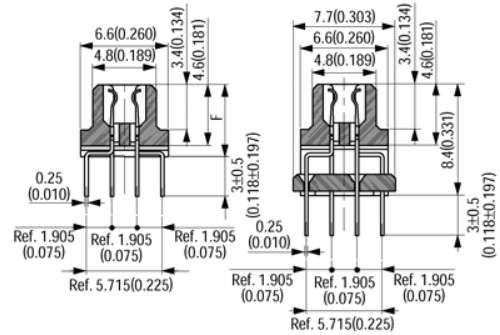
| Type | F               |
|------|-----------------|
| A    | 5.40<br>[0.213] |
| B    | 6.40<br>[0.252] |

## Printed Circuit Board Layout (Component Side View)



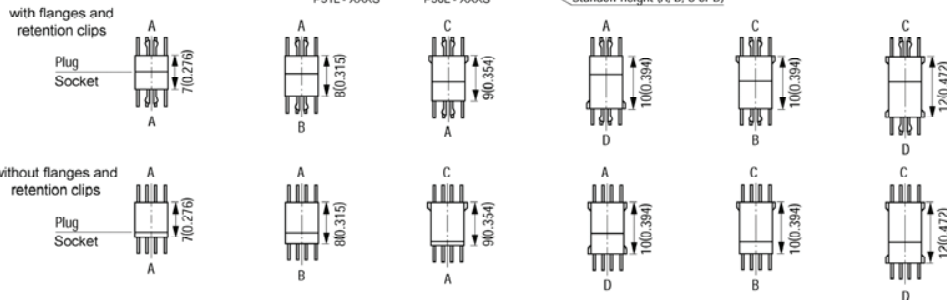
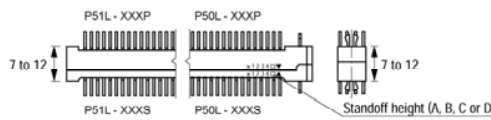
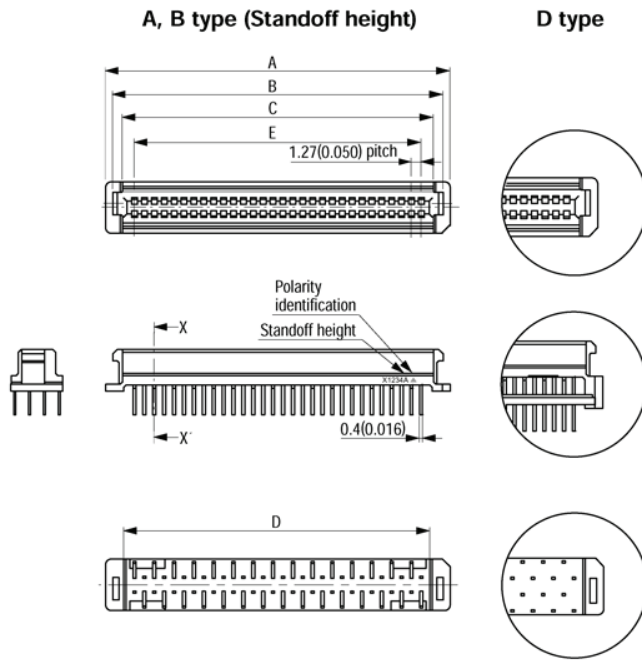
▽ = Polarity identification  
Recommended PCB Thickness  $t = 1.6 \pm 0.19 (0.063 \pm 0.007)$   
"n" is number of contacts.

## X-X' Cross Section



A, B type

D type



TS-2054-C  
Sheet 3 of 3

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