

# 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

## 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

## 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

## Environmental

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

**Process Rating:** 260°C MSL1 (per J-STD-020C)

UL File No.: E68080

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

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**800-225-5373**

# 3M™ Pak 50 Low Profile Socket

.050" Vertical Stacking with and without Flanges

P50L Series

## Socket with Flanges and Retention Clips

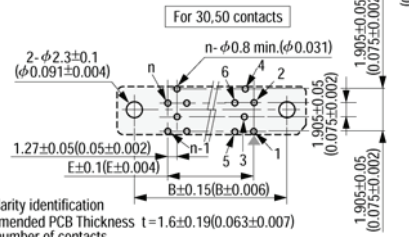
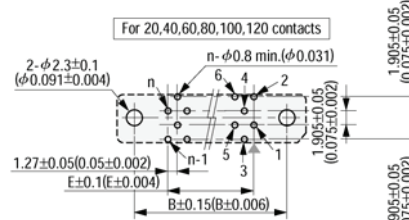
### Product Table / Dimensions

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



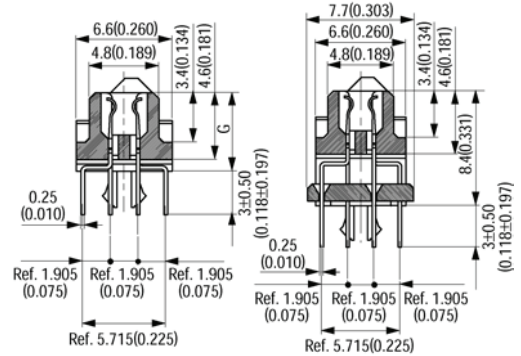
Type	F	G
A	3.50 [0.138]	5.40 [0.213]
B	4.50 [0.177]	6.40 [0.252]
D	6.50 [0.256]	NA NA

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

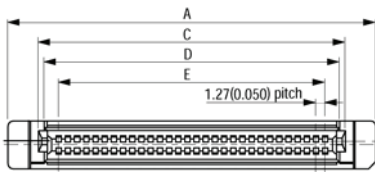


▽ = Polarity identification  
Recommended PCB Thickness t = 1.6±0.19(0.063±0.007)  
"n" is number of contacts.

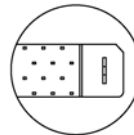
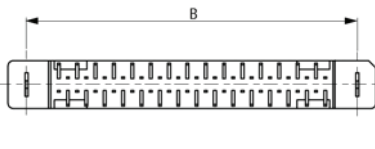
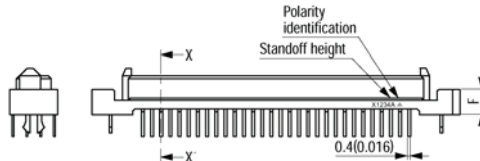
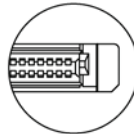
### X-X' Cross Section



### 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

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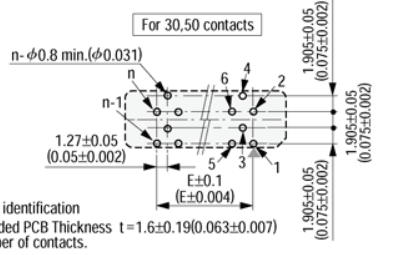
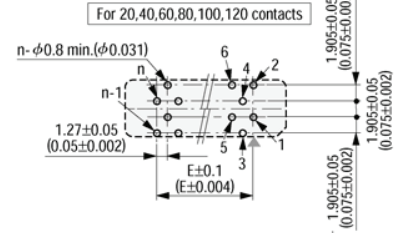
## Socket without Flanges and Retention Clips

### Product Table / Dimensions

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

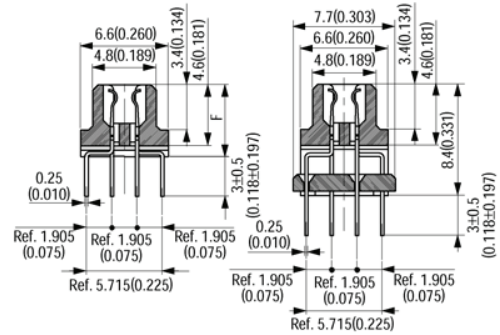
Type	F
A	5.40 [0.213]
B	6.40 [0.252]

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



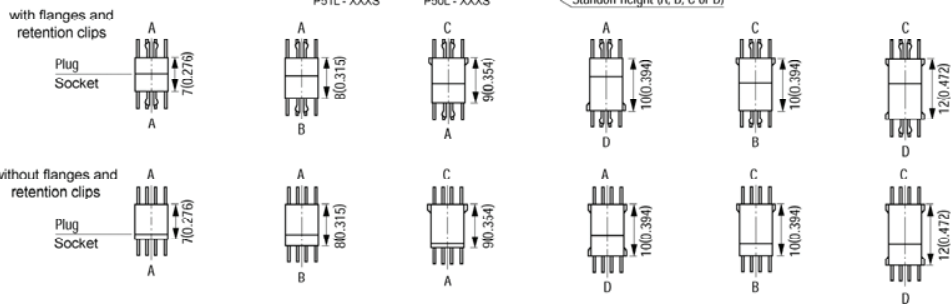
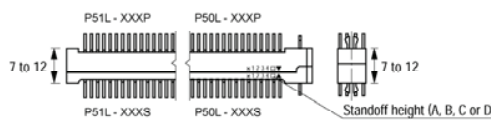
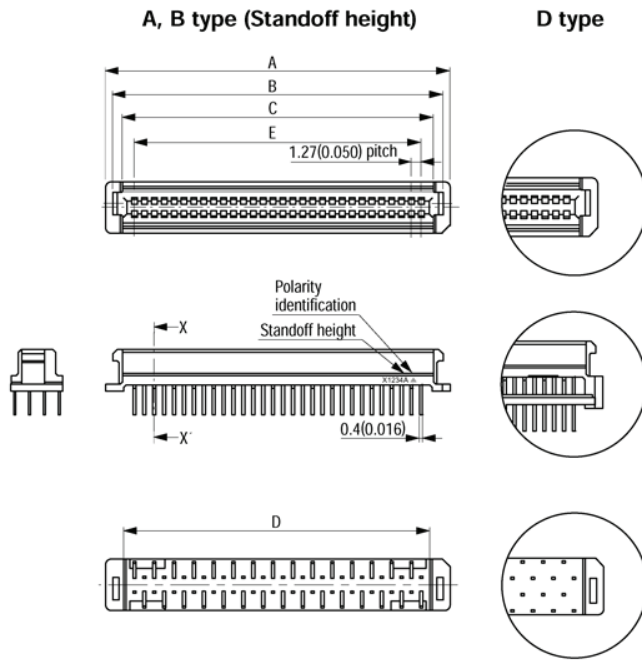
▽ = Polarity identification  
Recommended PCB Thickness  $t = 1.6 \pm 0.19 (0.063 \pm 0.007)$   
"n" is number of contacts.

### X-X' Cross Section



A, B type

D type



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**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)

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