# 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

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Date Modified: March 30, 2003

# **Physical**

#### Insulation

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: See Ordering Information Solder Tails: Tin Alloy over Nickel

### **Electrical**

**Current Rating:** 0.5 A

**Insulation Resistance:**  $10^3 \text{ M}\Omega \text{ min.}$  at 500 VDC **Withstanding Voltage** 650 VAC for 1 minute

### **Environmental**

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

**UL File No.: E68080** 

#### Socket with Flanges and Retention Clips **Product Table / Dimensions** Contact $\mathbf{C}$ D E F G Type Quantity 25.43 20.32 17.03 15.43 11.43 3.50 5.40 [1.001] [0.800] [0.670] [0.607] [0.450] [0.138] [0.213 30 31.78 26.67 23.38 21.78 17.78 B 4.50 6.40 [1.050] [1.251] [0.920] [0.700] [0.252 [0.857] [0 177 38.13 33.02 29.73 28.13 24.13 6.50 NA [1.501][1.300][1.170][1.107][0.950][0.256]NA 44.48 39.37 36.08 34.48 30.48 50 [1.751] [1.550] [1.420] [1.357] [1.200] **Printed Circuit Board Layout** 60 50.83 45.72 42.43 40.83 36.83 (Component Side View) [2.001] [1.800] [1.670] [1.607] [1.450] For 20,40,60,80,100,120 contacts 80 58.42 49.53 63.53 55.13 53.53 n- φ0.8 min.(φ0.031) [2.501] [2.300] [2.170] [2.107] [1.950] 2-\$\phi 2.3\pm 0.1 (\$\phi 0.091\pm 0.004) 100 71.12 [3.001] [2.800] [2.670] [2.607] [2.450] 120 88.93 83.82 80.53 78.93 74.93 [3.501] [3.300] [3.170] [3.107] [2.950] 1.27±0.05(0.05±0.002) E±0.1(E±0.004) B±0.15(B±0.006) For 30,50 contacts A, B type (Standoff height) D type n- \$\phi 0.8 min.(\$\phi 0.031) 2-\$\phi\_2.3\pmu\_0.1 (\$\phi\_0.091\pmu\_0.004) 1.27(0.050) pitch 1.27±0.05(0.05±0.002) E±0.1(E±0.004) B±0.15(B±0.006) =Polarity identification Recommended PCB Thickness t=1.6±0.19(0.063±0.007) "n" is number of contacts. Polarity identification X-X' Cross Section Standoff height 7.7(0.303) 6.6(0.260) 6.6(0.260) 4.8(0.189) $3\pm0.50$ 0.25 (0.010) (0.010) Ref. 1.905 Ref. 1.905 (0.075) Ref. 1.905 (0.075) Ref. 1.905 (0.075) (0.075) (0.075) (0.075) Ref. 5.715(0.225) Ref. 5.715(0.225) Plugs/Sockets with flanges and retention clips are not interchangeable with plugs/sockets without flanges and retention clips A, B type D type **Ordering Information** P5XL - XXXS - X - XXX 0 = With Flanges and Retention Clips Plating Options: 1 = Without Flanges and Retention Clips TGF = 2 $\mu$ " [ 0.05 $\mu$ m ] min. Gold TG = 10 $\mu$ " [ 0.25 $\mu$ m ] min. Gold Contact Quantity A = Type A B = Type B D = Type D TS-2054-01 Sheet 2 of 3

#### Socket without Flanges and Retention Clips **Product Table / Dimensions Printed Circuit Board Layout** (Component Side View) Contact $\mathbf{C}$ D E В Quantity For 20,40,60,80,100,120 contacts 18.83 17.03 14.53 13.43 11.43 n- $\phi$ 0.8 min.( $\phi$ 0.031) [0.741][0.670] [0.572] [0.529 [0.450] 30 25.18 23.38 20.88 19.78 17.78 [0.991] [0.920] [0.822] [0.779] [0.700] 40 31.53 29.73 27.23 26.13 24.13 [1.241] [1.170] [1.072] [1.029] [0.950] 50 37.88 36.08 33.58 32.48 30.48 [1.491] [1.420] [1.200] [1.322] [1.279] 44.23 42.43 38.83 36.83 For 30,50 contacts [1.741] [1.670] [1.572] [1.529] [1.450] 55.13 $n-\phi 0.8 \text{ min.} (\phi 0.031)$ 56.93 51.53 49.53 52.63 Type [2.241] [2.170] [2.072] [2.029] [1.950] 5.40 100 69.63 67.83 65.33 64.23 62.23 [0.213] В [2.741] [2.670] [2.572][2.529][2.450] 6.40 [0.252] 82.33 76.93 120 80.53 78.03 74.93 (0.05±0.002) [3.241] [3.170] [3.072] [3.029] [2.950] (E±0.004) Recommended PCB Thickness t=1.6±0.19(0.063±0.007) "n" is number of contacts. A, B type (Standoff height) D type 1.27(0.050) pitch X-X Cross Section 7.7(0.303) 6.6(0.260) 6.6(0.260) Polarity identification 4.8(0.189) 4.8(0.189) Standoff height 0.010) 0.25 0.010) Ref. 1.905 Ref. 1.905 Ref. 1.905 (0.075) (0.075) Ref. 1.905 (0.075) Ref. 1.905 (0.075) Ref. 5.715(0.225) Ref. 5.715(0.225) A, B type D type Stacked Mating Combinations P51L - XXXP Standoff height (A, B, C or D) with flanges and retention clips 11 Plug without flanges and retention clips Plug Socket TS-2054-01 Sheet 3 of 3

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