

# 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 version (DA plating suffix) available

Date Modified: March 1, 2006

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## Physical

### Insulation

Material: Glass filled PPS  
Flammability: UL 94V-0  
Color: Black

### Contact

Material: Phosphor Bronze

### Plating

Underplating: Nickel  
Wiping Area: Gold flash  
Solder Tails: Tin Alloy over Nickel or Gold Flash (RoHS compliant)  
Retaining Clips: Tin lead or tin-copper (RoHS compliant)

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## Electrical

**Current Rating:** 0.5 A  
**Insulation Resistance:**  $10^3 \Omega$  at 500 Vdc  
**Withstanding Voltage:** 650V AC for 1 minute

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## Environmental

**Temperature Rating:** -55°C to +85°C  
**Process Rating:** 260°C (per J-STD-020C)

"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.

File No.: E68080

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.050" Vertical Stacking with and without Flanges

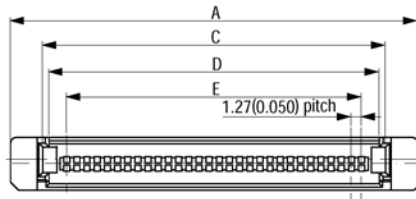
P50L Series

## Plug with Flanges and Retention Clips

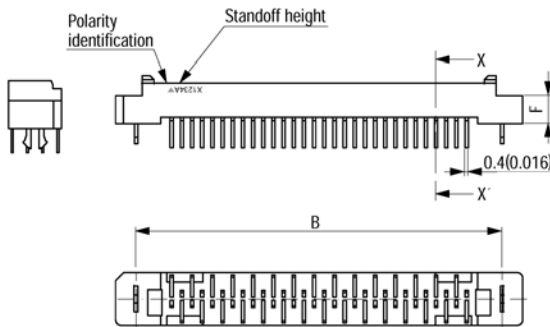
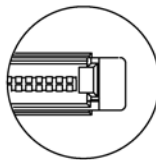
### Product Table / Dimensions

Contact Quantity	A	B	C	D	E
20	25.43	20.32	17.43	15.83	11.43
	[1.001]	[0.800]	[0.686]	[0.623]	[0.450]
30	31.78	26.67	23.78	22.18	17.78
	[1.251]	[1.050]	[0.936]	[0.873]	[0.700]
40	38.13	33.02	30.13	28.53	24.13
	[1.501]	[1.300]	[1.186]	[1.123]	[0.950]
50	44.48	39.37	36.48	34.88	30.48
	[1.751]	[1.550]	[1.436]	[1.373]	[1.200]
60	50.83	45.72	42.83	41.23	36.83
	[2.001]	[1.800]	[1.686]	[1.623]	[1.450]
80	63.53	58.42	55.53	53.93	49.53
	[2.501]	[2.300]	[2.186]	[2.123]	[1.950]
100	76.23	71.12	68.23	66.63	62.23
	[3.001]	[2.800]	[2.686]	[2.623]	[2.450]
120	88.93	83.82	80.93	79.33	74.93
	[3.501]	[3.300]	[3.186]	[3.123]	[2.950]

A type (Standoff height)



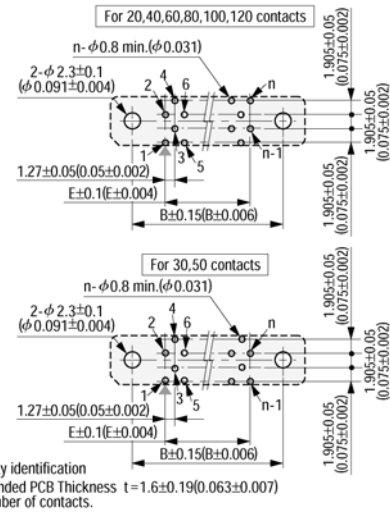
C type



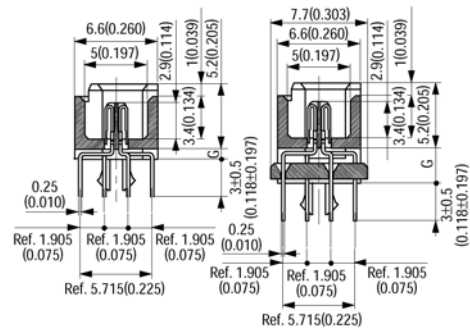
Note:  
Plugs/Sockets with flanges and retention clips are not interchangeable with plugs/sockets without flanges and retention clips

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

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



### X-X' Cross Section



A type

C type

## Ordering Information

**P5XL - XXXP - X - XXX**

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

Contact Quantity  
See Table

A = Type A  
C = Type C

Plating Options:  
TGF =  $2 \mu\text{m}$  [  $0.05 \mu\text{m}$  ] min. Gold with Sn-Pb solder tails  
DA = Gold flash overall (RoHS compliant)

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# 3M™ Pak 50 Low Profile Plug

.050" Vertical Stacking with and without Flanges

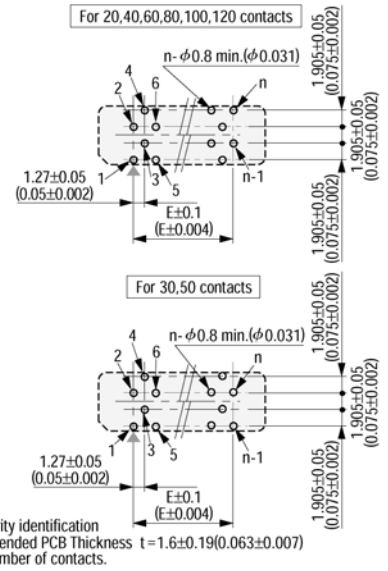
P50L Series

Product Table / Dimensions

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

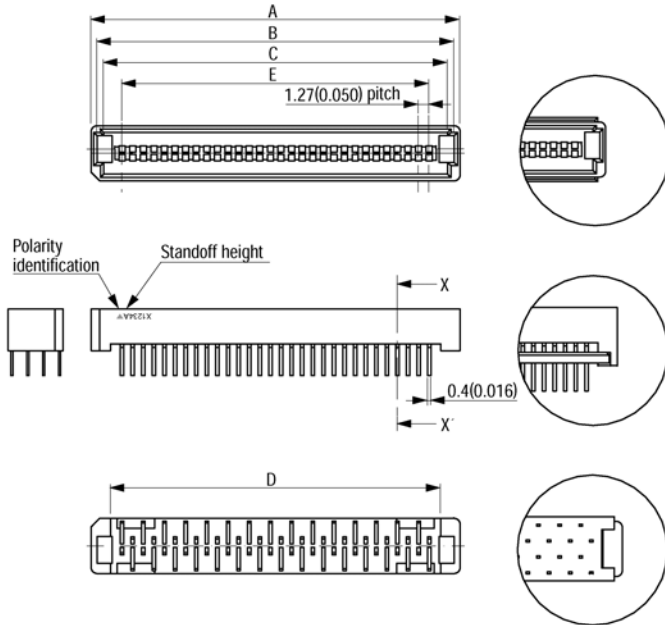
Plug without Flanges and Retention Clips

Printed Circuit Board Layout (Component Side View)

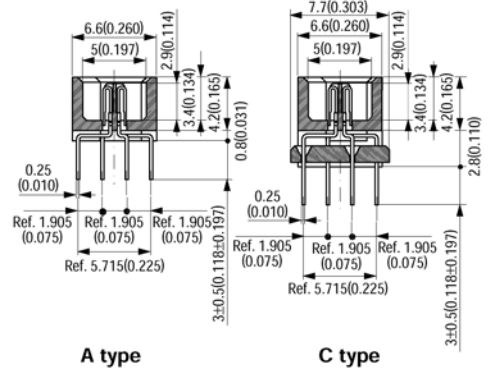


A type (Standoff height)

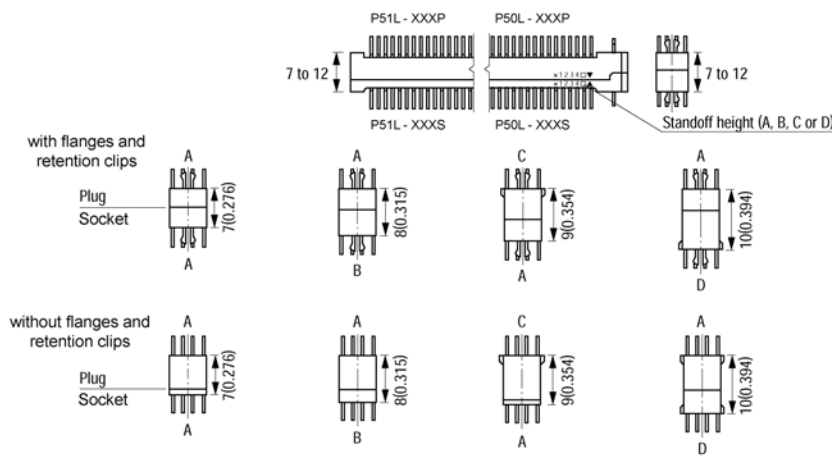
C type



X-X' Cross Section



Stacked Mating Combinations



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Minimum 10%  
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