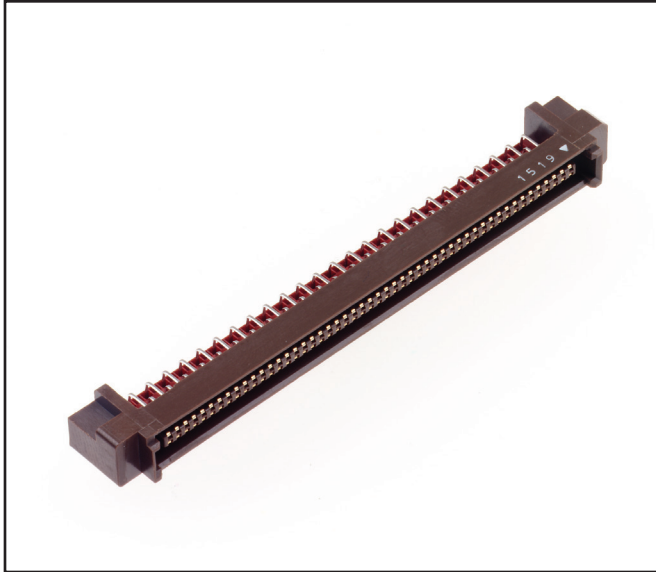


3M™ Pak 50 Plug

.050" Low Profile, Right Angle, Stacking Plug

P50L Series



- Low profile 0.276" (7 mm) from PCB surface
- High temperature insulator compatible with IR and wave soldering
- Glass filled 46 Nylon alignment plate offers high temperature resistance
- Optional plug standoffs allow offset of mated board by 1.0 - 4.0 mm
- 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 for compliance information (RIA E1 and C1 apply)

Date Modified: December 14, 2010

TS-1145-C
Sheet 1 of 4

Physical

Insulator:

Material: Glass Filled PPS

Flammability: UL 94V-0

Color: Brown

Alignment Plate: Glass filled Nylon (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

Electrical

Current Rating: 0.5 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ at 500 V_{DC}

Withstanding Voltage: 650 V_{AC} for 1 minute

Environmental

Temperature Rating: -55°C to +85°C

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

UL File No.: E68080



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

3M is a trademark of 3M Company.
For technical, sales or ordering information call
800-225-5373

3M™ Pak 50 Plug

.050" Low Profile, Right Angle, Stacking Plug

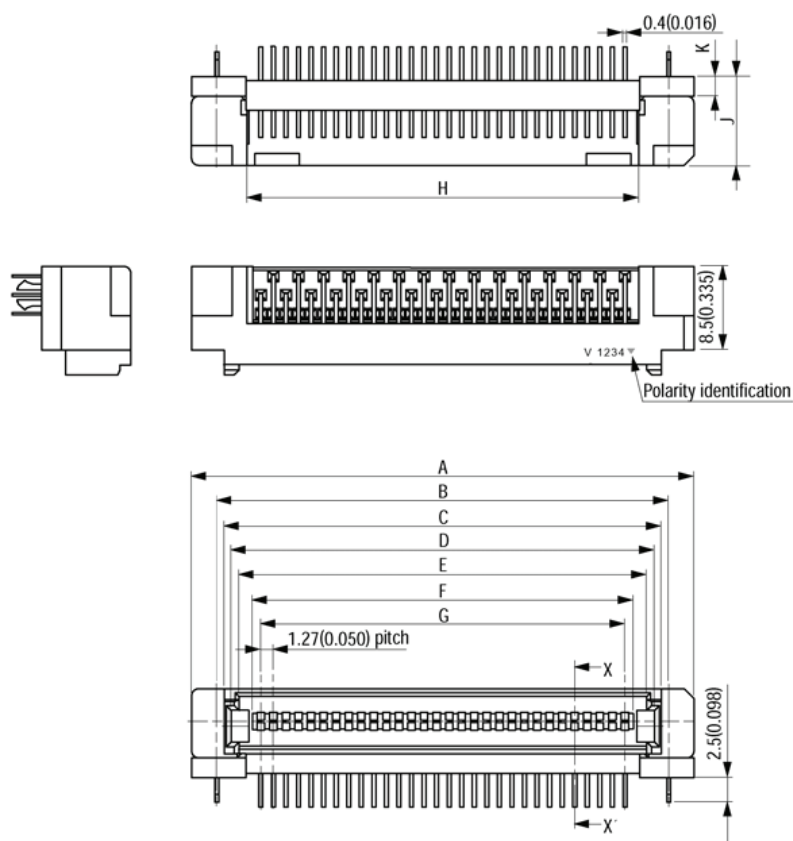
P50L Series

Product Table / Dimensions

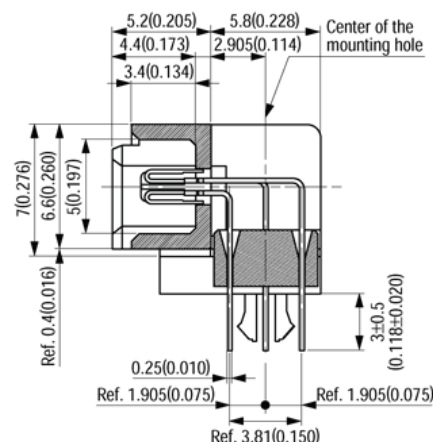
Contact Quantity	A	B	C	D	E	F	G	H
20	25.43 [1.001]	20.32 [0.800]	18.83 [0.741]	17.43 [0.686]	15.83 [0.623]	13.13 [0.517]	11.43 [0.450]	14.23 [0.560]
30	31.78 [1.251]	26.67 [1.050]	25.18 [0.991]	23.78 [0.936]	22.18 [0.873]	19.48 [0.767]	17.78 [0.700]	20.58 [0.810]
40	38.13 [1.501]	33.02 [1.300]	31.53 [1.241]	30.13 [1.186]	28.53 [1.123]	25.83 [1.017]	24.13 [0.950]	26.93 [1.060]
50	44.48 [1.751]	39.37 [1.550]	37.88 [1.491]	36.48 [1.436]	34.88 [1.373]	32.18 [1.267]	30.48 [1.200]	33.28 [1.310]
60	50.83 [2.001]	45.72 [1.800]	44.23 [1.741]	42.83 [1.686]	41.23 [1.623]	38.53 [1.517]	36.83 [1.450]	39.63 [1.560]
80	63.53 [2.501]	58.42 [2.300]	56.93 [2.241]	55.53 [2.186]	53.93 [2.123]	51.23 [2.017]	49.53 [1.950]	52.33 [2.060]
100	76.23 [3.001]	71.12 [2.800]	69.63 [2.741]	68.23 [2.686]	66.63 [2.623]	63.93 [2.517]	62.23 [2.450]	65.03 [2.560]

Connector Height

Height Code	J	K
RR2	8.0 [0.315]	1.0 [0.039]
RR3	8.5 [0.335]	1.5 [0.059]
RR4	9.0 [0.354]	2.0 [0.079]
RR5	9.5 [0.374]	2.5 [0.098]
RR6	10.0 [0.394]	3.0 [0.118]
RR7	11.0 [0.433]	4.0 [0.157]



X-X' Cross Section



Ordering Information

P50L - XXXP - XXX - DA (RIA E1 and C1 apply)

Contact Quantity:
See Table

Standoff Height
RR2 = 1.0 mm [0.039"]
RR3 = 1.5 mm [0.059"]
RR4 = 2.0 mm [0.079"]
RR5 = 2.5 mm [0.098"]
RR6 = 3.0 mm [0.118"]
RR7 = 4.0 mm [0.157"]

TS-1145-C
Sheet 2 of 4



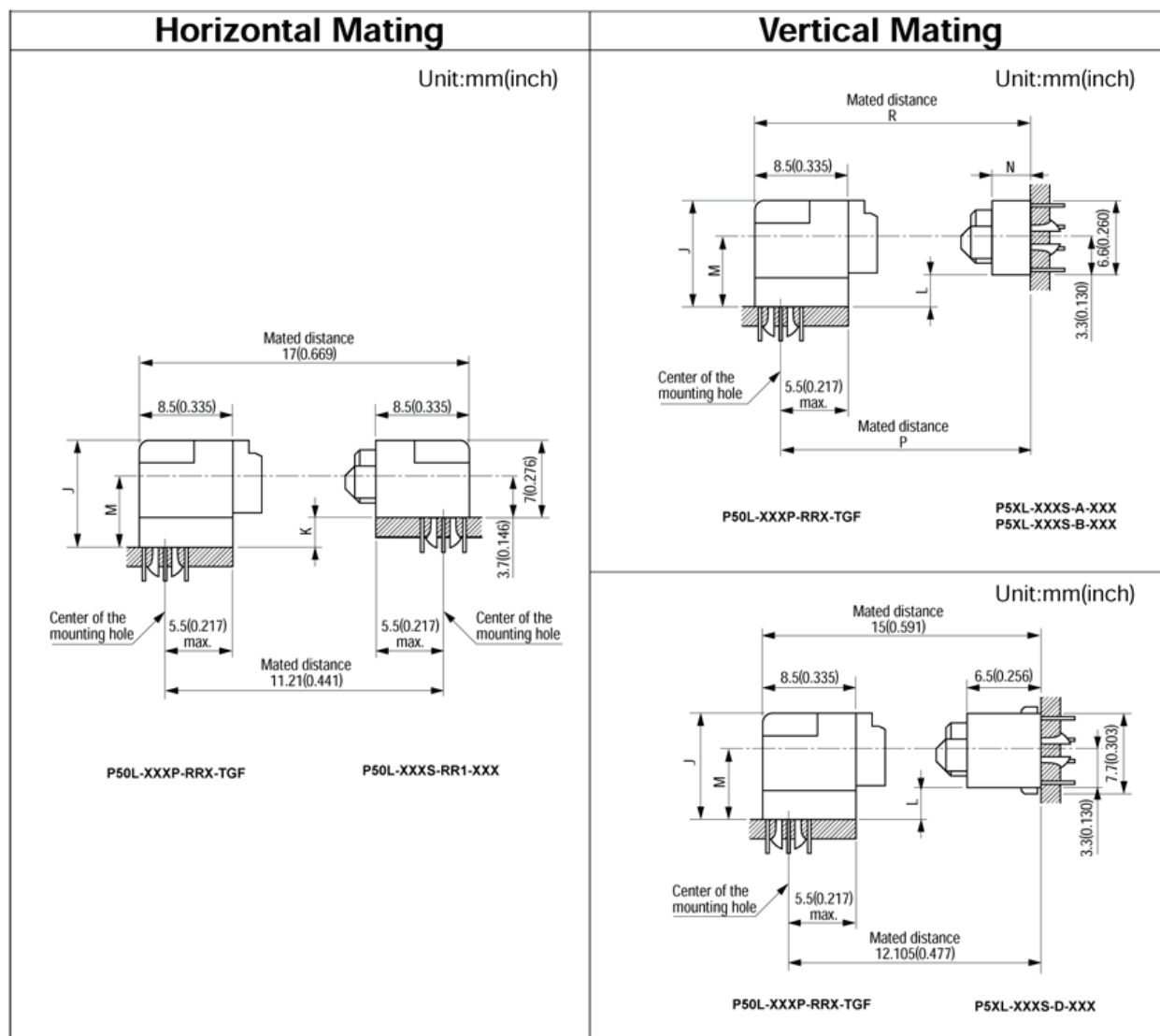
Electronic Solutions Division
Interconnect Solutions
<http://www.3Mconnector.com>

3M is a trademark of 3M Company.
For technical, sales or ordering information call
800-225-5373

3M™ Pak 50 Plug

.050" Low Profile, Right Angle, Stacking Plug

P50L Series



Part Number		P50L-XXXP-RR2-TGF	P50L-XXXP-RR3-TGF	P50L-XXXP-RR4-TGF	P50L-XXXP-RR5-TGF	P50L-XXXP-RR6-TGF	P50L-XXXP-RR7-TGF
P50L-XXXS-RR1-XXX	J	8.0 [0.315]	8.5 [0.335]	9.0 [0.354]	9.5 [0.374]	10.0 [0.394]	11.0 [0.433]
	K	1.0 [0.039]	1.5 [0.059]	2.0 [0.079]	2.5 [0.098]	3.0 [0.118]	4.0 [0.157]
	M	4.7 [0.185]	5.2 [0.205]	5.7 [0.224]	6.2 [0.244]	6.7 [0.264]	7.7 [0.303]
P50L-XXXS-A-XXX P51L-XXXS-A-XXX	J	8.0 [0.315]	8.5 [0.335]	9.0 [0.354]	9.5 [0.374]	10.0 [0.394]	11.0 [0.433]
	L	1.4 [0.055]	1.9 [0.075]	2.4 [0.094]	2.9 [0.114]	3.4 [0.134]	4.4 [0.173]
	M	4.7 [0.185]	5.2 [0.205]	5.7 [0.224]	6.2 [0.244]	6.7 [0.264]	7.7 [0.303]
	N	3.5 [0.138]	3.5 [0.138]	3.5 [0.138]	3.5 [0.138]	3.5 [0.138]	3.5 [0.138]
	P	9.105 [0.358]	9.105 [0.358]	9.105 [0.358]	9.105 [0.358]	9.105 [0.358]	9.105 [0.358]
P50L-XXXS-B-XXX P51L-XXXS-B-XXX	R	12.0 [0.472]	12.0 [0.472]	12.0 [0.472]	12.0 [0.472]	12.0 [0.472]	12.0 [0.472]
	J	8.0 [0.315]	8.5 [0.335]	9.0 [0.354]	9.5 [0.374]	10.0 [0.394]	11.0 [0.433]
	L	1.4 [0.055]	1.9 [0.075]	2.4 [0.094]	2.9 [0.114]	3.4 [0.134]	4.4 [0.173]
	M	4.7 [0.185]	5.2 [0.205]	5.7 [0.224]	6.2 [0.244]	6.7 [0.264]	7.7 [0.303]
	N	4.5 [0.177]	4.5 [0.177]	4.5 [0.177]	4.5 [0.177]	4.5 [0.177]	4.5 [0.177]
P50L-XXXS-D-XXX P51L-XXXS-D-XXX	P	10.105 [0.398]	10.105 [0.398]	10.105 [0.398]	10.105 [0.398]	10.105 [0.398]	10.105 [0.398]
	R	13.0 [0.512]	13.0 [0.512]	13.0 [0.512]	13.0 [0.512]	13.0 [0.512]	13.0 [0.512]
	J	8.0 [0.315]	8.5 [0.335]	9.0 [0.354]	9.5 [0.374]	10.0 [0.394]	11.0 [0.433]
P50L-XXXS-D-XXX P51L-XXXS-D-XXX	L	1.4 [0.055]	1.9 [0.075]	2.4 [0.094]	2.9 [0.114]	3.4 [0.134]	4.4 [0.173]
	M	4.7 [0.185]	5.2 [0.205]	5.7 [0.224]	6.2 [0.244]	6.7 [0.264]	7.7 [0.303]

TS-1145-C
Sheet 3 of 4

3M

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

3M is a trademark of 3M Company.
For technical, sales or ordering information call
800-225-5373

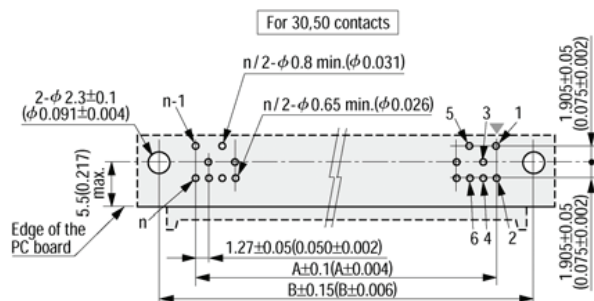
3M™ Pak 50 Plug

.050" Low Profile, Right Angle, Stacking Plug

P50L Series

Printed Circuit Board Layout (Component side view)

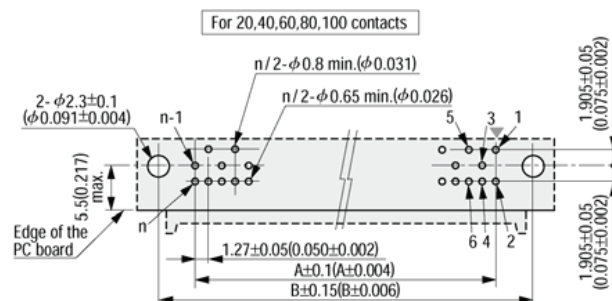
Unit:mm(inch)



▽=Polarity identification

Recommended PCB Thickness $t=1.6\pm0.19(0.063\pm0.007)$

"n" is number of contacts.



■ Dimensions

No. of contacts	20	30	40	50	60	80	100
A	11.43 (0.45)	17.78 (0.70)	24.13 (0.95)	30.48 (1.20)	36.83 (1.45)	49.53 (1.95)	62.23 (2.45)
B	20.32 (0.80)	26.67 (1.05)	33.02 (1.30)	39.37 (1.55)	45.72 (1.80)	58.42 (2.30)	71.12 (2.80)

TS-1145-C
Sheet 4 of 4



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

3M is a trademark of 3M Company.
For technical, sales or ordering information call
800-225-5373

Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

Warranty; Limited Remedy; Limited Liability.

This product will be free from defects in material and manufacture for a period of one (1) year from the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



3M Electronics Solutions Division

6801 River Place Blvd.
Austin, TX 78726-9000
U.S.A.
1-800-225-5373
www.3Mconnector.com

Please recycle. Printed in USA.
© 3M 2010. All rights reserved.
RIA-2217B-E

3M is a trademark of 3M Company.