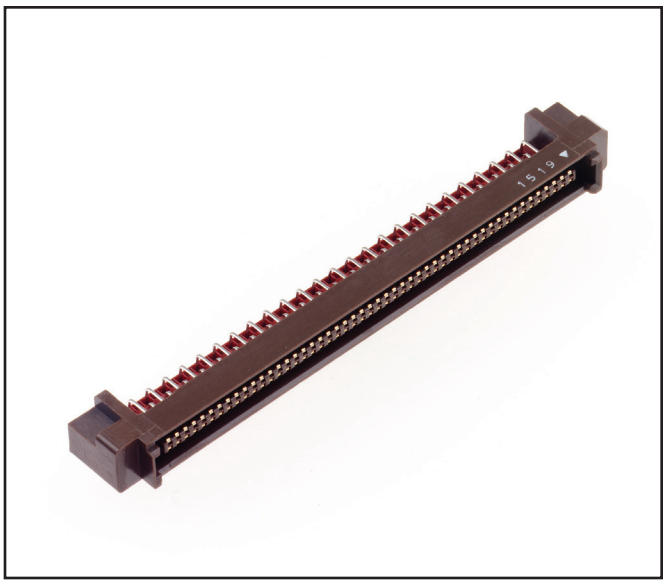
3M™ Pak 50 Plug

.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

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:	-55ºC to +85ºC
Process Rating:	260ºC MSL1 (per J-STD-020C)

UL File No.: E68080

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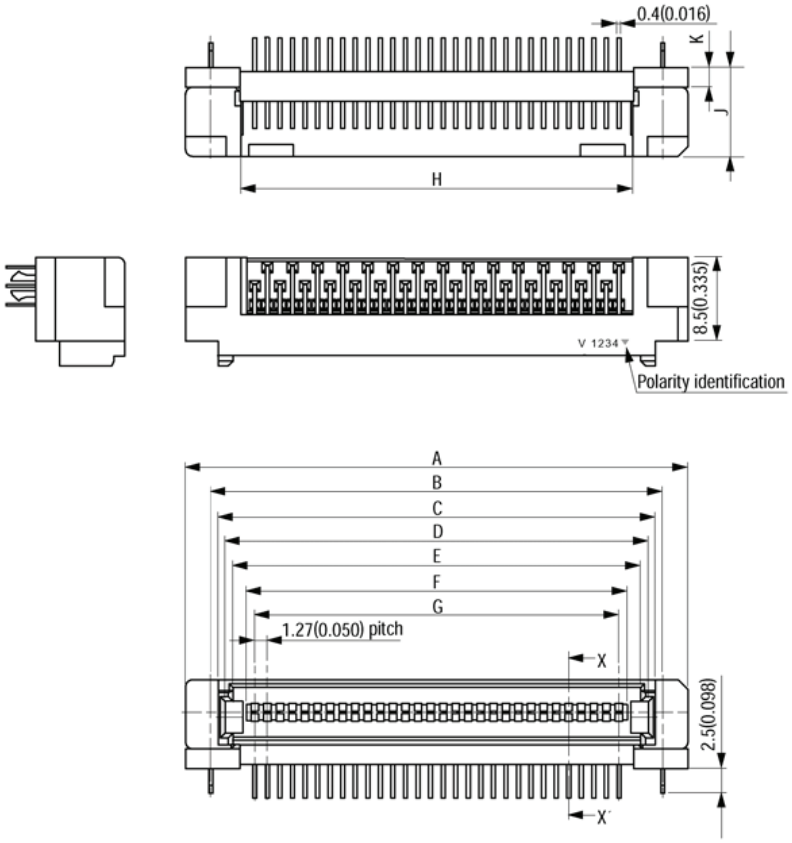
Product Table / Dimensions

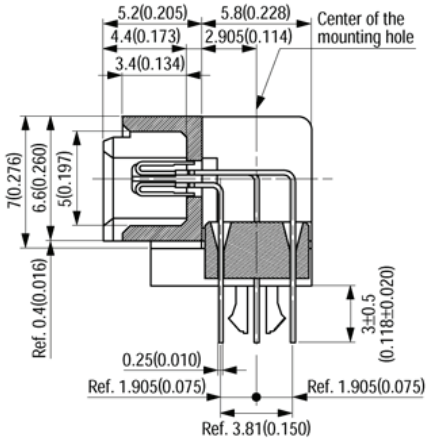
Contact Quantity	A	B	C	D	E	F	G	H
20	25.43 [1.001]	20.32 [0.800]	18.83 [0.741]	17.43 [0.686]	15.83 [0.623]	13.13 [0.517]	11.43 [0.450]	14.23 [0.560]
30	31.78 [1.251]	26.67 [1.050]	25.18 [0.991]	23.78 [0.936]	22.18 [0.873]	19.48 [0.767]	17.78 [0.700]	20.58 [0.810]
40	38.13 [1.501]	33.02 [1.300]	31.53 [1.241]	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"]

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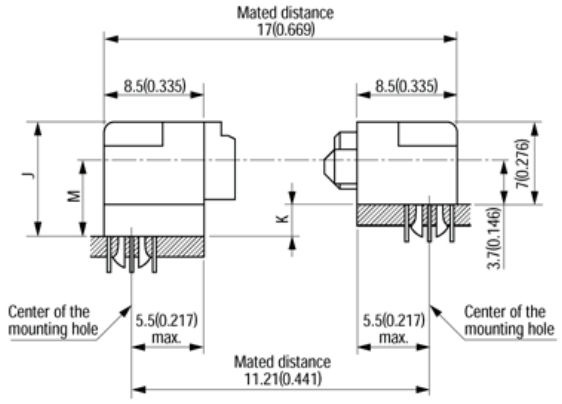
Horizontal Mating

Unit:mm(inch)

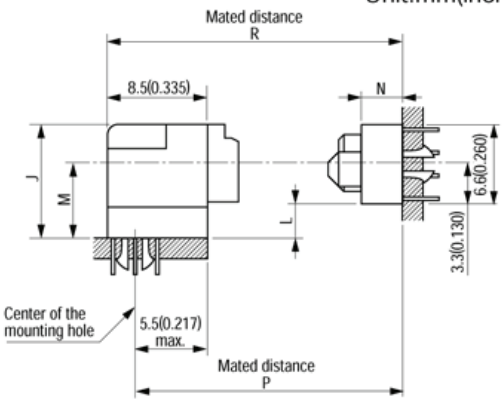


P50L-XXXP-RRX-TGF

P50L-XXXS-RR1-XXX

Vertical Mating

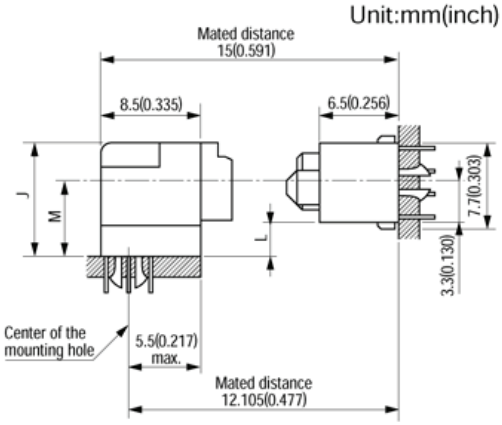
Unit:mm(inch)



P50L-XXXP-RRX-TGF

P5XL-XXXS-A-XXX
P5XL-XXXS-B-XXX

Unit:mm(inch)



P50L-XXXP-RRX-TGF

P5XL-XXXS-D-XXX

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]
	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]
P50L-XXXS-B-XXX P51L-XXXS-B-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	4.5 [0.177]	4.5 [0.177]	4.5 [0.177]	4.5 [0.177]	4.5 [0.177]	4.5 [0.177]
	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]
P50L-XXXS-D-XXX P51L-XXXS-D-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]

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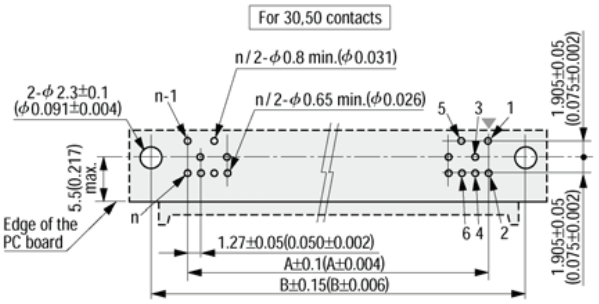
Printed Circuit Board Layout (Component side view)

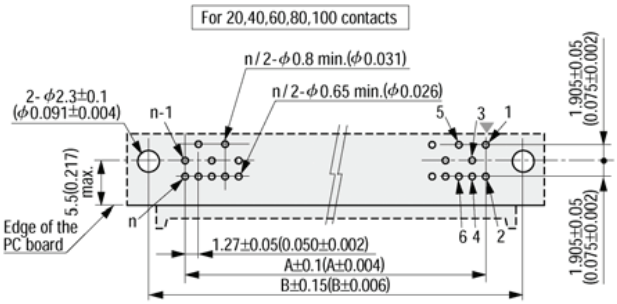
Unit:mm(inch)



▼=Polarity identification

Recommended PCB Thickness t=1.6±0.19(0.063±0.007)

"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)

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