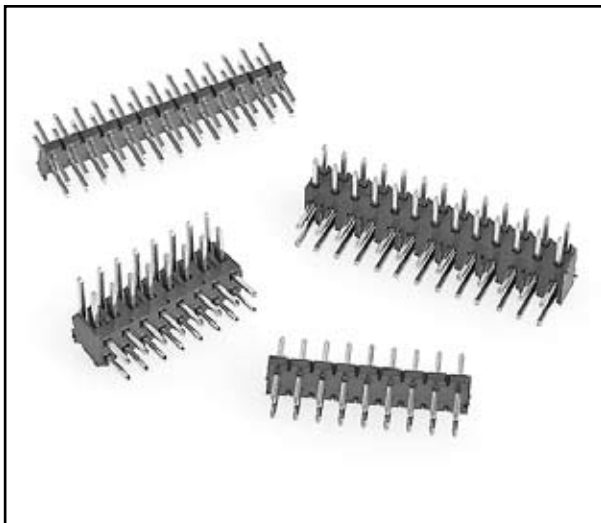


3M™ Pin Strip Header

2 mm × 2 mm Solder Tail Straight & Right Angle, Surface Mount Straight

1512 Series



- Industry standard compatible
- High temperature dielectric
- "No lead" wave and reflow solder compatible
- Unique lengths available
- Maximizes use of PC board space
- Mates with boardmount and wiremount products
- End stackable feature
- Side stackable feature
- Pin Strip Headers are available in tape and reel with vacuum cap for automatic placement
- See Regulatory Information Appendix for chemical compliance information

Date Modified: September 5, 2008

TS-0808-E
Sheet 1 of 4

Physical

Insulation:

Material: High Temperature Thermoplastic (PCT or LCP)

Flammability: UL 94V-0

Color: Black

Contact:

Material: Copper Alloy

Plating:

Underplating: 100 μ" [2.54 μm] Nickel

Wiping Area: 30 μ" [0.76 μm] Gold

Solder Tails: 300 μ" [7.6 μm] Matte Tin or 200 μ" Tin-Lead

Marking: None

Electrical

Current Rating: 1.5 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ at 250 V_{DC}

Withstanding Voltage: 500 V_{RMS} at Sea Level

Environmental

Temperature Rating: -55°C to +105°C

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

Moisture Sensitivity Level: 1 (per J-STD-020C)

UL File No.: E68080



Electronic Solutions Division
Interconnect Solutions

3M is a trademark of 3M Company.

1512 Series

Contact Quantity	Dimension C
04	.157
06	.238
08	.315
10	.394
12	.472
14	.551
16	.630
18	.709
20	.787
22	.866
24	.945
26	1.024
28	1.102
30	1.181
32	1.280
34	1.339
36	1.417
38	1.496
40	1.575
42	1.654
44	1.732
46	1.811
48	1.890
50	1.969
52	2.047
54	2.126
56	2.205
58	2.283
60	2.382

Tolerance Unless Noted			
	.0	.00	.000
mm	±.1	±.01	±.005

RL® RL®

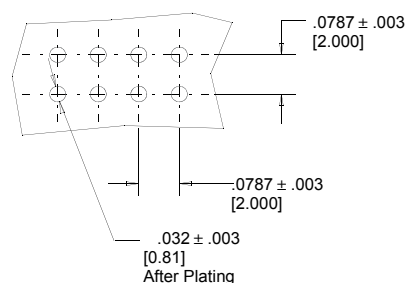
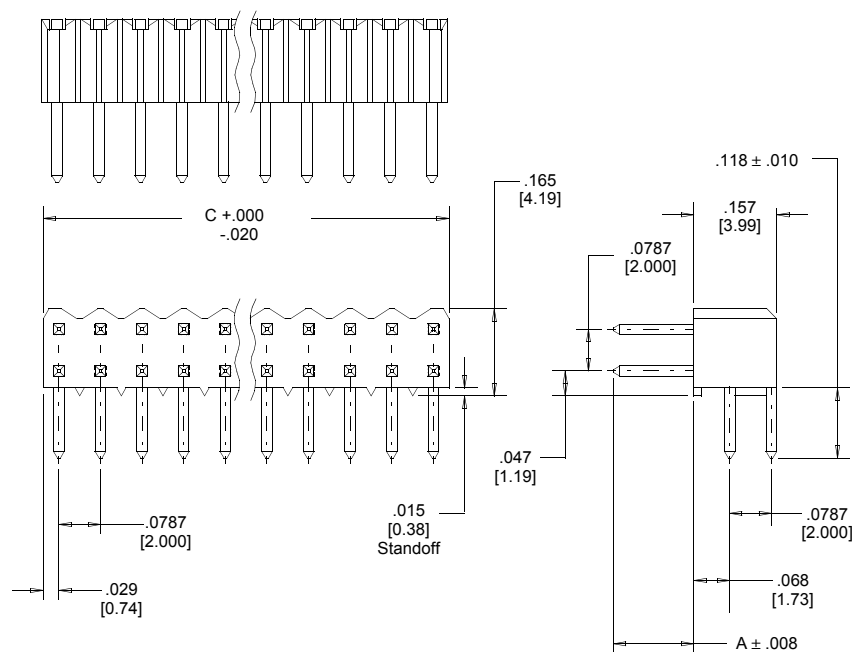
TS-0808-E
Sheet 2 of 4

3M™ Pin Strip Header

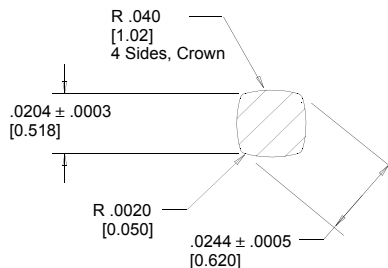
2 mm × 2 mm Solder Tail Straight & Right Angle, Surface Mount Straight

1512 Series

Right Angle



Recommended
Mounting Hole Pattern



Pin Cross Section

Contact Quantity	Dimension C
04	.157
06	.238
08	.315
10	.394
12	.472
14	.551
16	.630
18	.709
20	.787
22	.866
24	.945
26	1.024
28	1.102
30	1.181
32	1.280
34	1.339
36	1.417
38	1.496
40	1.575
42	1.654
44	1.732
46	1.811
48	1.890
50	1.969
52	2.047
54	2.126
56	2.205
58	2.283
60	2.382

mm
[Inch]

Tolerance Unless Noted			
	.0	.00	.000
mm	±.1	±.01	±.005

[] Dimensions for Reference Only



Ordering Information

1512XX-7X22-XX

Contact Quantity
(See Table 1)

Pin Length
Dim 'A'
3 = .130"
4 = .152"

Plating suffix:

RB = 30 μ" [.76 μm] Gold w/Matte Tin solder tails (App. E1 & C1 Apply)
TB = 30 μ" [.76 μm] Gold w/Tin-lead solder tails (App. E3 & C2 Apply)

TS-0808-E
Sheet 3 of 4



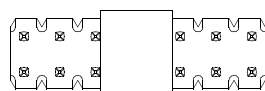
Electronic Solutions Division
Interconnect Solutions

3M is a trademark of 3M Company.

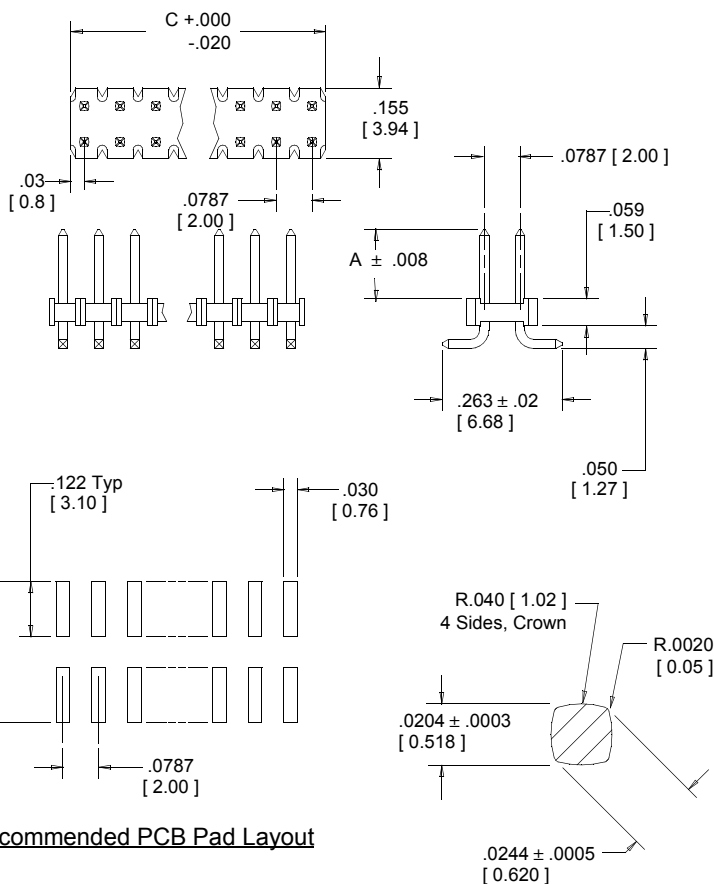
3M™ Pin Strip Header

2 mm × 2 mm Solder Tail Straight & Right Angle, Surface Mount Straight

1512 Series



Example of vacuum cap on part



Recommended PCB Pad Layout

Pin Cross Section

Contact Quantity	Dimension C	Tape Width	Order Code
4	.139 [3.5]	n/a	n/a
6	.217 [5.5]	n/a	n/a
8	.295 [7.5]	24 mm	WB
10	.374 [9.5]	24 mm	WC
12	.453 [11.5]	24 mm	WC
14	.531 [13.5]	24 mm	WC
16	.611 [15.5]	24 mm	WC
18	.689 [17.5]	32 mm	WC
20	.768 [19.5]	32 mm	WC
22	.847 [21.5]	44 mm	WD
24	.925 [23.5]	44 mm	WD
26	1.005 [25.5]	44 mm	WD
28	1.083 [27.5]	44 mm	WD
30	1.162 [29.5]	44 mm	WD
32	1.240 [31.5]	56 mm	WE
34	1.320 [33.5]	56 mm	WE
36	1.398 [35.5]	56 mm	WE
38	1.477 [37.5]	56 mm	WE
40	1.556 [39.5]	56 mm	WE
42	1.634 [41.5]	56 mm	WE
44	1.714 [43.5]	72 mm	WF
46	1.792 [45.5]	72 mm	WF
48	1.870 [47.5]	72 mm	WF
50	1.970 [49.5]	72 mm	WF
52	1.970 [49.5]	72 mm	WF
54	2.107 [53.5]	72 mm	WF
56	2.185 [55.5]	72 mm	WF
58	2.264 [57.5]	88 mm	WG
60	2.344 [59.5]	88 mm	WG

Notes: 1. Tape & reel include vacuum pick-up cap for pick n place handling equipment.
2. Parts in tray packaging are supplied without vacuum cap.



Note: Tape and Reel not available on all sizes, please call.

mm
[Inch]

Tolerance Unless Noted			
	.0	.00	.000
mm	±.1	±.01	±.005

[] Dimensions for Reference Only

Ordering Information

1512XX-2X20-XX-XX

Contact Quantity
(See Table 1)

Pin Length
Dim 'A'
3 = .130"
4 = .152"

Plating suffix:
RB = 30 μ" [.76 μm] Gold w/Matte Tin solder tails (App. E1 & C1 Apply)
TB = 30 μ" [.76 μm] Gold w/Tin-lead solder tails (App. E3 & C2 Apply)

Packaging suffix:
Blank = Tray Packaging
WX = Tape & Reel Packaging
(see table 1)

TS-0808-E
Sheet 4 of 4

Regulatory Information Appendix

3M Electronic Solutions Division/Interconnect

EUROPE

Appendix E1: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

This product is RoHS Compliant 2005/95/EC.

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix E2: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

This product contains lead in the compliant pin area in excess of the maximum concentration value allowed but is compliant by exemption under EU Commission Decision 2005/747/EC.

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix E3: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment as amended by Commission Decision 2005/618/EC.

This product contains lead in the solder tail area in excess of the maximum concentration value allowed.

Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix E4: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC, as amended by EU Commission Decision 2005/717/EC, as amended by EU Court of Justice Decision 2008/C 116/04

This product contains decaBDE in the insulating material in excess of the maximum concentration allowed for finished products subject to EU RoHS that are placed on the EU market after June 30, 2008.

Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix E5: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

This product contains lead in excess of the maximum concentration value allowed but is compliant by exemption under Item 6 of the Annex to the Directive.

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

CHINA

Appendix C1: China RoHS



Electronic Industry Standard of the People’s Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, 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: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers (excluding decaBDE); or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix C2: China RoHS



Electronic Industry Standard of the People’s Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does** contain a substance, as detailed in the chart below, in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers (excluding decaBDE); or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

The numerical reference in the symbol above should not be construed as a representation regarding the product’s life or an extension of a product warranty. The product warranty is stated below. In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the product Warranty stated below.

产品中有毒有害物质或元素的名称及含量 Name and Content of Hazardous Substances or Elements

部件名称 (Part or Component Name)	有毒有害物质或元素 (Hazardous Substances or Elements)					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
端子镀层(contact plating)	×	○	○	○	○	○
○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。(Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.)						
×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。(Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.)						

Appendix C3: China RoHS



Electronic Industry Standard of the People’s Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does** contain a substance, as detailed in the chart below, in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers (excluding decaBDE); or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

The numerical reference in the symbol above should not be construed as a representation regarding the product’s life or an extension of a product warranty. The product warranty is stated below. In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the product Warranty stated below.

产品中有毒有害物质或元素的名称及含量 Name and Content of Hazardous Substances or Elements

部件名称 (Part or Component Name)	有毒有害物质或元素 (Hazardous Substances or Elements)					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
合金 (Metal alloy)	×	○	○	○	○	○
<div>○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。(Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.)</div> <div>×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。(Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.)</div>						

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.**

