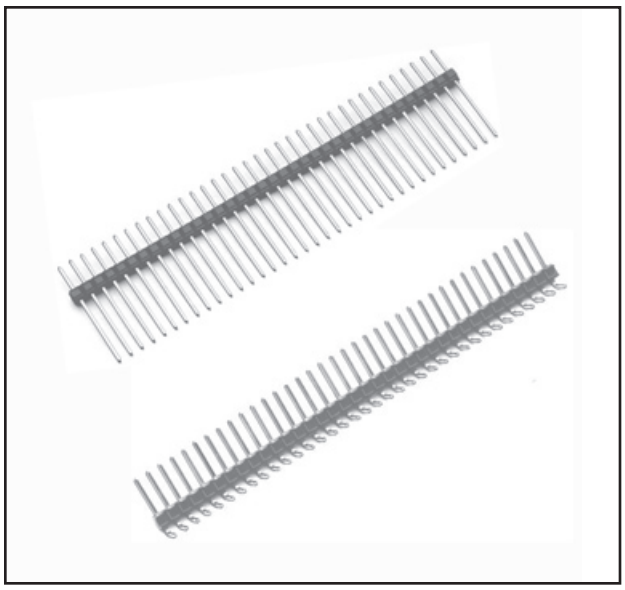
3M™ Pin Strip Header Single and Dual Row

.100", .235"/.318" Mating Length, Straight & Right Angle, Solder Tails 929 Series



- Stackable
- Gold, Matte Sn, or Tin-Lead plating options
- High Temperature (PCT) plastic for Wave or IR soldering
- Solder stand-off for wave soldering
- Board pin retention feature option
- See Regulatory Information Appendix (RIA) for chemical compliance information

Date Modified: November 6, 2008

Physical

Insulation:	
Material:	Glass Filled Polyester (PBT) or High Temperature (PCT)
Flammability:	UL 94V-0
Color:	Black
Contact:	
Material:	Copper Alloy
Plating:	
Underplating:	50 µ" [1.27 µm] Nickel
Wiping Area and Solder Tails:	See ordering information (Gold, Matte Tin, Tin-Lead options)
Marking:	None

Electrical

Current Rating:	2.5 A
Insulation Resistance:	$> 5 \times 10^9 \Omega$ at 500 V_{DC}
Withstanding Voltage:	1500 V_{RMS} at Sea Level

Environmental

Temperature Rating:	-40°C to +105°C
Process Rating:	260°C (per J-STD-020C) for PCT parts only (PBT insulator version), maximum insulator temperature 191°C (Solder Wave Process Only)
Moisture Sensitivity Level:	Level 1 (per J-STD-020C) for PCT parts

UL File No.: E68080

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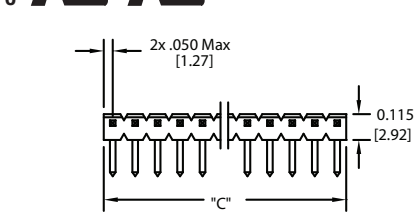
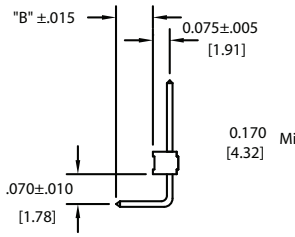
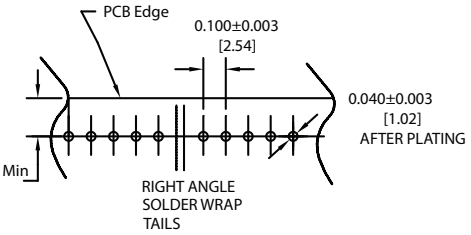
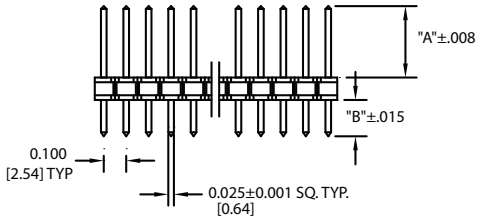
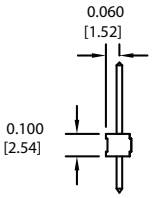
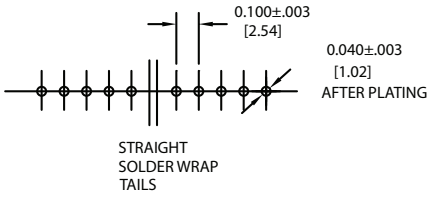




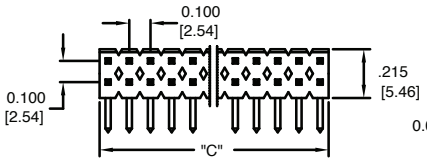


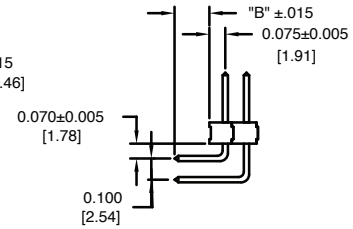


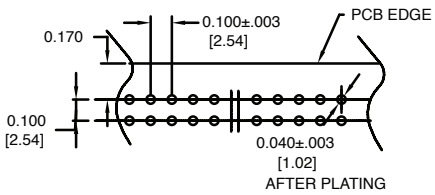


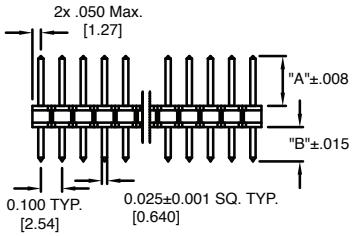


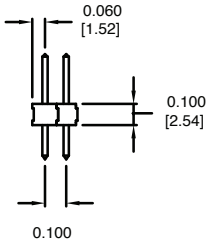
RECOMMENDED HOLE PATTERN

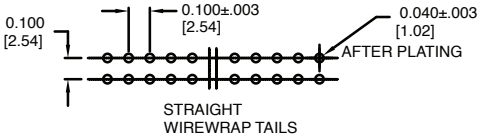












RECOMMENDED HOLE PATTERN

Inch
[mm]

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

[ ] Dimensions for Reference only

Notes:

1. Dimension C is a maximum when the pin strip is cut to length, not when the strip is broken to length.
2. Board pin retention feature available: change from "9X9" to "9R9" when ordering.
3. Breaking of dual row parts is not recommended.

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3M™ Pin Strip Header Single and Dual Row

.100", .235"/.318" Mating Length, Straight & Right Angle, Solder Tails 929 Series

Single Row Tail Length Code				
Table 1				
Plating	3M Part Number	Tail Length Code	Dimensions	
			A	B
Gold	929647 Straight	01	0.235 [5.97]	0.110 [2.79]
		09		0.145 [3.68]
		02		0.210 [5.33]
		03		0.410 [10.41]
		04		0.510 [12.95]
		05		0.610 [15.49]
		07		0.910 [23.11]
	929648 Right Angle	01	0.235 [5.97]	0.110 [2.79]
	929705 Straight	01	0.318 [8.08]	0.110 [2.79]
		11		0.125 [3.18]
		09		0.145 [3.68]
		06		0.710 [18.03]
Tin	929834 Straight	01	0.235 [5.97]	0.110 [2.79]
		02		0.210 [5.33]
		03		0.410 [10.41]
		04		0.510 [12.95]
		05		0.610 [15.49]
		07		0.910 [23.11]
	929835 Right Angle	01	0.235 [5.97]	0.110 [2.79]
	929700 Straight	01	0.318 [8.08]	0.110 [2.79]
		11		0.125 [3.18]
		06		0.710 [18.03]
	929730 Right Angle	01	0.318 [8.08]	0.110 [2.79]

Table 2	
Pin Quantity Per Row	Dimension C (see note 1)
01	0.10 [2.5]
02	0.20 [5.1]
03	0.30 [7.6]
04	0.40 [10.2]
05	0.50 [12.7]
06	0.60 [15.2]
07	0.70 [17.8]
08	0.80 [20.3]
09	0.90 [22.9]
10	1.00 [25.4]
11	1.10 [27.9]
12	1.20 [30.5]
13	1.30 [33.0]
14	1.40 [35.6]
15	1.50 [38.1]
16	1.60 [40.6]
17	1.70 [43.2]
18	1.80 [45.7]
19	1.90 [48.3]
20	2.00 [50.8]
21	2.10 [53.3]
22	2.20 [55.9]
23	2.30 [58.4]
24	2.40 [61.0]
25	2.50 [63.5]
26	2.60 [66.0]
27	2.70 [68.6]
28	2.80 [71.1]
29	2.90 [73.7]
30	3.00 [76.2]
31	3.10 [78.7]
32	3.20 [81.3]
33	3.30 [83.8]
34	3.40 [86.4]
35	3.50 [88.9]
36	3.60 [91.4]

Single Row Ordering Information

Gold

9X9XXX-XX-XX-XX

- 2 = No Pin Retention
  R = Pin Retention
- 3M Part Number (select from Table 1 based on Dim A and plating) (see table1)
- Tail Length Code (see table 1)
- Pin Quantity Per Row (see table 2)
- Gold Plating Suffix
  Location & Thickness (see table 1)
  I = 10 µ" [0.25 µm] all over, PBT insulator (RIA E1 & C1 apply)
  EU = 10 µ" [0.25 µm] all over, PCT insulator (RIA E1 & C1 apply)

Tin

9X9XXX-XX-XX-XX

- 2 = No Pin Retention
  R = Pin Retention
- 3M Part Number (select from Table 1 based on Dim A and plating) (see table1)
- Tail Length Code (see table 1)
- Pin Quantity Per Row (see table 2)
- Plating Suffix:
  blank = 100 µ" [2.54 µm] tin-lead, PBT insulator (RIA E3 & C2 apply)
  RK = 200 µ" [5 µm] matte tin, PCT insulator (RIA E1 & C1 apply)

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3M™ Pin Strip Header Single and Dual Row

.100", .235"/.318" Mating Length, Straight & Right Angle, Solder Tails 929 Series

Dual Row Tail Length Code

Table 3

Plating	3M Part Number	Tail Length Code	Dimensions A	Dimensions B
Gold	929665 Straight	01	0.235 [5.97]	0.110 [2.79]
		09		0.145 [3.68]
		02		0.210 [5.33]
		08		0.310 [7.87]
		03		0.410 [10.41]
		04		0.510 [12.95]
		05		0.610 [15.49]
	929715 Straight	01	0.318 [8.08]	0.110 [2.79]
		11		0.125 [3.18]
		10		0.175 [4.45]
		03		0.410 [10.41]
		06		0.710 [18.03]
	929667 Right Angle	01	0.235 [5.97]	0.110 [2.79]
		04		0.145 [3.68]
		02		0.405 [10.29]
	929745 Right	01	0.318 [8.08]	0.110 [2.79]
		02		0.405 [10.29]
Tin	929836 Straight	01	0.235 [5.97]	0.110 [2.79]
		09		0.145 [3.68]
		02		0.210 [5.33]
		08		0.310 [7.87]
		03		0.410 [10.41]
		04		0.510 [12.95]
		05		0.610 [15.49]
	929710 Straight	01	0.318 [8.08]	0.110 [2.79]
		11		0.125 [3.18]
		09		0.145 [3.68]
		10		0.175 [4.45]
		03		0.410 [10.41]
		06		0.710 [18.03]
	929838 Right Angle	01	0.235 [5.97]	0.110 [2.79]
		04		0.145 [3.68]
		02		0.405 [10.29]

Table 4

Pin Quantity Per Row	Pin Quantity Total Dual Row	Dimension C (see note 1)
01	02	0.10 [2.5]
02	04	0.20 [5.1]
03	06	0.30 [7.6]
04	08	0.40 [10.2]
05	10	0.50 [12.7]
06	12	0.60 [15.2]
07	14	0.70 [17.8]
08	16	0.80 [20.3]
09	18	0.90 [22.9]
10	20	1.00 [25.4]
11	22	1.10 [27.9]
12	24	1.20 [30.5]
13	26	1.30 [33.0]
14	28	1.40 [35.6]
15	30	1.50 [38.1]
16	32	1.60 [40.6]
17	34	1.70 [43.2]
18	36	1.80 [45.7]
19	38	1.90 [48.3]
20	40	2.00 [50.8]
21	42	2.10 [53.3]
22	44	2.20 [55.9]
23	46	2.30 [58.4]
24	48	2.40 [61.0]
25	50	2.50 [63.5]
26	52	2.60 [66.0]
27	54	2.70 [68.6]
28	56	2.80 [71.1]
29	58	2.90 [73.7]
30	60	3.00 [76.2]
31	62	3.10 [78.7]
32	64	3.20 [81.3]
33	66	3.30 [83.8]
34	68	3.40 [86.4]
35	70	3.50 [88.9]
36	72	3.60 [91.4]

Dual Row Ordering Information

Gold

9X9XXX-XX-XX-XX

- 2 = No Pin Retention, R = Pin Retention
- 3M Part Number (select from Table 3 based on Dim A and plating) (see table 3)
- Tail Length Code (see table 3)
- Pin Quantity Per Row (see table 4)
- Gold Plating Suffix Location & Thickness (see table 1)
  I = 10 µ" [0.25 µm] all over, PBT insulator (RIA E1 & C1 apply)
  EU = 10 µ" [0.25 µm] all over, PCT insulator (RIA E1 & C1 apply)

Tin

9X9XXX-XX-XX-XX

- 2 = No Pin Retention, R = Pin Retention
- 3M Part Number (select from Table 3 based on Dim A and plating) (see table 3)
- Tail Length Code (see table 3)
- Pin Quantity Per Row (see table 4)
- Plating Suffix:
  blank = 100 µ" [2.54 µm] tin-lead, PBT insulator (RIA E3 & C2 apply)
  RK = 200 µ" [5 µm] matte tin, PCT insulator (RIA E1 & C1 apply)

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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.

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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.product 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)	×	○	○	○	○	○

○：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.)

Important Notice

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3M Electronics Solutions Division
6801 River Place Blvd.
Austin, TX 78726-9000
U.S.A.
1-800-225-5373
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Телефон: 8 (812) 309-75-97 (многоканальный)
Факс: 8 (812) 320-03-32
Электронная почта: ocean@oceanchips.ru
Web: http://oceanchips.ru/
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А