

# 3M™ Four-Wall Header

.100" × .100" Latch/Ejector, Straight and Right Angle

3000 Series



- Military (with 3M's 3518 & N3518 polarizing key) and centerbump polarization
- Optional ejector latches
- Mounting holes for securing header to board
- Optional polarizing posts available
- High temperature insulator option suitable for "no lead" soldering operations
- High temperature option suitable for reflow soldering using "paste in hole" techniques
- Solder tail option
- See Regulatory Information Appendix for chemical compliance information

Date Modified: December 3, 2008

TS-0772-H  
Sheet 1 of 4

## Physical

### Insulator:

Material: Glass Filled Polyester (PBT) Glass Filled Polyester (PCT) - (High Temp Option)

Flammability: UL 94V-0

Color: Gray (PBT), Beige (PCT), Black (PCT)

### Contact:

Material: Copper Alloy

### Plating:

Underplating: Nickel - Overall (See Ordering Information)

Wiping Area: 30 μ" [ 0.76 μm ] Gold

Solder Tails: Tin Lead or Matte Tin (See Ordering Information)

**Marking:** 3M Logo, Part Identification Number and Orientation Triangle

## Electrical

**Current Rating:** 2 A (EIA 364-70)

**Insulation Resistance:**  $>1 \times 10^9 \Omega$  at 500 V<sub>DC</sub>

**Withstanding Voltage:** 1000 V<sub>RMS</sub> at Sea Level

## Environmental

**Temperature Rating:** -55°C to +105°C

**Process Rating:** 260°C - (High Temp PCT insulator version), single pass, (profile per J-STD-020C) (PBT insulator version), maximum insulator temperature 191°C (solder wave process only)

**Moisture Sensitivity Level:** 1 (per J-STD-020C) High Temp. (PCT) versions only

UL File No.: E68080

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# 3M™ Four-Wall Header

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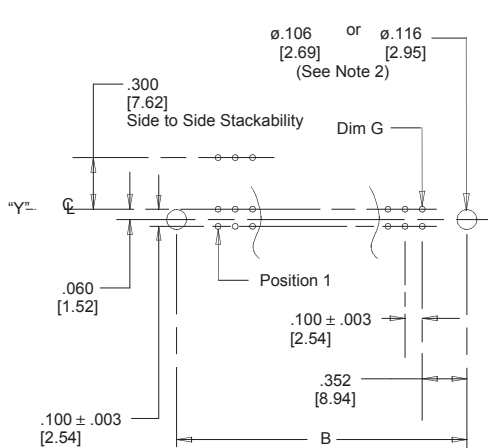
3000 Series

Pin Qty	3M Part Number	Dimensions				Polarizing Notches
		A	B	C	D	
10	3793	1.265 (32.13)	1.104 (28.04)	0.865 (21.97)	0.705 (17.91)	BC
14	3314	1.465 (37.21)	1.304 (33.12)	1.065 (27.05)	0.905 (22.99)	BC
16	3408	1.565 (39.75)	1.404 (35.66)	1.165 (29.59)	1.005 (25.53)	ABC
20	3428	1.765 (44.83)	1.604 (40.74)	1.365 (34.67)	1.205 (30.61)	ABC
24	3627	1.965 (49.91)	1.804 (45.82)	1.565 (39.75)	1.405 (35.69)	ABC
26	3429	2.065 (52.45)	1.904 (48.36)	1.665 (42.29)	1.505 (38.23)	ABC
30	3440	2.265 (57.53)	2.104 (53.44)	1.865 (47.37)	1.705 (43.31)	ABC
34	3431	2.465 (62.61)	2.304 (58.52)	2.065 (52.45)	1.905 (48.39)	ABC
40	3432	2.765 (70.23)	2.604 (66.14)	2.365 (60.07)	2.205 (56.01)	ABC
50	3433	3.265 (82.93)	3.104 (78.84)	2.865 (72.77)	2.705 (68.71)	ABC
60	3372	3.765 (95.63)	3.604 (91.54)	3.365 (85.47)	3.205 (81.41)	ABC
64	3764	3.965 (100.71)	3.804 (96.62)	3.565 (90.55)	3.405 (86.49)	ABC

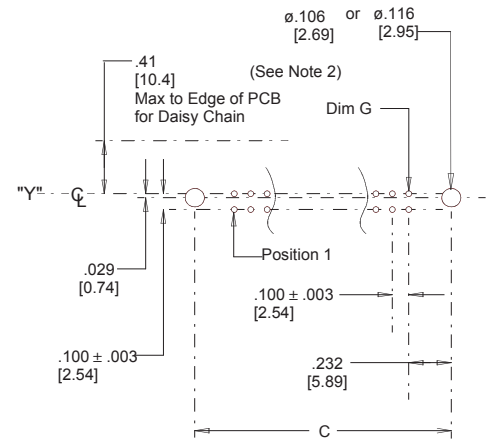
Inch (mm)			
Tolerance Unless Noted			
	.0	.00	.000
Inch	±.1	±.01	±.005

[ ] Dimensions for Reference only

3M Part Number Suffix	Contact Tail	Dim E	Pin Cross Section			Dim G
-5XX2	Solder Tail for .062 (1.57) Thick PC Board	.112 ± .010 (2.84)	Dim F	Diagonals	Corner Radii	0.035 ± .003 (0.89) (See Note 3)
-6XX2			.0245 ± .0005 (0.622)	.028 ± .001 (0.71)	.0075 Ref (0.191)	
-5XO3	Solder Tail for 0.94 (2.39) to .125 (3.18) Thick PC Board	.155 ± .010 (3.94)	.0245 ± .0005 (0.622)	.028 ± .001 (0.71)	.0075 Ref (0.191)	0.035 ± .003 (0.89)
-6XO3						



Recommended Mounting Hole Pattern (Straight)



Recommended Mounting Hole Pattern (Right Angle)

- Notes: 1. Notches A & C will accommodate 3M Polarizing Keys (3M Part #3518 or #N3518).  
 2. Mounting hardware: From solder side of pc board use #4-24 thread cutting screw (3M Part # 3341-5) and .116 [2.95] dia mounting hole. For right angle version only, #2-56 bolt and nut (3M Part # 3341-6) with .106 [2.69] dia mounting hole may be used.  
 3. The recommended PCB hole size for the kinked tail positions on the .112 solder tail connector is .035 ± .002. See page 4 for kink position details (K2 version).  
 4. Contact your 3M sales representative for custom requirements.

## Ordering Information

Blank = Std. Temp Gray (PBT) / (Blank or UB Pltg. Req'd.)  
 N = High Temp Beige (PCT) / (Blank or UB Pltg. Req'd.)  
 N = High Temp Black (PCT) / (RB Plating Req'd)

3M Part Number (See Table 1)

Pin Configuration  
 5 = Right Angle Solder Tails  
 6 = Straight Solder Tails

## X3XXX-XXXXXX

Latch/Ejector System  
 0 = No Latch/Ejector installed  
 2 = Short Roll Pin Latch/Ejectors  
 3 = Long Roll Pin Latch/Ejectors  
 5 = Short, Snap-In Latch/Ejectors  
 6 = Long, Snap-In Latch/Ejectors

Plating  
 RB = 30 μm [ 0.76 μm ] Gold and 200 μm [ 5.08 μm ] Matte Tin over 100 μm [ 2.54 μm ] Nickel (App. E1 & C1 Apply)  
 Blank or UB = 30 μm [ 0.76 μm ] Gold and 200 μm [ 5.08 μm ] Tin Lead over 100 μm [ 2.54 μm ] Nickel (App. E3 & C2 Apply)

Tail  
 02 = for .062 [1.57] thick board  
 03 = for .094 to .125 [2.39 to 3.18] thick board  
 K2 = kinked for .062 [1.57] thick board

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# 3M™ Four-Wall Header

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3000 Series

## Part Customization

This spec sheet details our standard offering.

3M has several capabilities that can provide a part tailored to your specific needs. Ask your 3M sales representative or customer service for more details.

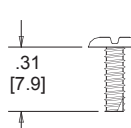
Both snap in and roll pin latches may be ordered separately. Snap in and roll style latches are dimensionally and functionally equivalent. If ordering snap-in or roll pin style latches separately, please use the below chart.

	Short Latch	Long Latch	Latch Style	Color
Standard Temperature (PBT)	3505-2	3505-3	Roll Pin	Gray
High Temperature (PCT)	N3505-2	N3505-3	Roll Pin	Beige
High Temperature (PCT)	N3505-2B	N3505-3B	Roll Pin	Black
High Temperature (PPA)	3505-30	3505-31	Snap-In	Gray
High Temperature (PPA)	N3505-30	N3505-31	Snap-In	Beige
High Temperature (PPA)	N3505-30B	N3505-31B	Snap-In	Black

- Selective pin removal (ATA or other compatibility)
- Wire wrap tails styles

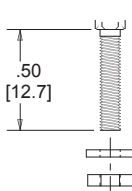
## Mounting Hardware

3341-5  
(Installed from bottom of board)



Panhead Thread Cutting Screw:  
#4-24 X 5/16"  
Type: USA Std BT, Federal BG

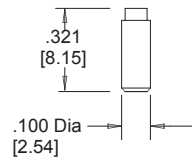
3341-6  
(Must be inserted prior to latch on vertical headers)



Hex Head Bolt, Nut and Washer  
Bolt - #2-56 X 1/2"

3341-5 & 6  
Material - Stainless Steel

## Polarizing Post



3201-3	PBT	Gray
3201-4	LCP	Black

Note: Insert Post into one mounting hardware hole on bottom of header. Set post to protrude .115" [2.92].

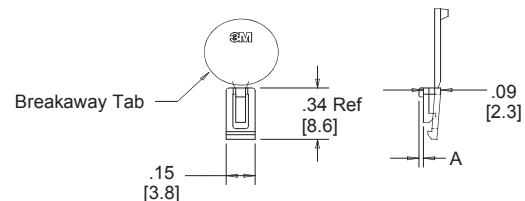
## 2500 & 3000 Series Shrouded Header

Total Number of Pins	Number of Tails Kinked	Positions Kinked			
		3	4	7	8
10	4	3	4	7	8
14	4	3	4	11	12
16	4	3	4	13	14
20	4	3	4	17	18
24	4	3	4	21	22
26	4	3	4	23	24
30	4	5	6	25	26
34	4	7	8	27	28
36	4	7	8	27	28
40	4	7	8	33	34
50	4	7	8	43	44
60	4	11	12	49	50
64	4	11	12	53	54

Kinked Tail Detail:  
Kink is located .05" below bottom surface of plastic.  
External radius of kink toward part centerline.

## Polarizing Keys

			Dim A
N3518	LCP	Black	.02
3518	PBT	Gray	.02



Note: #2216 B/A Scotchweld can be used to adhere keys.

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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.**

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)	×	○	○	○	○	○

○: 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.)

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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 90 days 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.**



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