

# 3M™ 4-Wall Header

www.DataSheet4U.com

.100" × .100" Low Profile, SMT Straight, Straight and Right Angle Thru Hole 2500 Series



- Low profile, space saving design
- Center slot polarization prevents mis-insertions and reduces insertion time
- Dual slot polarization means broader compatibility with competitive polarization designs (not 10 pos.)
- Optional retainer clip for locking sockets in place and increasing connection reliability in vibration-prone environments
- Optional High temperature insulator suitable for "no lead" soldering operations
- High temperature option in thru hole version suitable for "paste in hole" reflow soldering techniques
- Exposed solder tails (on right angle version) provide ease of cleaning and reduced repair costs
- RoHS\* compliant version (RB Plating Suffix) available
- Straight surface mount version available

Date Modified: August 1, 2006

TS-0770-18  
Sheet 1 of 5

## Physical

### Insulator

**Material:** Glass Filled Polyester (PBT), Glass Filled Polyester (PCT) - High temperature option  
**Flammability:** UL 94V-0  
**Color:** Gray (PBT), Beige (PCT) or Black (PCT) - RoHS compliant  
**Contact Material:** Copper Alloy

### Plating

**Underplating:** 100  $\mu$ " [ 2.54  $\mu$ m ] Nickel - Overall  
**Wiping Area:** Gold (See Ordering Information)  
**Solder Tails:** 200  $\mu$ " [ 5.08  $\mu$ m ] Tin Lead or Matte Tin (See Ordering Information)  
**Terminal Finish Indicator:** e3 (For RB Plating Suffix) (per JESD97)

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

## Electrical

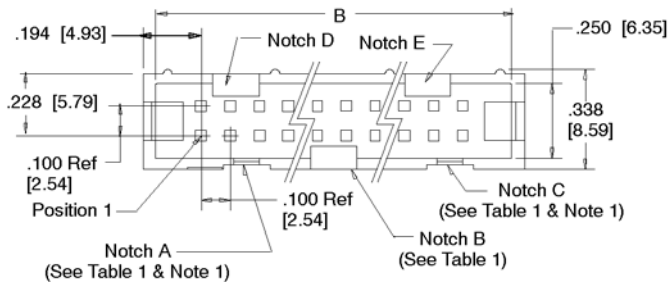
**Current Rating:** 2 A  
**Insulation Resistance:**  $>1 \times 10^9 \Omega$  at 500 Vdc  
**Withstanding Voltage:** 1000 Vrms at Sea Level

## Environmental

**Temperature Rating:** -55°C to +105°C  
**Process Rating:** 260°C, (High Temp & RoHS Compliant versions only), single pass, (profile per J-STD-020C)  
**Moisture Sensitivity Level:** 1 (per J-STD-020C)

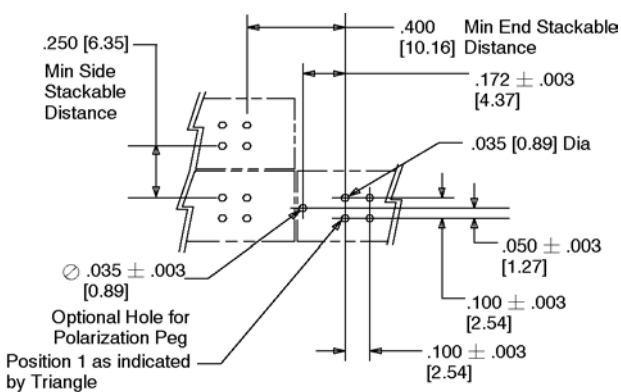
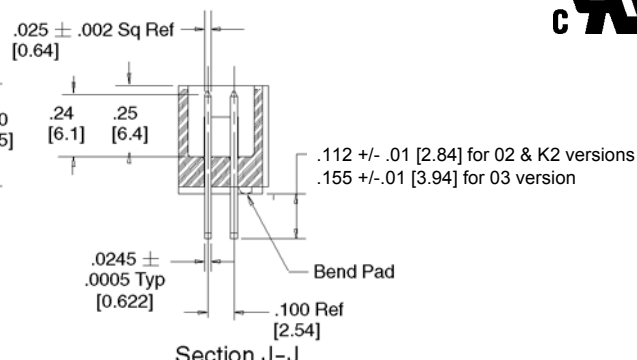
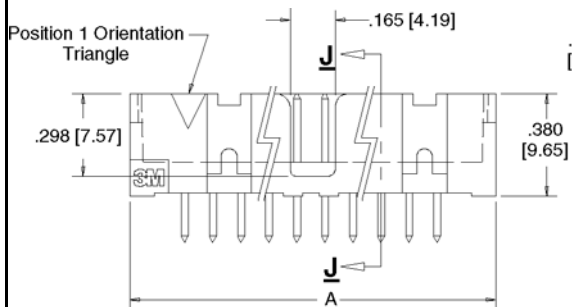
\*RoHS = Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment  
"RoHS compliant" means that the product or part does not contain any of the following substances in excess of the following maximum concentration values in any homogeneous material, unless the substance is in an application that is exempt under RoHS: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M's knowledge and belief based upon information provided by third party suppliers to 3M.

UL File No.: E68080



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

[ ] Dimensions for Reference only



**Recommended P.C. Board Hole Pattern**  
(Shown for mounting side of board.)

Pin Qty	Dimensions		Polarizing Notches
	A	B	
10	.788 [20.02]	.708 [17.98]	BC
14	.988 [25.10]	.908 [22.06]	BCDE
16	1.088 [27.64]	1.008 [25.60]	ABCDE
20	1.288 [32.72]	1.208 [30.68]	ABCDE
24	1.488 [37.80]	1.408 [35.76]	ABCDE
26	1.588 [40.34]	1.508 [38.30]	ABCDE
30	1.788 [45.42]	1.708 [43.38]	ABCDE
34	1.988 [50.50]	1.908 [48.46]	ABCDE
40	2.288 [58.12]	2.208 [56.08]	ABCDE
50	2.788 [70.82]	2.708 [68.78]	ABCDE
60	3.288 [83.52]	3.208 [81.48]	ABCDE
64	3.488 [88.60]	3.408 [86.56]	ABCDE

- Notes:
- Notches A & C will accommodate 3M Polarizing Keys (3M Part #3518 or N3518).
  - Contact tails .0245 [0.622] wire with .0075 [0.191] corner radii & .028 [0.72] diagonal.
  - See page 4 for kink tail positions.
  - Solder stand offs facilitate .01 clearance above board for reflow soldering.

**Ordering Information**

Prefix:  
Blank = Std. Temp. Gray (PBT) / Not RoHS\*  
Compliant  
N = High Temp. Beige (PCT) / Not RoHS\*  
Compliant  
N = High Temp. Black (PCT) / RoHS\*  
Compliant (RB Plating Req'd)

**X25XX-60XX-XX**

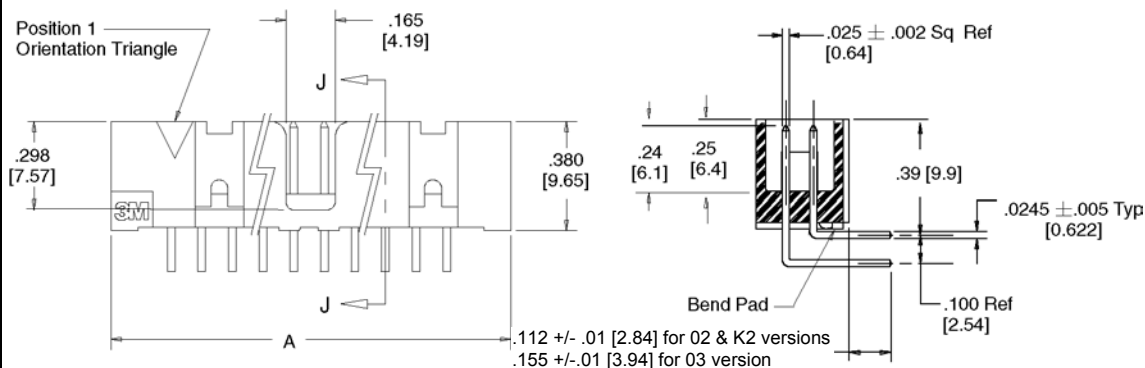
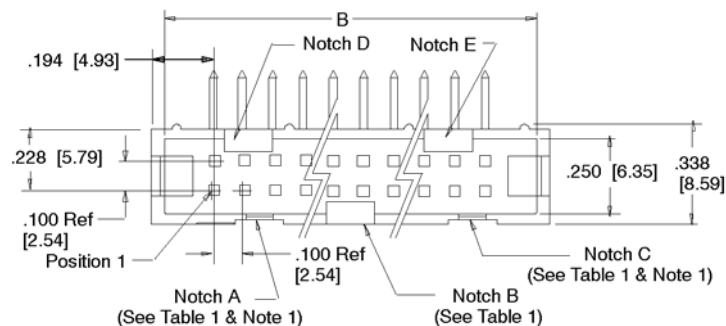
Pin Quantity: \_\_\_\_\_  
(See Table 1)

Plating:  
UG = 15µ" [0.38µm] Gold with Tin-Lead Tails  
UB = 30µ" [0.76µm] Gold with Tin-Lead Tails  
RB = 30µ" [0.76µm] Gold with Matte Tin Tails  
(RoHS\* Compliant)

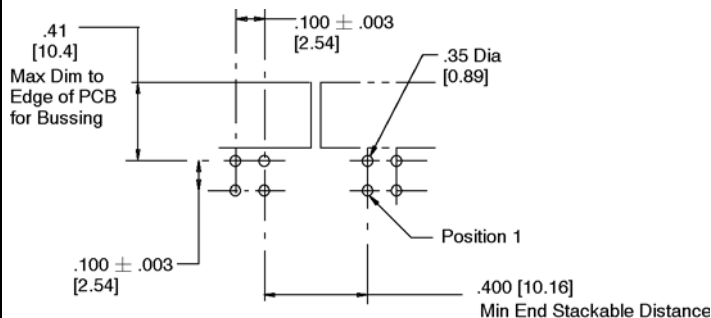
Solder Tail  
02 = for .062 [1.57] thick board  
03 = for .094 to .125 [2.39 to 3.18] thick board  
K2 = for .062 [1.57] thick board

TS-0770-18  
Sheet 2 of 5

Pin Qty	Dimensions		Polarizing Notches
	A	B	
10	.788 [20.02]	.708 [17.98]	BC
14	.988 [25.10]	.908 [22.06]	B C D E
16	1.088 [27.64]	1.008 [25.60]	A B C D E
20	1.288 [32.72]	1.208 [30.68]	A B C D E
24	1.488 [37.80]	1.408 [35.76]	A B C D E
26	1.588 [40.34]	1.508 [38.30]	A B C D E
30	1.788 [45.42]	1.708 [43.38]	A B C D E
34	1.988 [50.50]	1.908 [48.46]	A B C D E
40	2.288 [58.12]	2.208 [56.08]	A B C D E
50	2.788 [70.82]	2.708 [68.78]	A B C D E
60	3.288 [83.52]	3.208 [81.48]	A B C D E
64	3.488 [88.60]	3.408 [86.56]	A B C D E



Section J-J



Recommended Mounting Hole Pattern

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

[ ] Dimensions for Reference only



Notes:

1. Notches A & C will accommodate 3M Polarizing Keys (3M Part #3518 or N3518).
2. Contacts tails .0245 [0.622] wire with .0075 [0.191] corner radii & .028 [0.71] diagonal.
3. See page 4 for kink tail positions.

Ordering Information

Prefix:  
 Blank = Std. Temp. Gray (PBT) / Not RoHS\* Compliant  
 N = High Temp. Beige (PCT) / Not RoHS\* Compliant  
 N = High Temp. Black (PCT) / RoHS\* Compliant (RB Plating Req'd)

**X25XX-50XX-XX**

Pin Quantity:  
(See Table 1)

Plating:

UG = 15µ" [0.38µm] Gold with Tin-Lead Tails  
 UB = 30µ" [0.76µm] Gold with Tin-Lead Tails  
 RB = 30µ" [0.76µm] Gold with Matte Tin Tails (RoHS\* Compliant)

Solder Tail

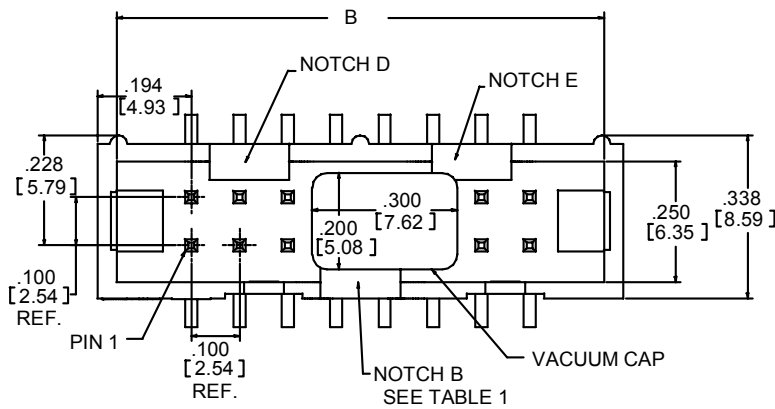
02 = for .062 [1.57] thick board  
 03 = for .094 to .125 [2.39 to 3.18] thick board  
 K2 = for .062 [1.57] thick board

TS-0770-18  
 Sheet 3 of 5

# 3M™ 4-Wall Header

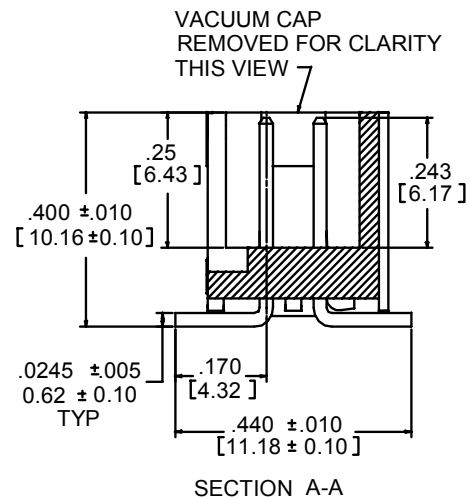
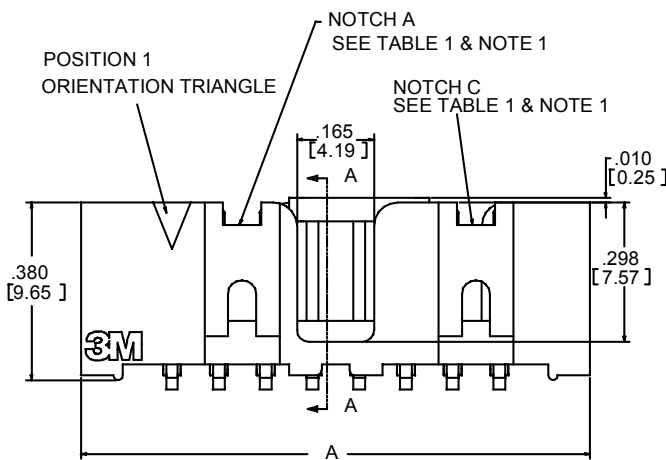
.100" × .100" Low Profile, SMT Straight

2500 Series

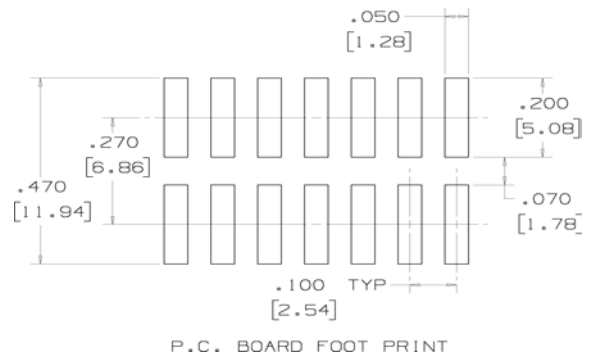


		Inch [mm]		
		Tolerance Unless Noted		
		.0	.00	.000
Inch		±.1	±.01	±.005

[ ] Dimensions for Reference only



Pin Qty	Dimensions		Polarizing Notches	Tape & Reel Pkg Code
	A	B		
10	.788 [20.02]	.708 [17.98]	BC	WD (44 mm)
14	.988 [25.10]	.908 [22.06]	B C D E	WD (44 mm)
16	1.088 [27.64]	1.008 [25.60]	A B C D E	WE (56 mm)
20	1.288 [32.72]	1.208 [30.68]	A B C D E	WE (56 mm)
24	1.488 [37.80]	1.408 [35.76]	A B C D E	WE (56 mm)
26	1.588 [40.34]	1.508 [38.30]	A B C D E	WF (72 mm)
30	1.788 [45.42]	1.708 [43.38]	A B C D E	WF (72 mm)
34	1.988 [50.50]	1.908 [48.46]	A B C D E	WF (72 mm)
40	2.288 [58.12]	2.208 [56.08]	A B C D E	WH (120 mm)
50	2.788 [70.82]	2.708 [68.78]	A B C D E	WG (88 mm)
60	3.288 [83.52]	3.208 [81.48]	A B C D E	WH (120 mm)
64	3.488 [88.60]	3.408 [86.56]	A B C D E	WH (120 mm)



Notes:

- Notches A & C will accommodate 3M polarizing key N3518.
- Vacuum cap will be centered on connectors with odd # of pins/row. It will be offset away from Pin 1 on connectors having an even # of pins per row (shown).
- Coplanarity .004 for less than 30 position, .006 for 30 and above.

## Ordering Information

**X25XX-6V0C-RB -XX**

Prefix: \_\_\_\_\_  
 N = High Temp Black (PCT) RoHS\* Compliant (RB Plating Req'd)

Pin Quantity: (See Table)

Packaging Options:  
 WX = tape & reel packaging (see table 1)

TS-0770-18  
 Sheet 4 of 5

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.

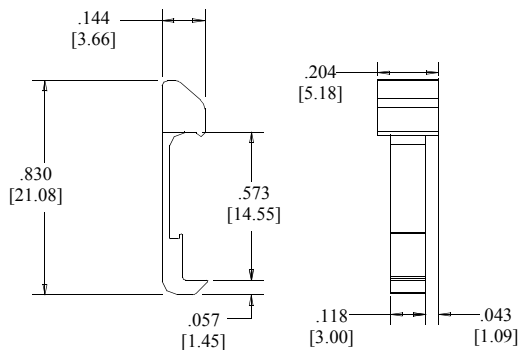
Connector Pin Qty	Dimension A
10	.81 [20.6]
14	1.02 [25.9]
16	1.12 [28.4]
20	1.32 [33.5]
24	1.52 [38.7]
26	1.63 [41.4]
30	1.83 [46.4]
34	2.03 [51.6]
40	2.33 [59.2]
50	2.83 [71.9]
60	3.33 [84.6]
64	3.53 [89.7]

**3505-8XXX**

Connector Pin Count:  
 (See Table)

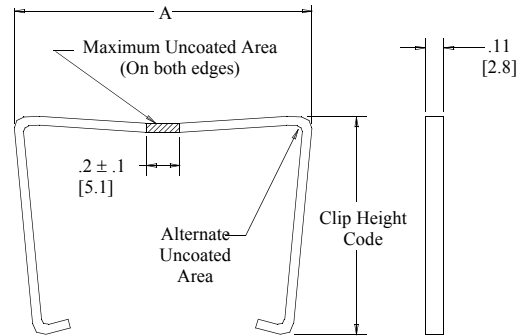
Clip Height Code  
 0 = .31 [7.9] for Sockets W/O Strain Relief  
 1 = .53 [13.5] for Sockets with Strain Relief

Part Number	Material	Color
3505-33B	Nylon	Black
3201-1	PBT	Gray



**Long Snap In Latch**

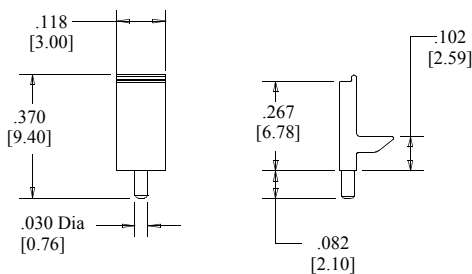
Note: Latches not compatible with reflow soldering. For reflow soldering, attach latches after soldering.



**Short/Long Socket Retainer Clip**

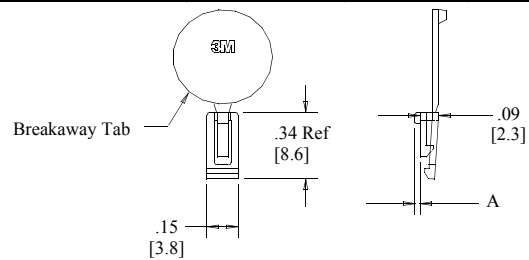
Note: Stainless steel with gray polyurethane coating.

Part Number	Material	Color
3201-3	PCT	Black
3201-1	PBT	Gray



**Polarizing Post**

Part Number	Material	Color	Dim A
N3518	LCP	Black	0.02
3518	PBT	Gray	0.02



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

**Polarizing Keys**

TS-0770-18  
 Sheet 5 of 5

### 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.



#### 3M Electronics

6801 River Place Blvd.  
Austin, TX 78726-9000  
800/225-5373  
[www.3M.com/electronics](http://www.3M.com/electronics)

### 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.**



Minimum 10%  
Post-Consumer Fiber

Printed in USA.

© 3M 2006