

# 3M™ Four-Wall Header

.100" x .100" Low Profile, SMT Straight, Straight and Rt Angle Through-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 8 or 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 through-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
- Straight surface mount version available
- RoHS Compliant. See the Regulatory Information Appendix (RIA) in the “RoHS Compliance” section of [www.3Mconnector.com](http://www.3Mconnector.com) for compliance information.

Date Modified: August 4, 2010

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## Physical

### Insulator

**Material:** Glass Filled Polyester (PBT), Glass Filled Polyester (PCT)-High Temperature Option  
**Flammability:** UL 94V-0  
**Color:** Gray (PBT) or Black (PCT)  
**Contact Material:** Copper Alloy

### Plating

**Underplating:** 100 μ” [ 2.54 μm ] Nickel - Overall  
**Wiping Area:** Gold (See Ordering Information)  
**Solder Tails:** 200 μ” [ 5.08 μm ] Tin Lead or Matte Tin (See Ordering Information)

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

## Electrical

**Current Rating:** 2 A  
**Insulation Resistance:**  $>1 \times 10^9$  W 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 Temperature and PCT insulator versions only), single pass, (profile per J-STD-020C) PBT insulator version, maximum molded insulator temperature 191°C (solder wave process only)  
**Moisture Sensitivity Level:** 1 (per J-STD-020C)

UL File No.: E68080

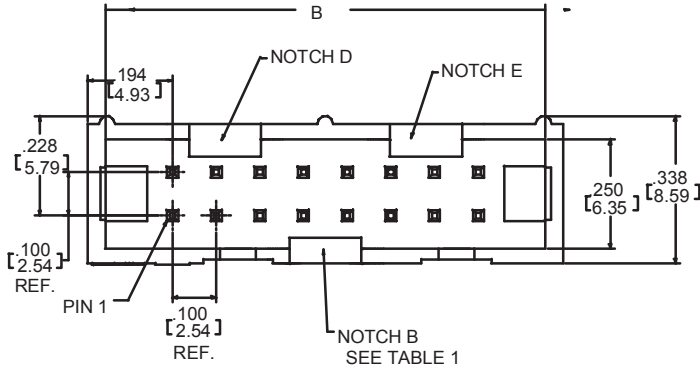
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# 3M™ Four-Wall Header

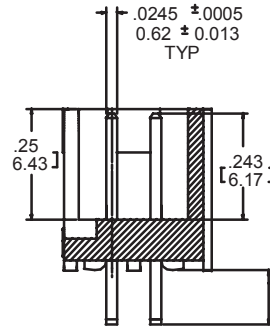
.100" x .100" Low Profile, Straight Through-Hole

2500 Series



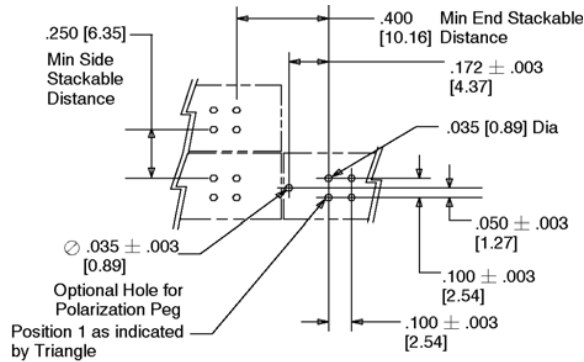
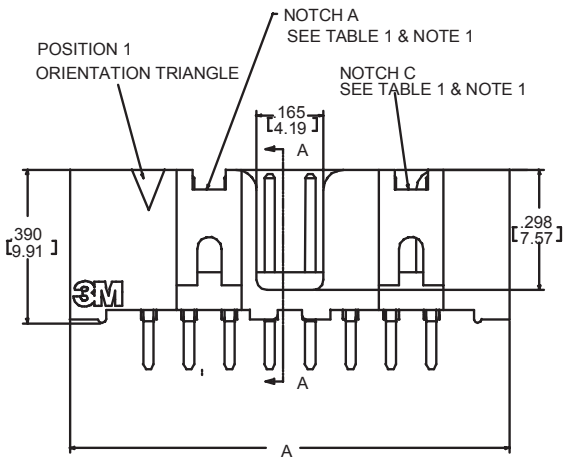
Inch (mm)			
Tolerance Unless Noted			
	.0	.00	.000
Inch	± .1	± .01	± .005

[ ] Dimensions for Reference only



.112 +/- .01 [2.84] for 02&K2 versions  
.155 +/- .01 [3.94] for 03 versions

SECTION A-A



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

Pin Qty	Dimensions		Polarizing Notches
	A	B	
8	0.688 (17.48)	0.608 (15.44)	None
10	0.788 (20.02)	0.708 (17.98)	BC
14	0.988 (25.10)	0.908 (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:**

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

## Ordering Information

Prefix:

**N = High Temp. Black (PCT)**  
**(RB, UB, or UG Plt'g. Req'd)**  
Blank = Std. Temp. Gray (PBT)  
(UB or UG Plt'g. Req'd)

**X25XX-60XX-XX**

Pin Quantity:  
(See Table 1)

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

Plating:

**RB = 30µ" [0.76µm] Gold with 200µ" [5.08µm] Matte Tin Solder Tails (RIA E1 & C1 apply)**  
UG = 15µ" [0.38µm] Gold with 200µ" [5.08µm] 60:40 Tin-Lead Solder Tails (RIA E3 & C2 apply)  
UB = 30µ" [0.76µm] Gold with 200µ" [5.05µm] 60:40 Tin-Lead Solder Tails (RIA E3 & C2 apply)

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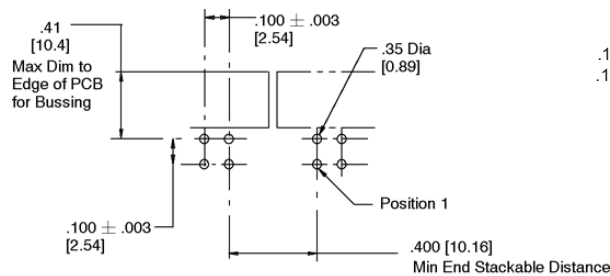
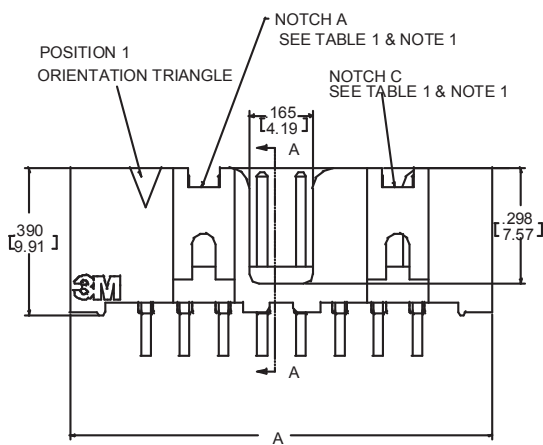
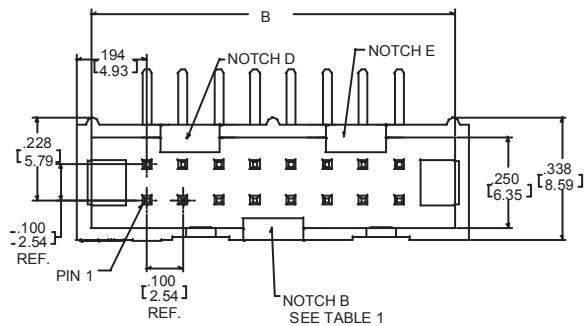
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# 3M™ Four-Wall Header

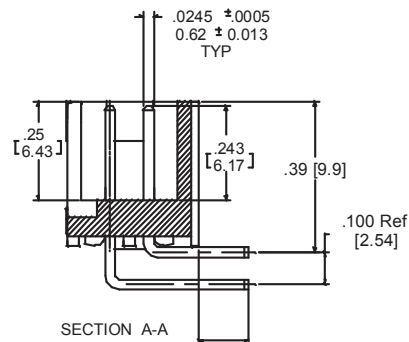
.100" x .100" Low Profile, Right Angle Through-Hole

2500 Series



Recommended Mounting Hole Pattern

Pin Qty	Dimensions		Polarizing Notches
	A	B	
8	0.688 (17.48)	0.608 (15.44)	None
10	0.788 (20.02)	0.708 (17.98)	BC
14	0.988 (25.10)	0.908 (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



.112 +/- .01 [2.84] for 02&K2 versions  
.155 +/- .01 [3.94] for 03 versions

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

[ ] Dimensions for Reference only

Notes:

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



## Ordering Information

Prefix:

**N = High Temp. Black (PCT)**

(RB, UB, or UG Pltg. Req'd)

Blank = Std. Temp. Gray (PBT)(UB or UG Pltg. Req'd)

**X25XX - 50XX - XX**

Pin Quantity:  
(See Table 1)

Solder Tail

02 = for .062 [1.57] thick board (Standard)

03 = for .094 to .125 [2.39 to 3.18] thick board

K2 = for .062 [1.57] thick board

Plating:

**RB = 30μ" [0.76μm] Gold with 200μ" [5.08μm]**

**Matte Tin Solder Tails (RIA E1 & C1 apply)**

UG = 15μ" [0.38μm] Gold with 200μ" [5.08μm] 60:40

Tin-Lead Solder Tails (RIA E3 & C2 apply)

UB = 30μ" [0.76μm] Gold with 200μ" [5.05μm] 60:40

Tin-Lead Solder Tails (RIA E3 & C2 apply)

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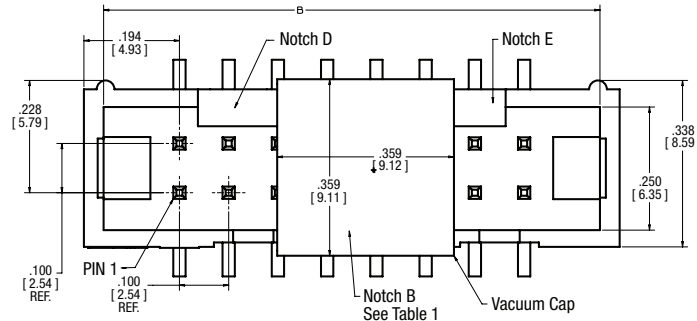
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# 3M™ Four-Wall Header

.100" x .100" Low Profile, Surface Mount Straight

2500 Series



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

[ ] Dimensions for Reference only

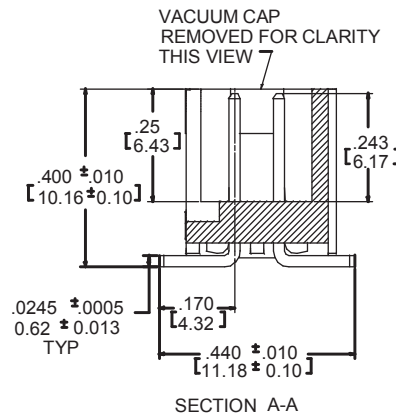
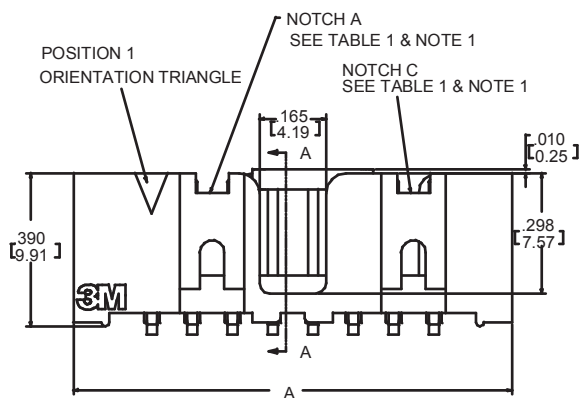
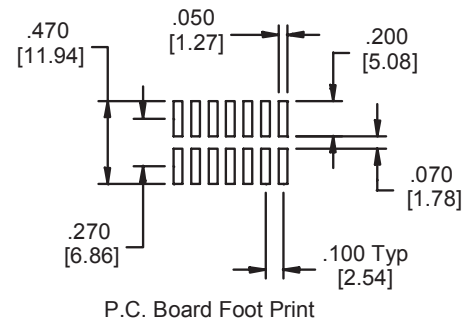


Table 1

Pin Qty	Dimensions		Polarizing Notches	Tape and Reel Pkg Code
	A	B		
8	0.688 (17.48)	0.608 (15.44)	None	WD (44 mm)
10	0.788 (20.02)	0.708 (17.98)	BC	WD (44 mm)
14	0.988 (25.10)	0.908 (22.06)	BCDE	WD (44 mm)
16	1.088 (27.64)	1.008 (25.60)	ABCDE	WD (44 mm)
20	1.288 (32.72)	1.208 (30.68)	ABCDE	WE (56 mm)
24	1.488 (37.80)	1.408 (35.76)	ABCDE	WE (56 mm)
26	1.588 (40.34)	1.508 (38.30)	ABCDE	WE (56 mm)
30	1.788 (45.42)	1.708 (43.38)	ABCDE	WF (72 mm)
34	1.988 (50.50)	1.908 (48.46)	ABCDE	WF (72 mm)
40	2.288 (58.12)	2.208 (56.08)	ABCDE	WG(88 mm)
50	2.788 (70.82)	2.708 (68.78)	ABCDE	WG (88 mm)
60	3.288 (83.52)	3.208 (81.48)	ABCDE	WH (120 mm)
64	3.488 (88.60)	3.408 (86.56)	ABCDE	WH (120 mm)

Notes:

- Notches A & C will accommodate 3M Polarizing Key N3518.
- Vacuum cap will be centered on connectors.
- Coplanarity .004 for less than 30 position, .006 for 30 and above.



## Ordering Information

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

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

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

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

Plating:  
RB = 30µ" [0.76µm] Gold with 200µ" [5.08µm] Matte  
Tin Solder Tails (RIA E1 & C1 apply)

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Sheet 4 of 5

# 3M™ Four-Wall Header

.100" x .100" Low Profile, Accessories

2500 Series

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.

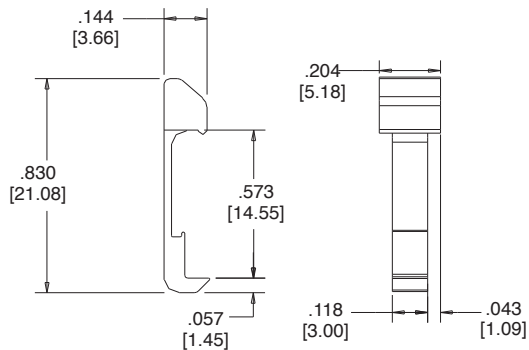
Connector Pin Qty	Dimension A
10	.81 (20.6)
14	1.02 (25.9)
16	1.12 (28.4)
20	1.32 (33.5)
24	1.52 (38.7)
26	1.63 (41.4)
30	1.83 (46.4)
34	2.03 (51.6)
40	2.33 (59.2)
50	2.83 (71.9)
60	3.33 (84.6)
64	3.53 (89.7)

**3505-8XXX**

Connector Pin Count:  
(See Table)

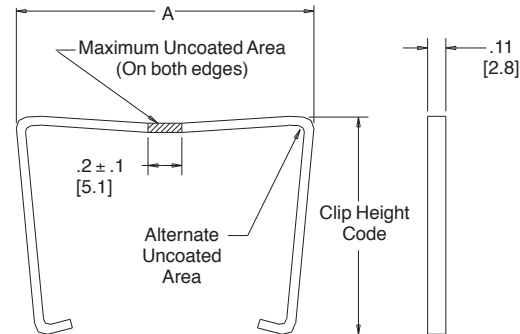
Clip Height Code  
0 = .31 [7.9] for Sockets W/O Strain Relief  
1 = .53 [13.5] for Sockets with Strain Relief

Part Number	Material	Color
3505-33B	Nylon	Black
3505-33	Nylon	Gray



Long Snap In Latch

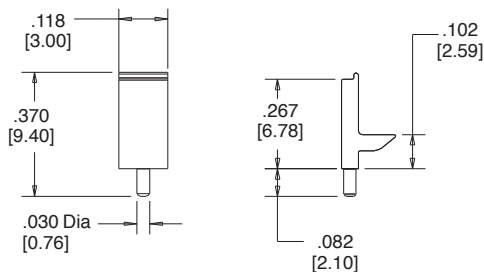
Note: Latches not compatible with reflow soldering. For reflow soldering, attach latches after soldering.



Short/Long Socket Retainer Clip

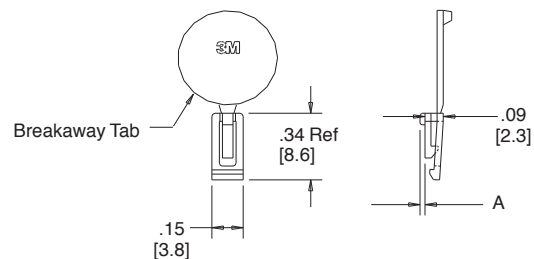
Note: Stainless steel with gray polyurethane coating.

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: 3M™ Scotch-Weld™ Epoxy Adhesive 2216 B/A

Polarizing Keys

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6801 River Place Blvd.  
Austin, TX 78726-9000  
U.S.A.  
1-800-225-5373  
[www.3Mconnector.com](http://www.3Mconnector.com)

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