

# 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 6, 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
- See the Regulatory Information Appendix (RIA) in the “RoHS Compliance” section of [www.3Mconnectors.com](http://www.3Mconnectors.com) for compliance information.

Date Modified: December 15, 2011

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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  $\mu$ " [ 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)

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

## Electrical

**Current Rating:** 5.00 A, 1 Contact Powered  
3.00 A, 6 Contacts Powered  
1.75 A, All Contacts Powered  
Rating Conditions: EIA-364-070 Method 2, 30°C maximum temperature rise, 20% derated.  
Reference appropriate 3M Product Specification for detailed current derating curves.

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

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

UL File No.: E68080



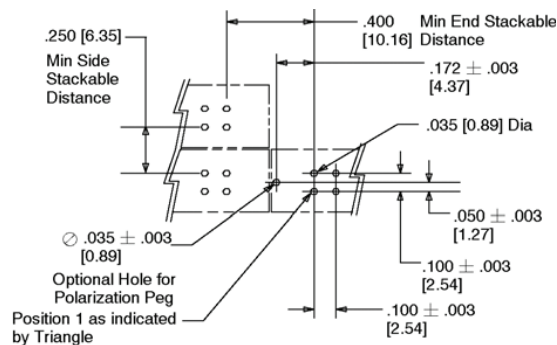
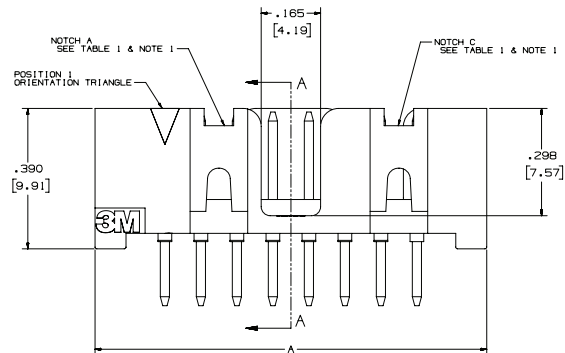
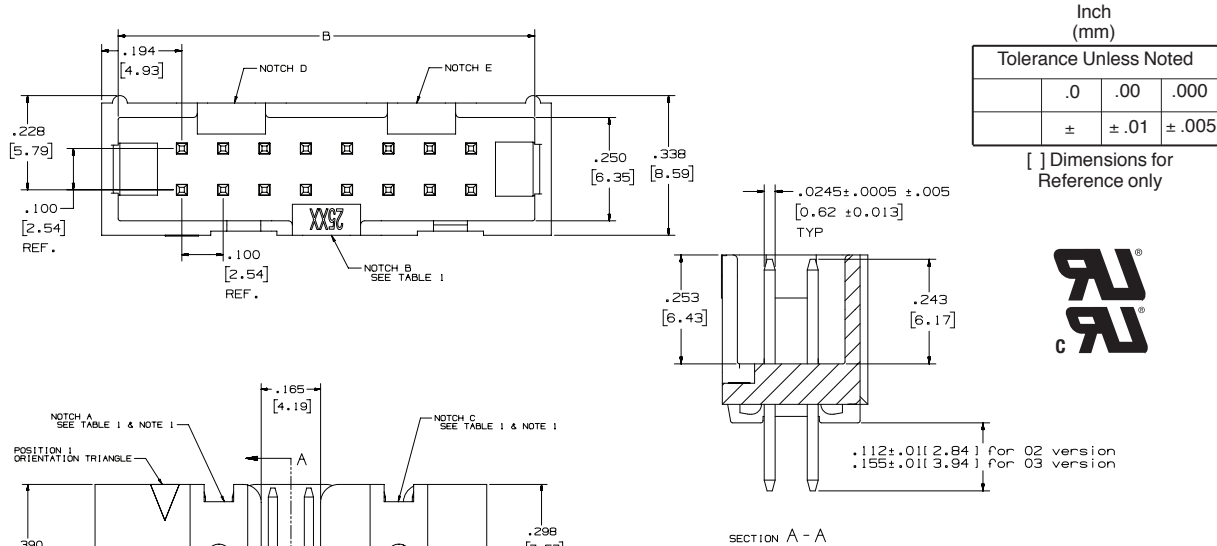
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# 3M™ Four-Wall Header

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

2500 Series



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

## 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.
- Solder stand offs facilitate .01 clearance above board for reflow soldering.

| Table 1 |               |               |                    |  |
|---------|---------------|---------------|--------------------|--|
| Pin Qty | Dimensions    |               | Polarizing Notches |  |
|         | A             | B             |                    |  |
| 6       | 0.588 (14.94) | 0.508 (12.90) | B                  |  |
| 8       | 0.688 (17.48) | 0.608 (15.44) | B                  |  |
| 10      | 0.788 (20.02) | 0.708 (17.98) | BC                 |  |
| 14      | 0.988 (25.10) | 0.908 (23.06) | 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              |  |
| 36      | 2.088 (53.04) | 2.008 (51.00) | 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              |  |

## 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 - 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**

Plating:

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

**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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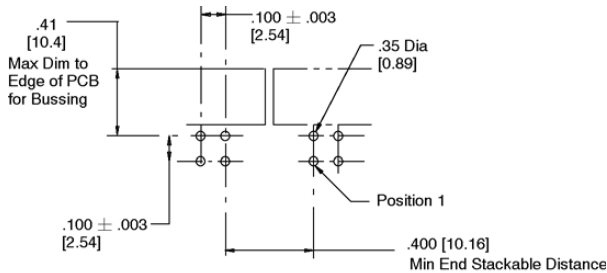
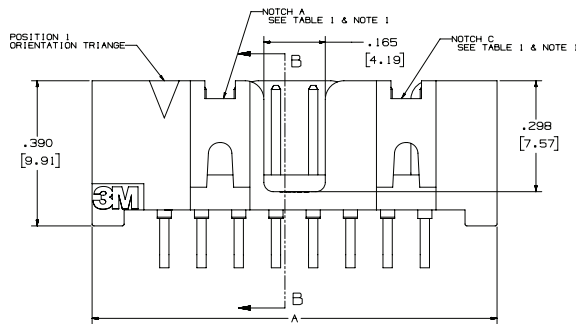
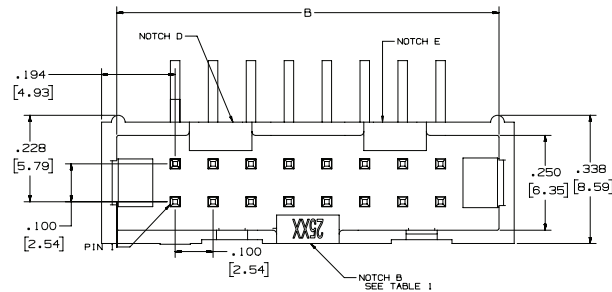
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# 3M™ Four-Wall Header

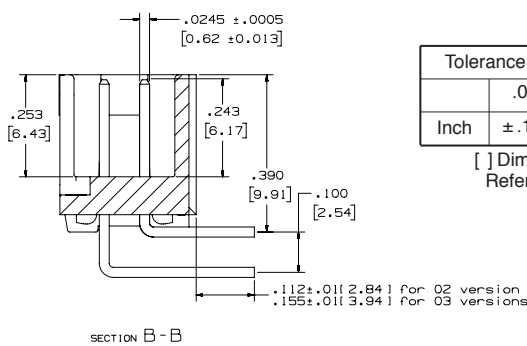
.100" x .100" Low Profile, Right Angle Through-Hole

2500 Series



Recommended Mounting Hole Pattern

| Pin Qty | Dimensions    |               | Polarizing Notches |
|---------|---------------|---------------|--------------------|
|         | A             | B             |                    |
| 6       | 0.588 (14.94) | 0.508 (12.90) | B                  |
| 8       | 0.688 (17.48) | 0.608 (15.44) | B                  |
| 10      | 0.788 (20.02) | 0.708 (17.98) | BC                 |
| 14      | 0.988 (25.10) | 0.908 (23.06) | 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              |
| 36      | 2.088 (53.04) | 2.008 (51.00) | 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              |



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.



## 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)

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**

**X25XX - 50XX - XX**

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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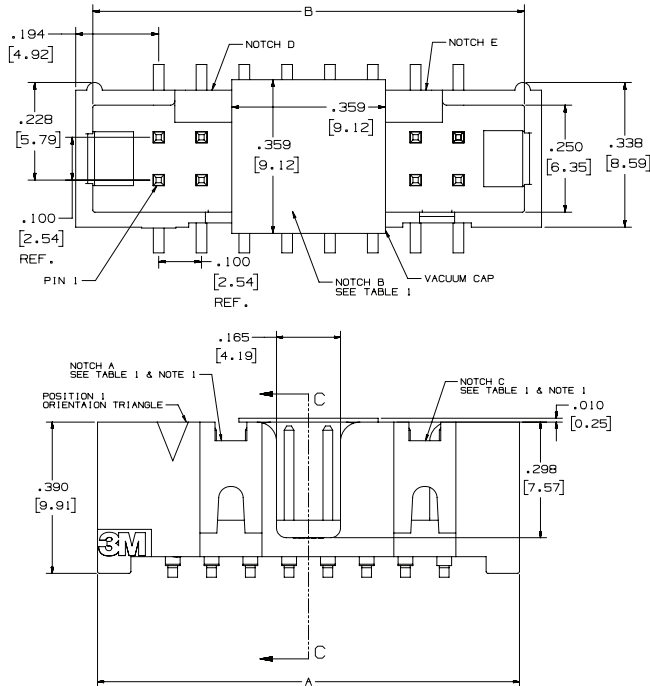
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# 3M™ Four-Wall Header

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

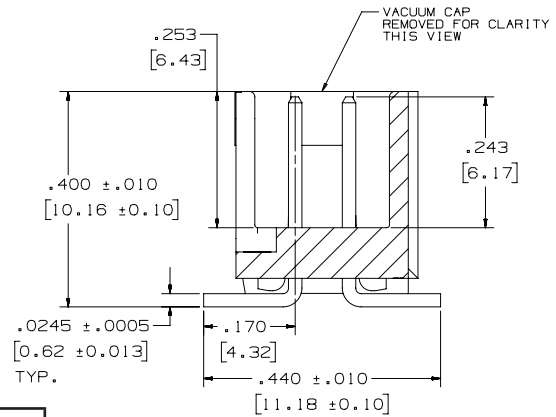
2500 Series



Inch (mm)

| Tolerance Unless Noted |     |      |       |
|------------------------|-----|------|-------|
|                        | .0  | .00  | .000  |
| Inch                   | ±.1 | ±.01 | ±.005 |

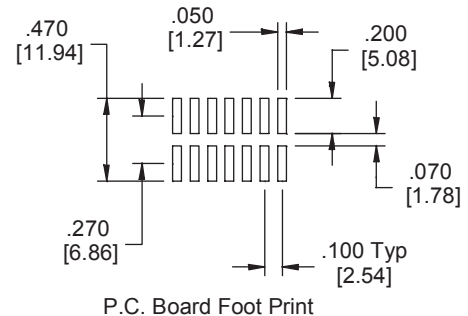
[ ] Dimensions for Reference only



| Table 1 |               |               |                    |                        |  |
|---------|---------------|---------------|--------------------|------------------------|--|
| Pin Qty | Dimensions    |               | Polarizing Notches | Tape and Reel PKG Code |  |
|         | A             | B             |                    |                        |  |
| 6       | 0.588 (14.94) | 0.508 (12.90) | B                  | WD (44 mm)             |  |
| 8       | 0.688 (17.48) | 0.608 (15.44) | B                  | WD (44 mm)             |  |
| 10      | 0.788 (20.02) | 0.708 (17.98) | BC                 | WD (44 mm)             |  |
| 14      | 0.988 (25.10) | 0.908 (23.06) | 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)             |  |
| 36      | 2.088 (53.04) | 2.008 (51.00) | ABCDE              | WG (88 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

**N25XX - 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 = 30 μ" [0.76 μm] Gold with 200 μ" [5.08 μm] Matte  
Tin Solder Tails (RIA E1 & C1 apply)

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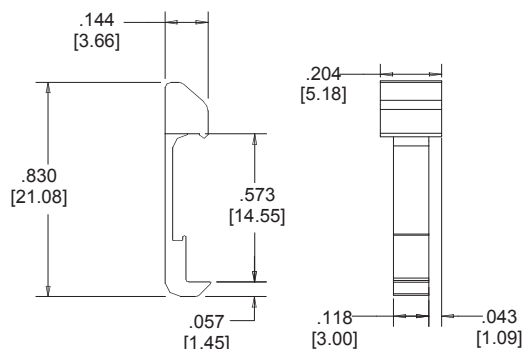
# 3M™ Four-Wall Header

.100" x .100" Low Profile, Accessories

2500 Series

| Connector Pin Qty | Dimension A |
|-------------------|-------------|
| 6                 | N/A         |
| 8                 | N/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) |
| 36                | N/A         |
| 40                | 2.33 (59.2) |
| 50                | 2.83 (71.9) |
| 60                | 3.33 (84.6) |
| 64                | 3.53 (89.7) |

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

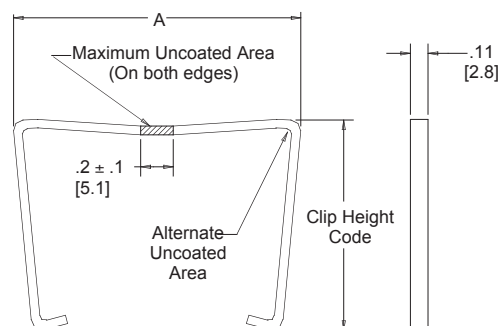


Note: Latches not compatible with reflow soldering. For reflow soldering, attach latches after soldering.

## 3505-8XXX

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

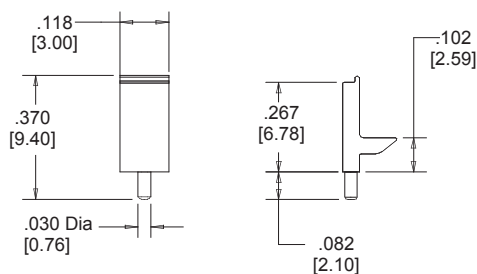
Connector Pin Count:  
 (See Table)



## Short/Long Socket Retainer Clip

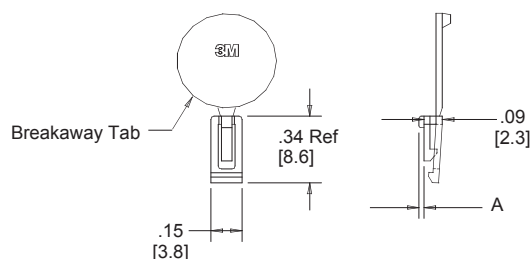
Note: Stainless steel with gray polyurethane coating.

| 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   |



## Polarizing Keys

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