

3M™ 4-Wall Header

.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: September 20, 2006

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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), Beige (PCT) or Black (PCT) - RoHS compliant

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)

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 and 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



Interconnect Solutions

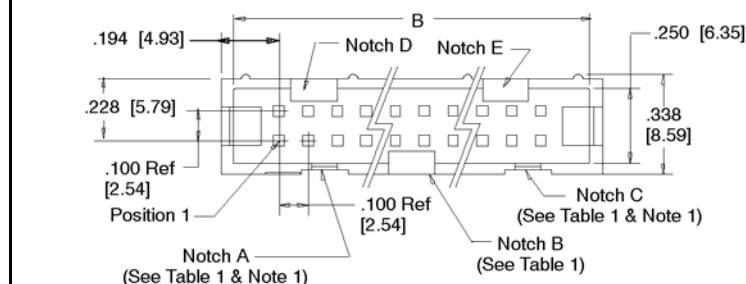
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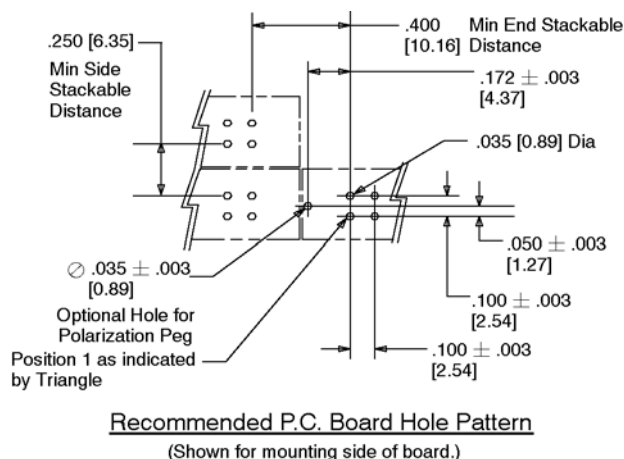
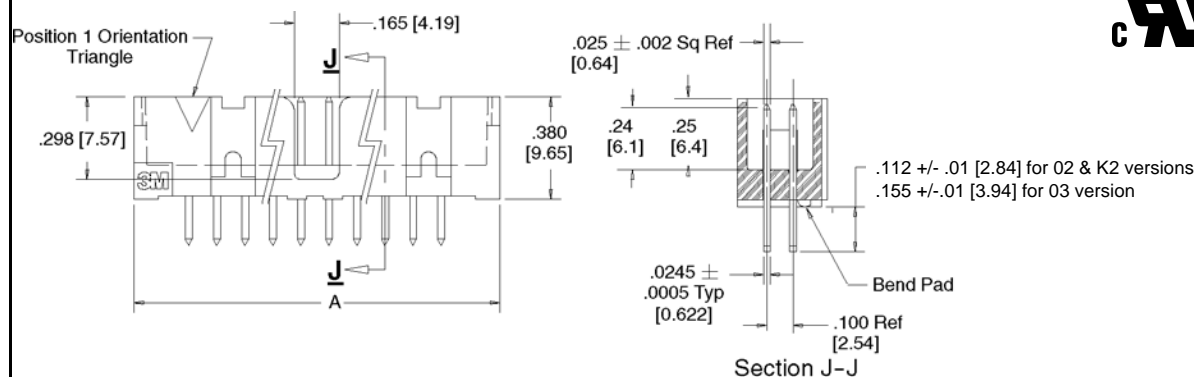
.100" x .100" Low Profile, Straight Thru Hole

2500 Series



| Tolerance Unless Noted | | | |
|------------------------|------|-------|--------|
| | .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] | 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 |

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:

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 = 15 μ " [0.38 μ m] Gold with Tin-Lead Tails

UB = 30μ" [0.76μm] Gold with Tin- Lead Tails

RB = 30 μ " [0.76 μ m] 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

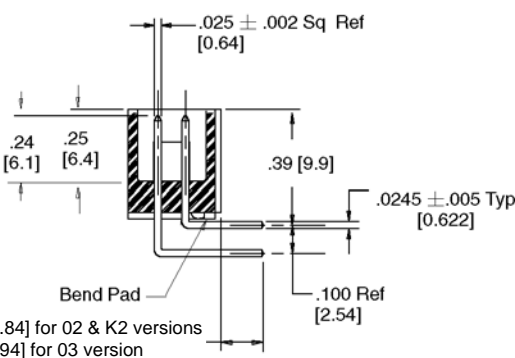
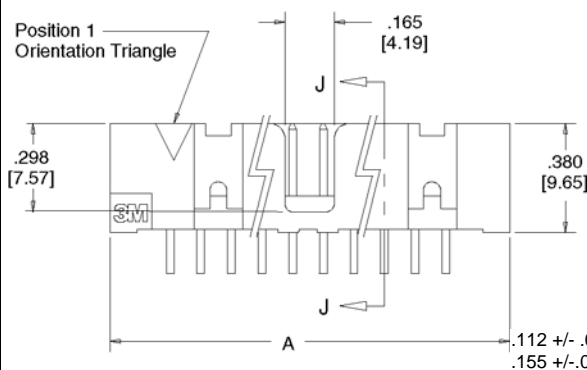
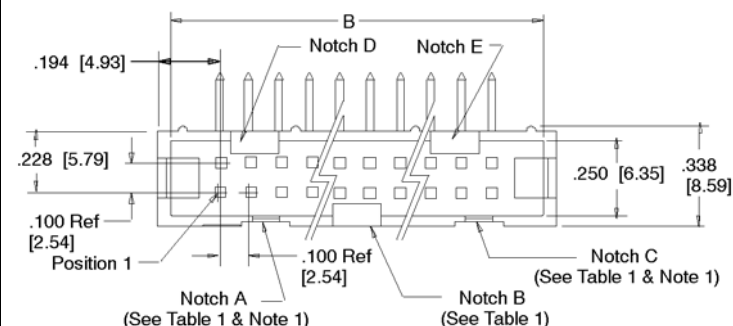
K2 = for .062 [1.57] thick board

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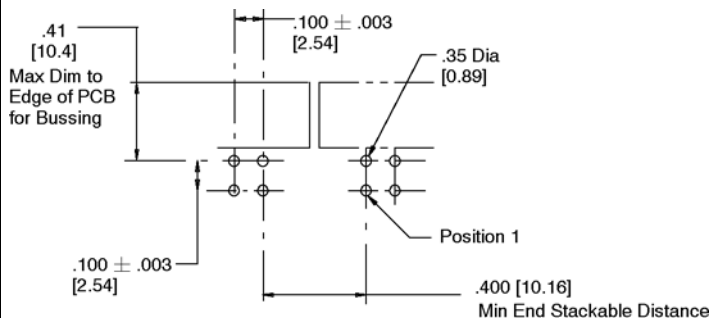
3M™ 4-Wall Header

.100" × .100" Low Profile, Right Angle Thru Hole

2500 Series



Section J-J



Recommended Mounting Hole Pattern

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.

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

[] Dimensions for Reference only



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

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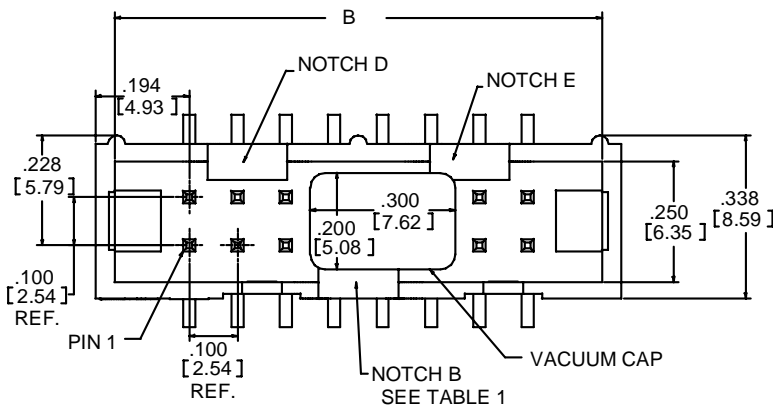
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3M™ 4-Wall Header

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

2500 Series



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

[] Dimensions for Reference only

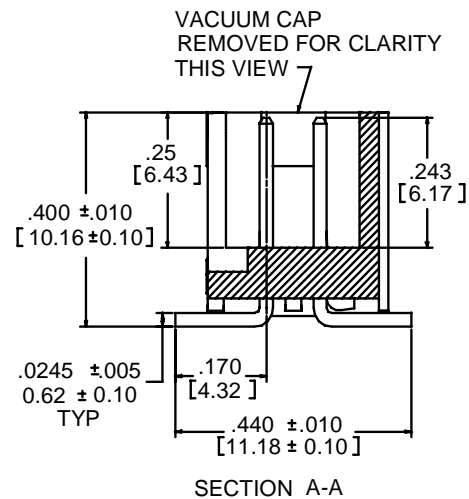
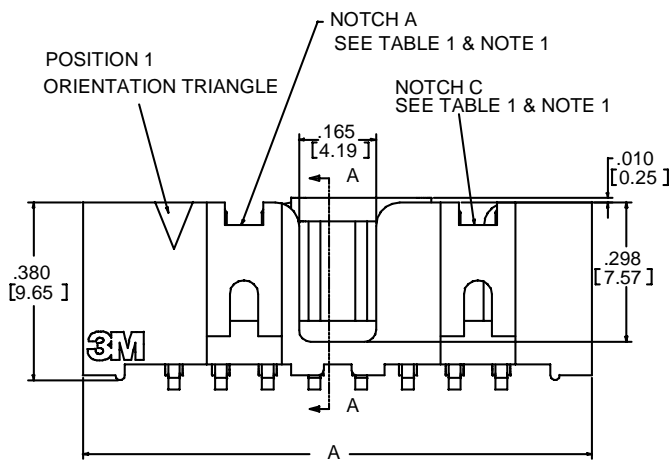


Table 1

| 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)

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3M™ 4-Wall Header

.100" × .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.

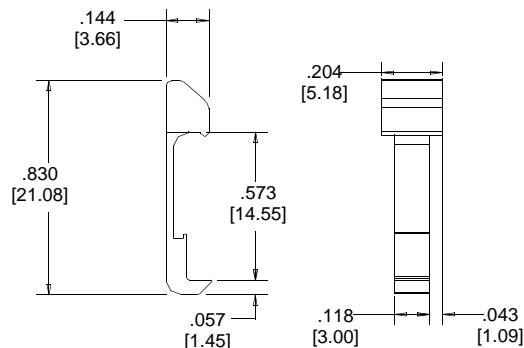
| Connector Pin Qty | Dimension A |
|-------------------|-------------|
| 10 | .81 [20.6] |
| 14 | 1.02 [25.9] |
| 16 | 1.12 [28.4] |
| 20 | 1.32 [33.5] |
| 24 | 1.52 [38.7] |
| 26 | 1.63 [41.4] |
| 30 | 1.83 [46.4] |
| 34 | 2.03 [51.6] |
| 40 | 2.33 [59.2] |
| 50 | 2.83 [71.9] |
| 60 | 3.33 [84.6] |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

3505-8XXX

Connector Pin Count:
(See Table)

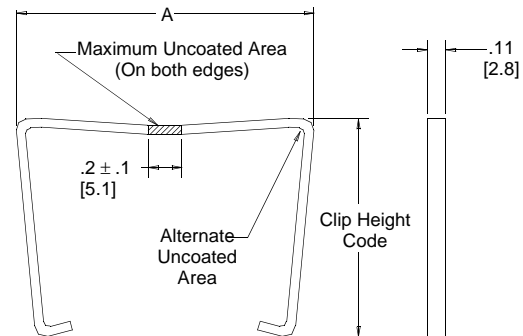
Clip Height Code
0 = .31 [7.9] for Sockets W/O
Strain Relief
1 = .53 [13.5] for Sockets with
Strain Relief

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



Long Snap In Latch

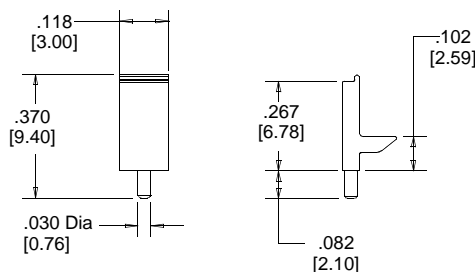
Note: Latches not compatible with reflow soldering. For reflow soldering, attach latches after soldering.



Short/Long Socket Retainer Clip

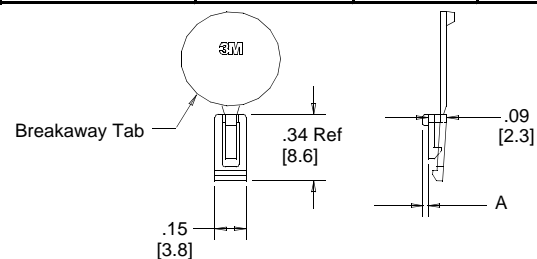
Note: Stainless steel with gray polyurethane coating.

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

Polarizing Keys

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