

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 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 μ m] Nickel - Overall
Wiping Area: Gold (See Ordering Information)
Solder Tails: 200 μ " [5.08 μ m] 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_{DC}
Withstanding Voltage: 1000 V_{RMS} 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

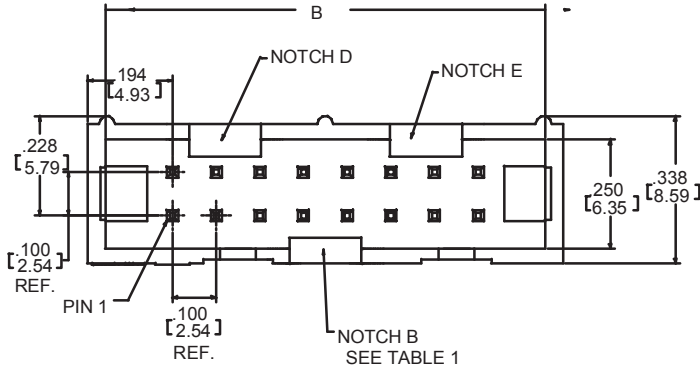
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3M™ Four-Wall Header

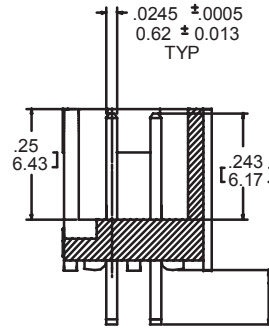
.100" x .100" Low Profile, Straight Through-Hole

2500 Series



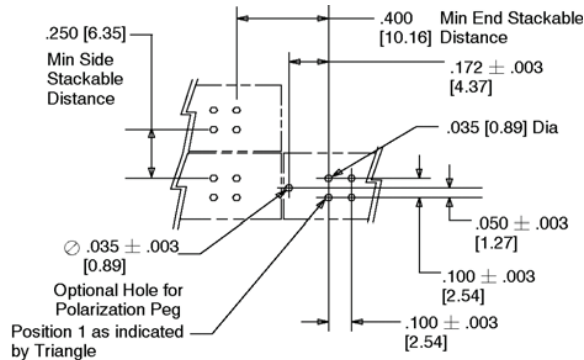
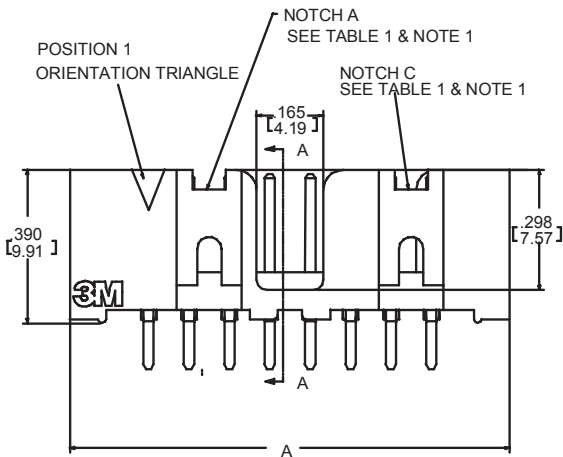
| Inch (mm) | | | |
|------------------------|------|-------|--------|
| Tolerance Unless Noted | | | |
| | .0 | .00 | .000 |
| Inch | ± .1 | ± .01 | ± .005 |

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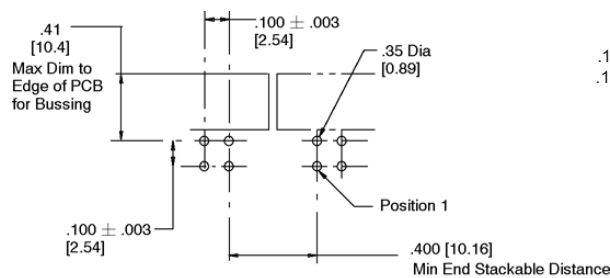
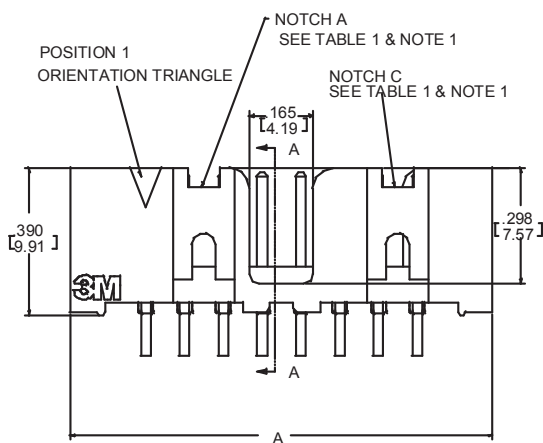
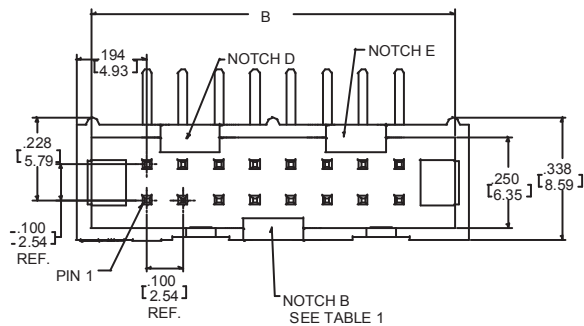
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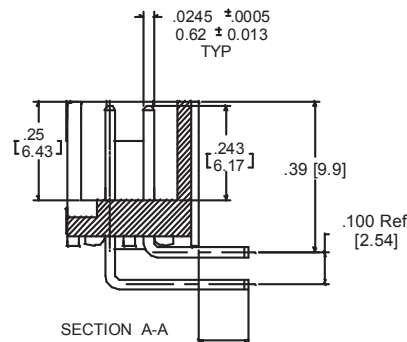
.100" x .100" Low Profile, Right Angle Through-Hole

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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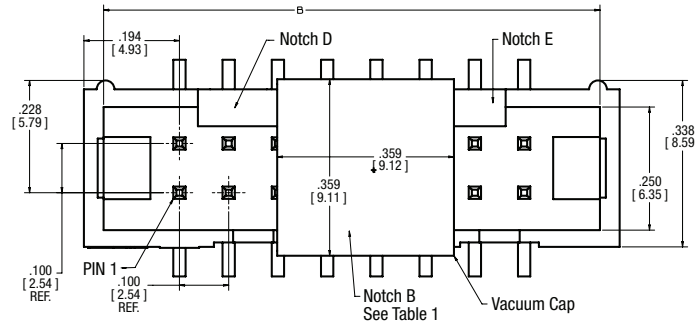
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3M™ Four-Wall Header

.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

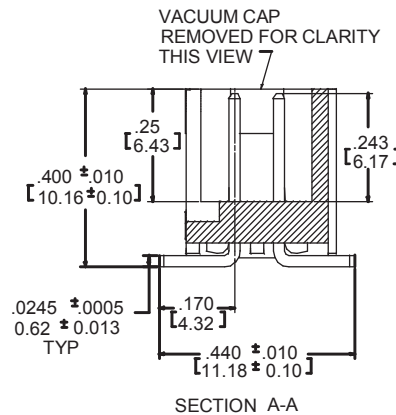
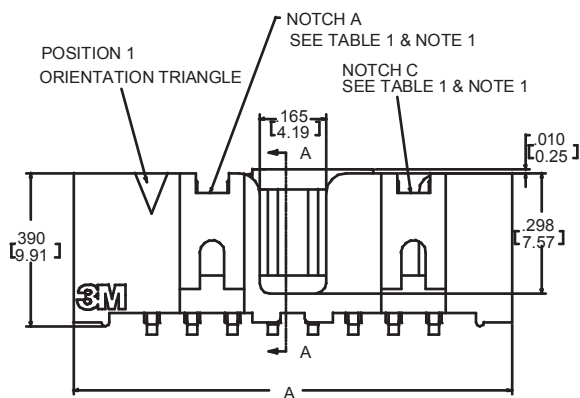
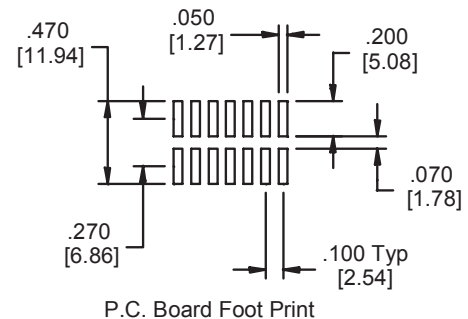


Table 1

| 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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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.

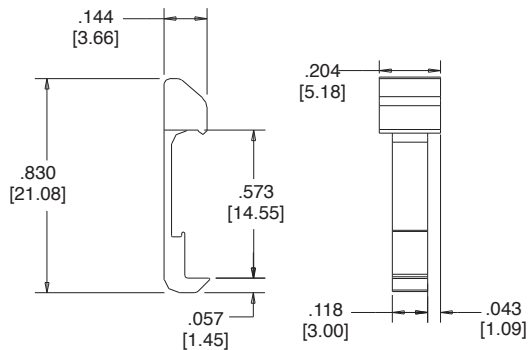
| Connector Pin Qty | Dimension A |
|-------------------|-------------|
| 10 | .81 (20.6) |
| 14 | 1.02 (25.9) |
| 16 | 1.12 (28.4) |
| 20 | 1.32 (33.5) |
| 24 | 1.52 (38.7) |
| 26 | 1.63 (41.4) |
| 30 | 1.83 (46.4) |
| 34 | 2.03 (51.6) |
| 40 | 2.33 (59.2) |
| 50 | 2.83 (71.9) |
| 60 | 3.33 (84.6) |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

3505-8XXX

Connector Pin Count:
(See Table)

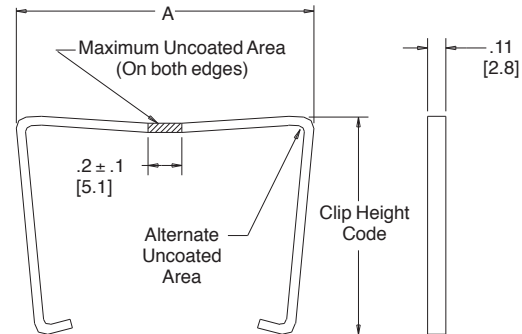
Clip Height Code
0 = .31 [7.9] for Sockets W/O Strain Relief
1 = .53 [13.5] for Sockets with Strain Relief

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



Long Snap In Latch

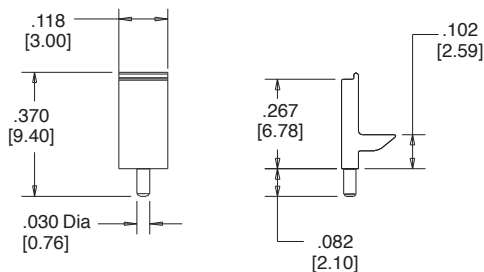
Note: Latches not compatible with reflow soldering. For reflow soldering, attach latches after soldering.



Short/Long Socket Retainer Clip

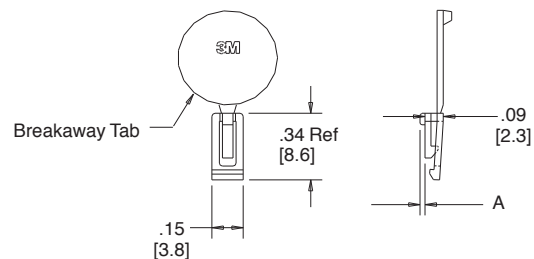
Note: Stainless steel with gray polyurethane coating.

| 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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