

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
- See the Regulatory Information Appendix (RIA) in the “RoHS Compliance” section of www.3Mconnector.com for compliance information.

Date Modified: August 26, 2011

TS-0770-K
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) 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: 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_{DC}

Withstanding Voltage: 1000 V_{RMS} 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

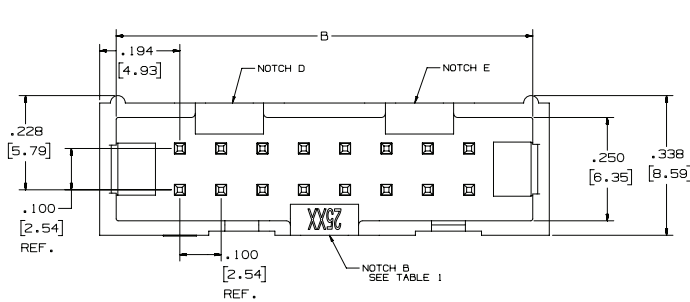
Moisture Sensitivity Level: 1 (per J-STD-020C)

UL File No.: E68080

3M™ Four-Wall Header

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

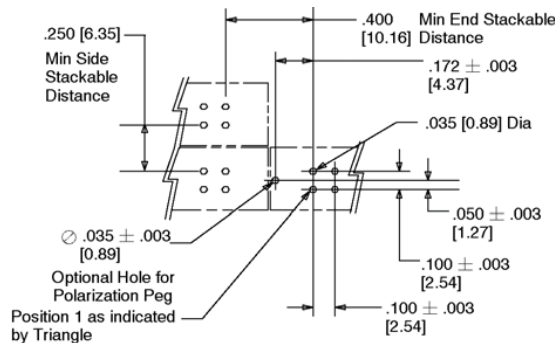
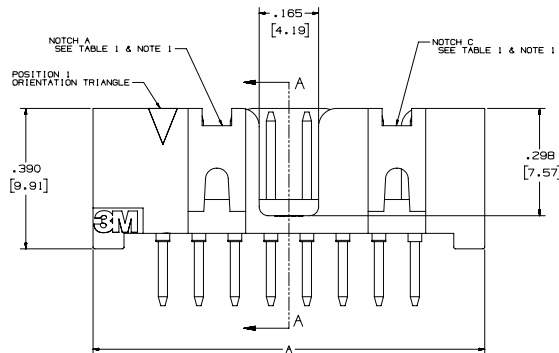
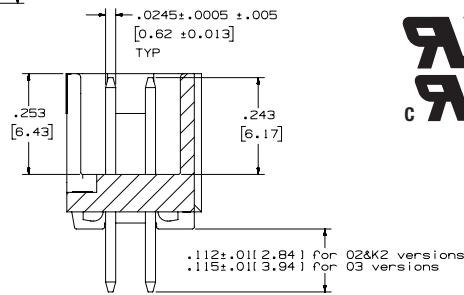
2500 Series



Inch (mm)

| Tolerance Unless Noted | | |
|------------------------|-------|--------|
| .0 | .00 | .000 |
| ± | ± .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 | |
| 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 |
| 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:
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)

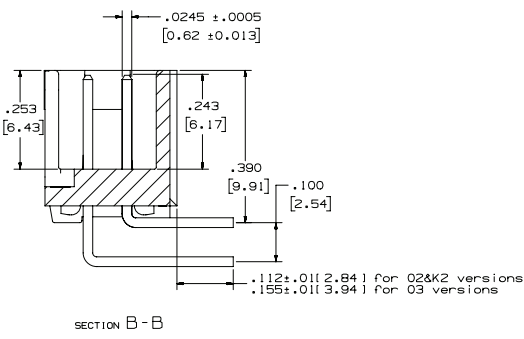
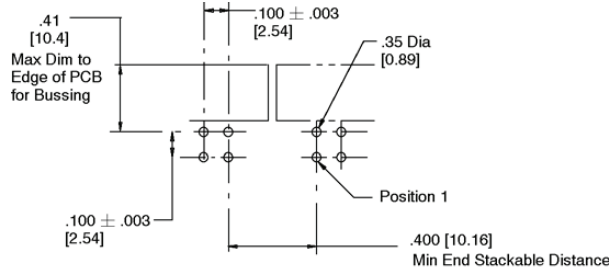
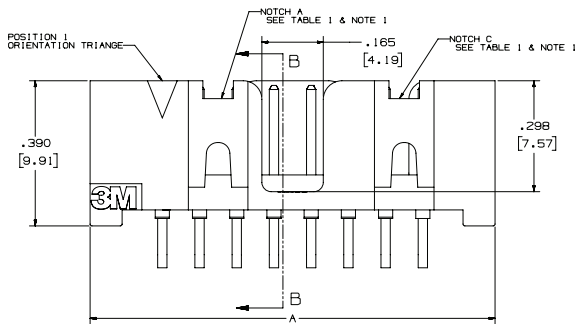
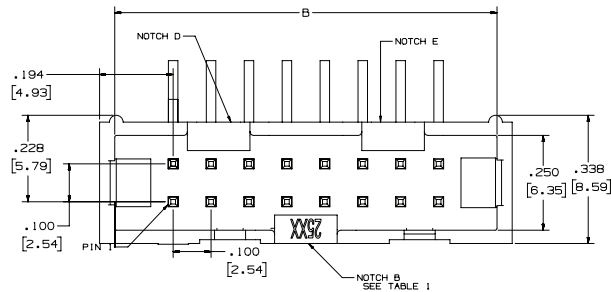
Solder Tail
02 = for .062 [1.57] thick board (Standard)
 03 = for .094 to .125 [2.39 to 3.18] thick board
 K2 = for .062 [1.57] thick board

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)

3M™ Four-Wall Header

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

2500 Series



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

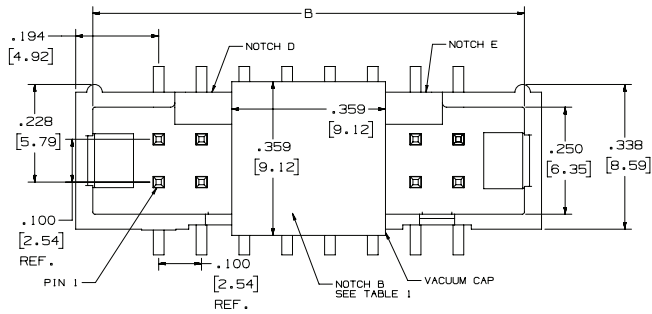
TS-0770-K
 Sheet 3 of 5

| Pin Qty | Dimensions | | Polarizing Notches |
|---------|---------------|---------------|--------------------|
| | A | 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 |
| 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 |

3M™ Four-Wall Header

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

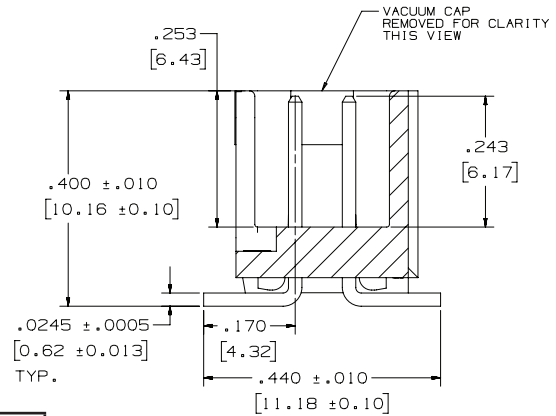
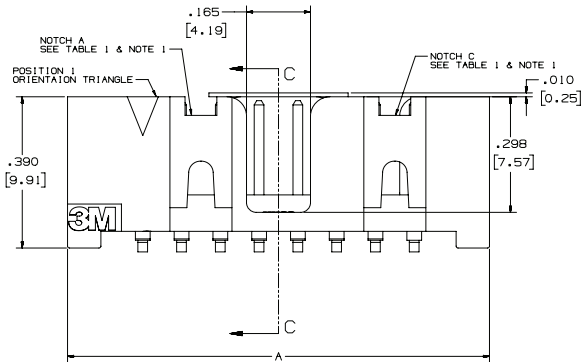
2500 Series



Inch (mm)

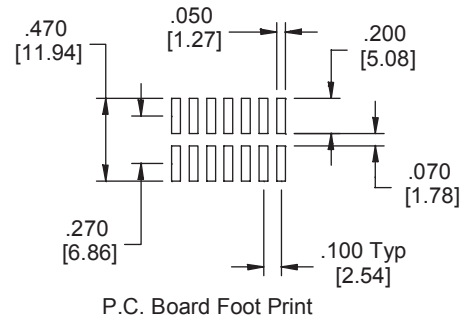
| Tolerance Unless Noted | | | |
|------------------------|-----|------|-------|
| | .0 | .00 | .000 |
| Inch | ±.1 | ±.01 | ±.005 |

[] Dimensions for Reference only



SECTION C - C

| Pin Qty | Dimensions | | Polarizing Notches | Tape and Reel PKG Code |
|---------|---------------|---------------|--------------------|------------------------|
| | A | B | | |
| 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) |
| 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) |



P.C. Board Foot Print

Notes:

1. Notches A & C will accommodate 3M Polarizing Key N3518.
2. Vacuum cap will be centered on connectors.
3. 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)

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

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

TS-0770-K
Sheet 4 of 5

3M™ Four-Wall Header

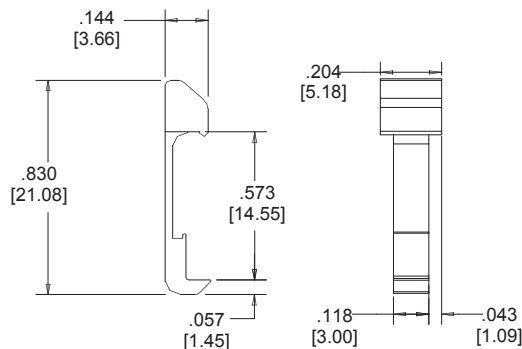
.100" x .100" Low Profile, Accessories

2500 Series

| Dimensions | | | | | |
|----------------------|------------------------|------------------|----|----|----|
| 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.

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



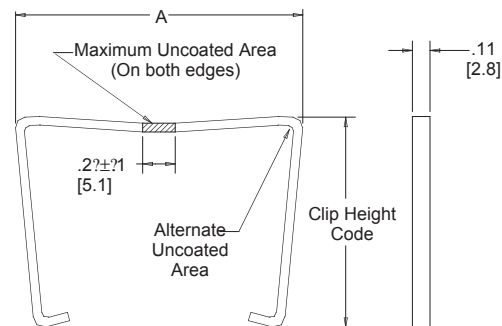
Note: Latches not compatible with reflow soldering. For reflow soldering, attach latches after soldering.

| 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)

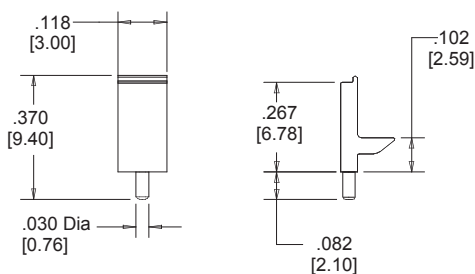
Clip Height Code
0 = .31 [7.9] for Sockets W/O Strain Relief
1 = .53 [13.5] for Sockets with Strain Relief



Short/Long Socket Retainer Clip

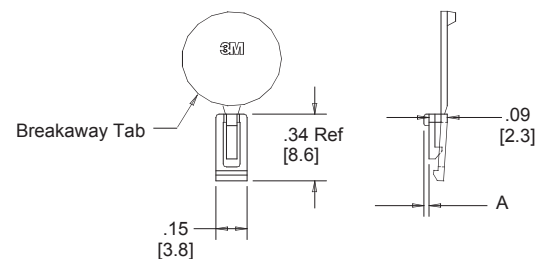
Note: Stainless steel with gray polyurethane coating.

| 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

TS-0770-K
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.

Warranty; Limited Remedy; Limited Liability.

This product will be free from defects in material and manufacture for a period of one (1) year 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.**

**3M Electronics Solutions Division**

6801 River Place Blvd.
Austin, TX 78726-9000
U.S.A.
1-800-225-5373
www.3Mconnector.com

Please recycle. Printed in USA.
© 3M 2010. All rights reserved.
RIA-2217B-E

3M is a trademark of 3M Company.