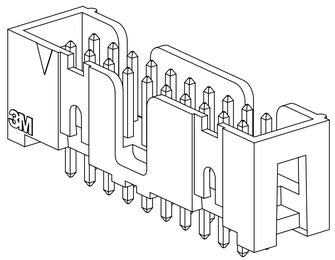
# 3M™ FOUR-WALL HEADER, 2500 SERIES

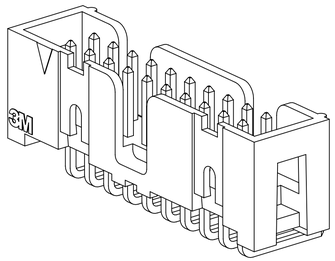
.100" X .100" LOW PROFILE, SURFACE MOUNT, STRAIGHT AND RIGHT ANGLE THROUGH-HOLE

* 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 AVAILABLE ON 6, 8 OR 10 POSITIONS).
* OPTIONAL RETAINER CLIP FOR LOCKING SOCKETS IN PLACE AND INCREASING CONNECTION RELIABILITY IN VIBRATION-PRONE ENVIRONMENTS.
* HIGH TEMPERATURE INSULATOR SUITABLE FOR "NO LEAD" SOLDERING OPERATIONS.
* THROUGH HOLE VERSION SUITABLE FOR REFLOW SOLDERING USING "PASTE IN HOLE" TECHNIQUES.
* EXPOSED SOLDER TAILS (ON RIGHT ANGLE VERSION) PROVIDE EASE OF CLEANING AND REDUCED REPAIR COST.
* STRAIGHT SURFACE MOUNT VERSION AVAILABLE.



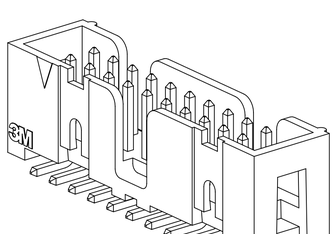
25XX-60XX

STRAIGHT VERSION



25XX-50XX

RIGHT ANGLE VERSION



25XX-6V0C

SURFACE MOUNT VERSION

## [2] PHYSICAL:

| | |
|---|---|
| INSULATOR: | |
| MATERIAL: | GLASS FILLED POLYESTER (PCT) |
| FLAMMABILITY: | UL94V-0 |
| COLOR: | BLACK |
| CONTACT: | |
| MATERIAL: | COPPER ALLOY |
| PLATING: | |
| UNDER PLATING: | 100μ" [2.54μm] NICKEL-OVERALL |
| WIPING AREA: | AVG. GOLD (SEE ORDERING INFORMATION) |
| SOLDER TAILS: | 200μ" [5.08μm] TIN LEAD OR MATTE TIN (SEE ORDERING INFORMATION) |
| MARKINGS: | 3M LOGO, PART IDENTIFICATION NUMBER AND ORIENTATION TRIANGLE |

## [2] ELECTRICAL:

| | |
|---|---|
| CURRENT RATING: | 5.00A, 1 CONTACT POWERED<br>3.00A, 6 CONTACTS POWERED<br>1.75A, ALL CONTACTS POWERED<br>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 X $10^9\Omega$ AT 500 $V_{DC}$ |
| WITHSTANDING VOLTAGE: | 1,000$V_{RMS}$ AT SEA LEVEL |

## [2] ENVIRONMENTAL:

| | |
|---|---|
| TEMPERATURE RATING: | -55°C TO 105°C |
| PROCESS RATING: | 260°C, PER J-STD-020C, SINGLE PASS |
| MOISTURE SENSITIVITY LEVEL: | 1 (PER J-STD-020C) |

NOTES

1. REGULATORY INFORMATION: ROHS COMPLIANT. SEE THE REGULATORY INFORMATION APPENDIX (RIA) IN THE "ROHS COMPLIANCE" SECTION OF WWW.3MCONNECTORS.COM FOR COMPLIANCE INFORMATION.
2. IN THE EVENT OF CONFLICT BETWEEN THIS DATA AND THAT CONTAINED IN THE PRODUCT SPECIFICATION, THE PRODUCT SPECIFICATION TAKES PRECEDENT.
3. NOTCHES A & C WILL ACCOMODATE 3M POLARIZING KEY: N3518.
4. CONTACT TAILS .0245 [.622] WIDE WITH .0075 [.191] CORNER RADII AND .028 [.072] DIAGONAL.
5. SOLDER STANDOFFS FACILITATE .01 [.3] CLEARANCE ABOVE BOARD FOR REFLOW SOLDERING.

3M ELECTRONIC MATERIALS SOLUTIONS DIVISION
INTERCONNECT SOLUTIONS
http://www.3mconnectors.com

3M IS A TRADEMARK OF 3M COMPANY.
FOR TECHNICAL, SALES OR ORDERING INFORMATION CALL 800-225-5373

UL FILE NO: E68080

DIMENSIONS: INCHES [MM]
[MM] IS REF. ONLY

| REV | ECO | ISSUE DATE AND DESCRIPTION | DRFT | CHKD |
|---|---|---|---|---|
| M | 56068 | AUG 11,2014 REVISED AND REDRAWN | JNC | RS |

DESIGN REFERENCE | NEXT ASSEMBLY | ACCESS CODES

DRFT: CASTIGLIONE DATE: AUG 11,2014 | MFG DATE:
CHKD DATE: | APPVL: R. SCHERER DATE: SEP 05,2014

DIVISION: Interconnect Solutions | DIVISION CODE: EMSD

DO NOT SCALE DRAWING | SCALE 4/1

TOLERANCES EXCEPT AS NOTED

THIRD ANGLE PROJECTION

INCHES: .0 ± | .00 ± .01 | .000 ± .005 | .0000 ±

INTERPRET PER ASME Y14.5 - 2009

MILLIMETERS: 0 ± | .0 ± .3 | .00 ± .13 | .000 ±

MAX SURFACE ROUGHNESS: ☐ ALL SURFACES ☐ MARKED ONLY

ANGLES ±

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3M Center, St. Paul, MN 55144

TITLE: HEADER, 4-WALL, LO-PRO, .100 X .100, SMT, STRAIGHT & RA

CAGE NUMBER | SIZE D | DRAWING NO. 78-5100-0770-7 | REV. M

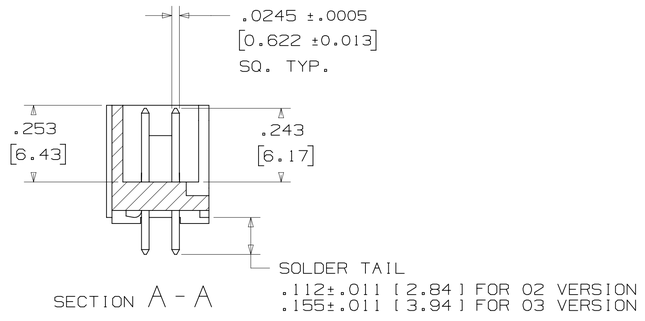
MODEL: 3000 SERIES | DET. LISTS ☐ YES ☒ NO | SHT 1 OF 5

78-5100-0770-7 DRAWING NUMBER | M REVISION

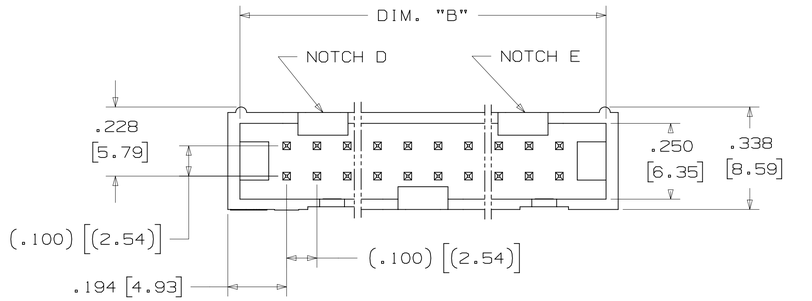
Image: M.3 2/10/2015 8:32 AM UTC-06:00

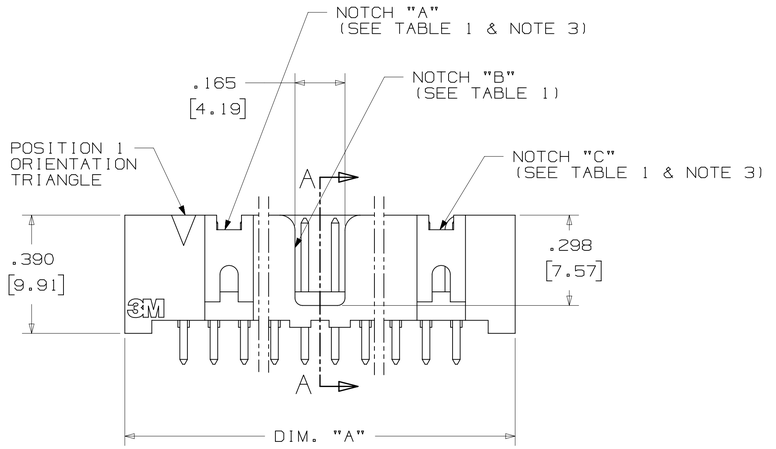
# 3M™ FOUR-WALL HEADER, 2500 SERIES

.100" X .100" LOW PROFILE, SURFACE MOUNT, STRAIGHT AND RIGHT ANGLE THROUGH-HOLE

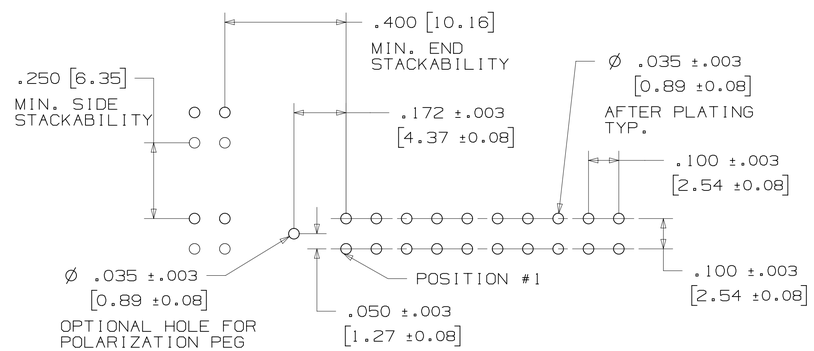



SECTION A - A




| TABLE 1 | | | | |
|---|---|---|---|---|
| PIN QTY. | DIM. "A" | DIM. "B" | POLARIZING NOTCHES | PIN QTY. |
| 06 | .588 [14.94] | .508 [12.90] | B | 06 |
| 08 | .688 [17.48] | .608 [15.44] | B | 08 |
| 10 | .788 [20.02] | .708 [17.98] | BC | 10 |
| 14 | .988 [25.10] | .908 [23.06] | BCDE | 14 |
| 16 | 1.088 [27.64] | 1.008 [25.60] | ABCDE | 16 |
| 20 | 1.288 [32.72] | 1.208 [30.68] | ABCDE | 20 |
| 24 | 1.488 [37.80] | 1.408 [35.76] | ABCDE | 24 |
| 26 | 1.588 [40.34] | 1.508 [38.30] | ABCDE | 26 |
| 30 | 1.788 [45.42] | 1.708 [43.38] | ABCDE | 30 |
| 34 | 1.988 [50.50] | 1.908 [48.46] | ABCDE | 34 |
| 36 | 2.088 [53.04] | 2.008 [51.00] | ABCDE | 36 |
| 40 | 2.288 [58.12] | 2.208 [56.08] | ABCDE | 40 |
| 50 | 2.788 [70.82] | 2.708 [68.78] | ABCDE | 50 |
| 60 | 3.288 [83.52] | 3.208 [81.48] | ABCDE | 60 |
| 64 | 3.488 [88.60] | 3.408 [86.56] | ABCDE | 64 |




## RECOMMENDED HOLE PATTERN

SHOWN FROM COMPONENT SIDE

## ORDERING INFORMATION
## STRAIGHT VERSION

X25XX-60XX-XX

N= HIGH TEMP BLACK (PCT)
(RB, UB OR UG PLATING REQ'D)
BLANK= (UB OR UG PLATING)

PIN QUANTITY:
(SEE TABLE 1)

SOLDER TAIL:
02 = FOR .062 [1.57] THICK BOARD
03 = FOR .094 TO .125 [2.39 TO 3.18] THICK BOARD

PLATING:
RB = 30μ" [0.76μm] AVG. GOLD
200μ" [5.08μm] MATTE TIN (RIA. E1 & C1 APPLY)
UG = 15μ" [0.38μm] AVG. GOLD
200μ" [5.08μm] 60:40 TIN-LEAD SOLDER TAILS
(RIA E3 & C2 APPLY)
UB = 30μ" [0.76μm] AVG. GOLD
200μ" [5.08μm] 60:40 TIN LEAD SOLDER TAILS
(RIA E3 & C2 APPLY)

| M | 56068 | AUG 11,2014 | JNC | RS |
|---|---|---|---|---|
| | | REVISED AND REDRAWN | | |
| REV | ECO | ISSUE DATE AND DESCRIPTION | DRFT | CHKD |

DESIGN REFERENCE | NEXT ASSEMBLY | ACCESS CODES

DRFT CASTIGLIONE DATE AUG 11,2014 | MFG | DATE

CHKD | DATE | APPVL R. SCHERER DATE SEP 05,2014

DIVISION: Interconnect Solutions
DIVISION CODE: EMSD
DO NOT SCALE DRAWING | SCALE 4/1
TOLERANCES EXCEPT AS NOTED
THIRD ANGLE PROJECTION
INTERPRET PER ASME Y14.5 - 2009
MAX SURFACE ROUGHNESS ☐ ALL SURFACES ☐ MARKED ONLY
INCHES: .0 ± | .00 ± .01 | .000 ± .005 | .0000 ±
MILLIMETERS: 0 ± | .0 ± .3 | .00 ± .13 | .000 ±
ANGLES ±

3M Center, St. Paul, MN 55144

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TITLE: HEADER, 4-WALL, LO-PRO, .100 X .100, SMT, STRAIGHT & RA

CAGE NUMBER | SIZE D | DRAWING NO. 78-5100-0770-7 | REV. M

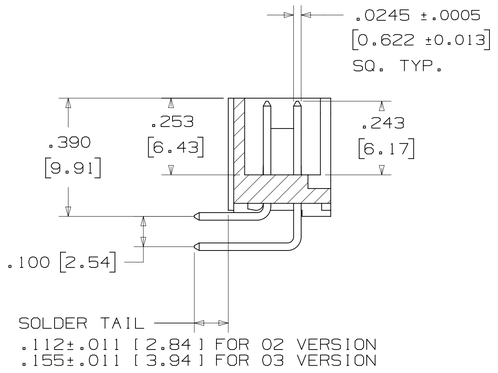
MODEL 3000 SERIES | DET. LISTS ☐ YES ☒ NO | SHT 2 OF 5

78-5100-0770-7 REVISION M

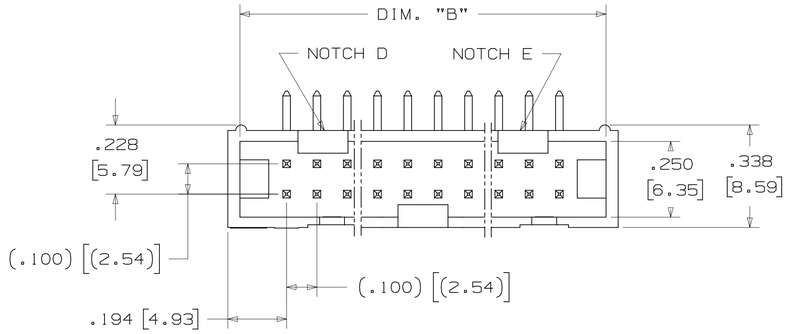
Image: M.3 2/10/2015 8:32 AM UTC-06:00

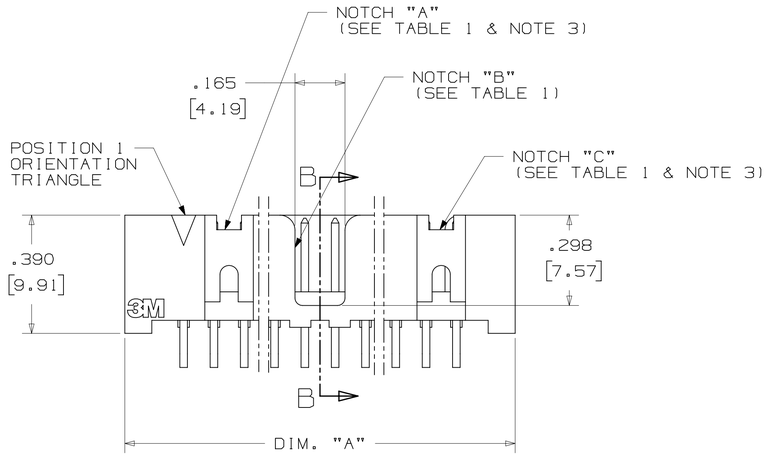
# 3M™ FOUR-WALL HEADER, 2500 SERIES

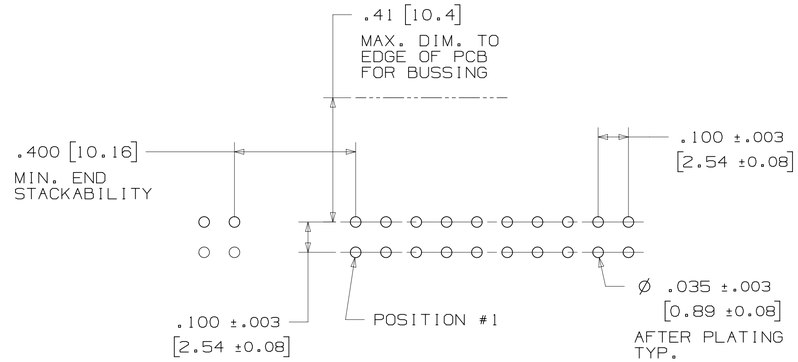
.100" X .100" LOW PROFILE, SURFACE MOUNT, STRAIGHT AND RIGHT ANGLE THROUGH-HOLE




SECTION B - B




| TABLE 1 | | | | |
|---|---|---|---|---|
| PIN QTY. | DIM. "A" | DIM. "B" | POLARIZING NOTCHES | PIN QTY. |
| 06 | .588 [14.94] | .508 [12.90] | B | 06 |
| 08 | .688 [17.48] | .608 [15.44] | B | 08 |
| 10 | .788 [20.02] | .708 [17.98] | BC | 10 |
| 14 | .988 [25.10] | .908 [23.06] | BCDE | 14 |
| 16 | 1.088 [27.64] | 1.008 [25.60] | ABCDE | 16 |
| 20 | 1.288 [32.72] | 1.208 [30.68] | ABCDE | 20 |
| 24 | 1.488 [37.80] | 1.408 [35.76] | ABCDE | 24 |
| 26 | 1.588 [40.34] | 1.508 [38.30] | ABCDE | 26 |
| 30 | 1.788 [45.42] | 1.708 [43.38] | ABCDE | 30 |
| 34 | 1.988 [50.50] | 1.908 [48.46] | ABCDE | 34 |
| 36 | 2.088 [53.04] | 2.008 [51.00] | ABCDE | 36 |
| 40 | 2.288 [58.12] | 2.208 [56.08] | ABCDE | 40 |
| 50 | 2.788 [70.82] | 2.708 [68.78] | ABCDE | 50 |
| 60 | 3.288 [83.52] | 3.208 [81.48] | ABCDE | 60 |
| 64 | 3.488 [88.60] | 3.408 [86.56] | ABCDE | 64 |

## ORDERING INFORMATION
## RIGHT ANGLE VERSION

X25XX-50XX-XX

N= HIGH TEMP BLACK (PCT)
(RB, UB OR UG PLATING REQ'D)
BLANK= (UB OR UG PLATING)

PIN QUANTITY:
(SEE TABLE 1)

SOLDER TAIL:
02 = FOR .062 [1.57] THICK BOARD
03 = FOR .094 TO .125 [2.39 TO 3.18] THICK BOARD

PLATING:
RB = 30μ" [0.76μm] AVG. GOLD
200μ" [5.08μm] MATTE TIN (RIA. E1 & C1 APPLY)
UG = 15μ" [0.38μm] AVG. GOLD
200μ" [5.08μm] 60:40 TIN-LEAD SOLDER TAILS
(RIA E3 & C2 APPLY)
UB = 30μ" [0.76μm] AVG. GOLD
200μ" [5.08μm] 60:40 TIN LEAD SOLDER TAILS
(RIA E3 & C2 APPLY)

## RECOMMENDED HOLE PATTERN
SHOWN FROM COMPONENT SIDE

| M | 56068 | AUG 11,2014 | JNC | RS |
|---|---|---|---|---|
| | | REVISED AND REDRAWN | | |
| REV | ECO | ISSUE DATE AND DESCRIPTION | DRFT | CHKD |

DESIGN REFERENCE | NEXT ASSEMBLY | ADDED CODES

DRFT: CASTIGLIONE — DATE: AUG 11,2014 — MFG — DATE
CHKD — DATE — APPVL: R. SCHERER — DATE: SEP 05,2014

DIVISION: Interconnect Solutions
DIVISION CODE: EMSD
DO NOT SCALE DRAWING | SCALE: 4/1
TOLERANCES EXCEPT AS NOTED
THIRD ANGLE PROJECTION
INTERPRET PER ASME Y14.5 - 2009
MAX SURFACE ROUGHNESS: ☐ ALL SURFACES ☐ MARKED ONLY
INCHES: .0 ± / .00 ± .01 / .000 ± .005 / .0000 ±
MILLIMETERS: 0 ± / .0 ± .3 / .00 ± .13 / .000 ±
ANGLES ±

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TITLE: HEADER, 4-WALL, LO-PRO, .100 X .100, SMT, STRAIGHT & RA

CAGE NUMBER | SIZE: D | DRAWING NO.: 78-5100-0770-7 | REV.: M
MODEL: 3000 SERIES | DET. LISTS ☐ YES ☒ NO | SHT 3 OF 5

78-5100-0770-7 (DATA PART NUMBER) | M (REVISION)

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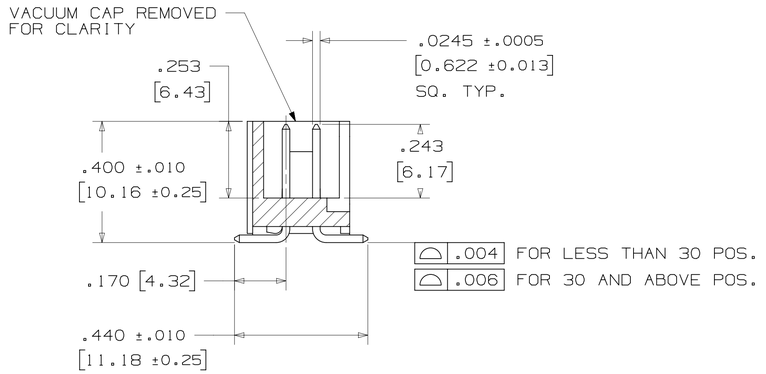
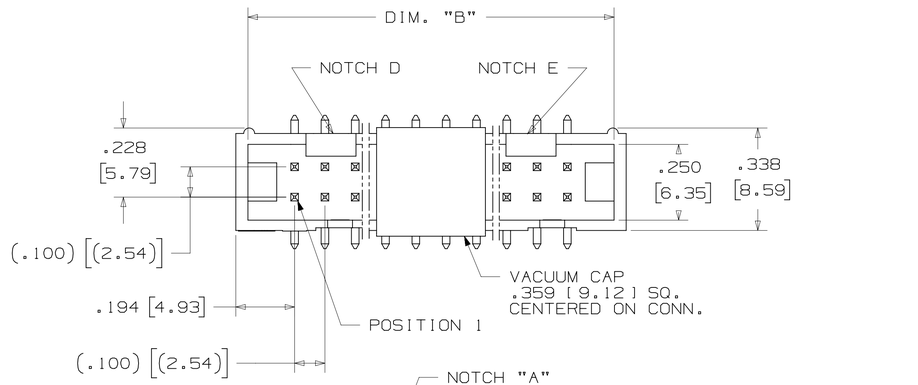
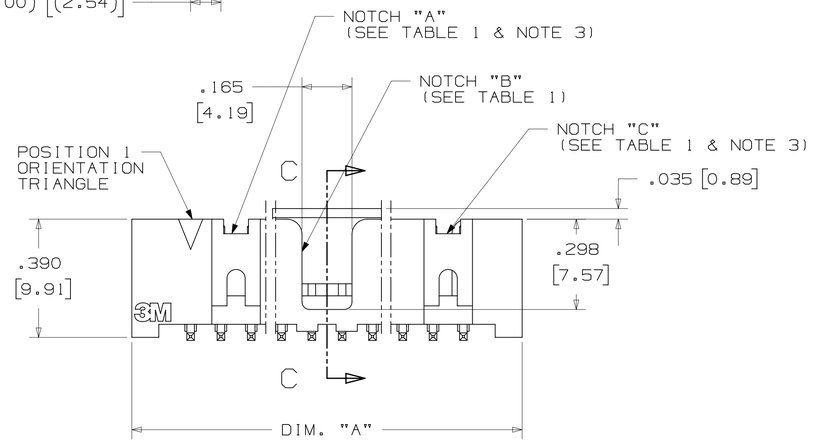



SECTION C - C



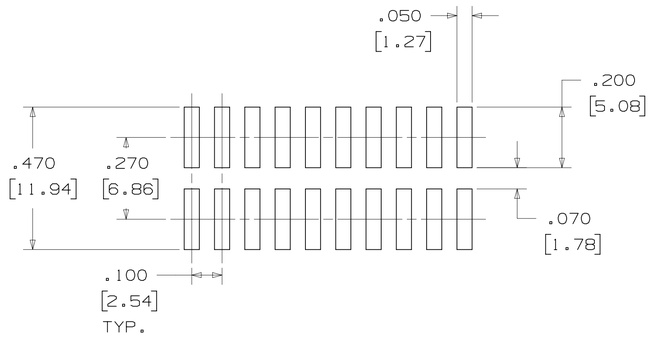




| TABLE 1 | | | | | |
|---|---|---|---|---|---|
| PIN QTY. | DIM. "A" | DIM. "B" | POLARIZING NOTCHES | TAPE AND REEL PKG CODE | PIN QTY. |
| 06 | .588 [14.94] | .508 [12.90] | B | WD (44 MM) | 06 |
| 08 | .688 [17.48] | .608 [15.44] | B | WD (44 MM) | 08 |
| 10 | .788 [20.02] | .708 [17.98] | BC | WD (44 MM) | 10 |
| 14 | .988 [25.10] | .908 [23.06] | BCDE | WD (44 MM) | 14 |
| 16 | 1.088 [27.64] | 1.008 [25.60] | ABCDE | WD (44 MM) | 16 |
| 20 | 1.288 [32.72] | 1.208 [30.68] | ABCDE | WE (56 MM) | 20 |
| 24 | 1.488 [37.80] | 1.408 [35.76] | ABCDE | WE (56 MM) | 24 |
| 26 | 1.588 [40.34] | 1.508 [38.30] | ABCDE | WE (56 MM) | 26 |
| 30 | 1.788 [45.42] | 1.708 [43.38] | ABCDE | WF (72 MM) | 30 |
| 34 | 1.988 [50.50] | 1.908 [48.46] | ABCDE | WF (72 MM) | 34 |
| 36 | 2.088 [53.04] | 2.008 [51.00] | ABCDE | WG (88 MM) | 36 |
| 40 | 2.288 [58.12] | 2.208 [56.08] | ABCDE | WG (88 MM) | 40 |
| 50 | 2.788 [70.82] | 2.708 [68.78] | ABCDE | WG (88 MM) | 50 |
| 60 | 3.288 [83.52] | 3.208 [81.48] | ABCDE | WH (120 MM) | 60 |
| 64 | 3.488 [88.60] | 3.408 [86.56] | ABCDE | WH (120 MM) | 64 |

## ORDERING INFORMATION
## SURFACE MOUNT VERSION

N25XX-6V0C-XX-XX

- N = HIGH TEMP BLACK (PCT) (RB PLATING REQ'D)
- PIN QUANTITY: (SEE TABLE 1)
- PLATING: RB = 30μ" [0.76μm] AVG. GOLD, 200μ" [5.08μm] MATTE TIN (RIA. E1 & C1 APPLY)
- PACKAGING OPTIONS: WX = TAPE & REEL PACKAGING (SEE TABLE 1)




RECOMMENDED PAD LAYOUT

| REV | ECO | ISSUE DATE AND DESCRIPTION | DRFT | CHKD |
|---|---|---|---|---|
| M | 56068 | AUG 11,2014 REVISED AND REDRAWN | JNC | RS |

DESIGN REFERENCE | NEXT ASSEMBLY | ACCESS CODES

DRFT: CASTIGLIONE, DATE: AUG 11,2014 | MFG | DATE

CHKD | DATE | APPVL: R. SCHERER, DATE: SEP 05,2014

DIVISION: Interconnect Solutions | DIVISION CODE: EMSD

DO NOT SCALE DRAWING | SCALE 4/1

THIRD ANGLE PROJECTION

INTERPRET PER ASME Y14.5 - 2009

MAX SURFACE ROUGHNESS ☐ ALL SURFACES ☐ MARKED ONLY

TOLERANCES EXCEPT AS NOTED

INCHES
.0 :
.00 : .01
.000 : .005
.0000 :

MILLIMETERS
0 :
.0 : .3
.00 : .13
.000 :

ANGLES ±

3M Center, St. Paul, MN 55144

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TITLE: HEADER, 4-WALL, LO-PRO, .100 X .100, SMT, STRAIGHT & RA

CAGE NUMBER | SIZE: D | DRAWING NO.: 78-5100-0770-7 | REV.: M

MODEL: 3000 SERIES | DET LISTS ☐ YES ☒ NO | SHT 4 OF 5

78-5100-0770-7 M

Imaged: M.3 2/10/2015 8:32 AM UTC-0600

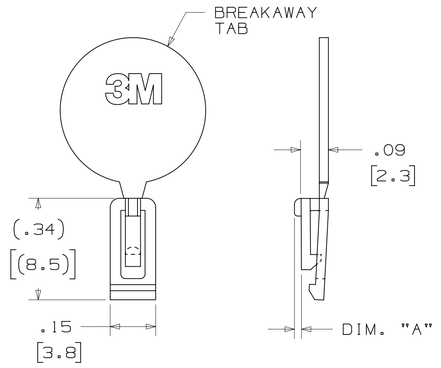
# PART CUSTOMIZATION

THIS SPEC SHEET DETAILS OUR STANDARD OFFERING.

3M HAS SEVERAL CAPABILITIES THAT CAN PROVIDE A PART TAILORED TO YOUR SPECIFIC NEEDS. ASK YOUR 3M SALES REPRESENTATIVE OR CUSTOMER SERVICE FOR MORE DETAILS.

* SELECTIVE PIN REMOVAL (FOR BOARD ASSEMBLY POLARIZATION).
* DIFFERENT PIN LENGTHS.

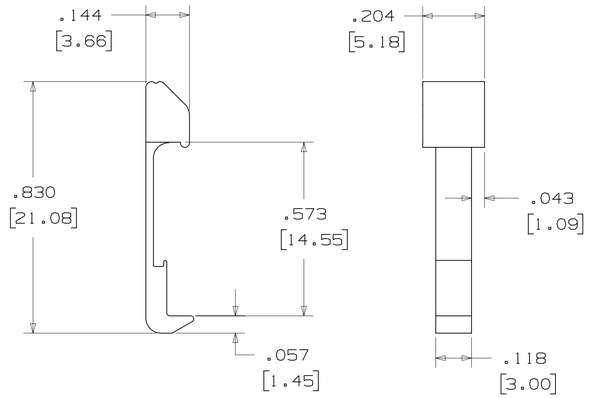
# POLARIZING KEY




| 3M PART NO. | MATERIAL | COLOR | DIM. "A" |
|---|---|---|---|
| N3518 | LCP | BLACK | .02 |

NOTE:
#2216 B/A SCOTCHWELD CAN BE USED TO ADHERE KEYS.

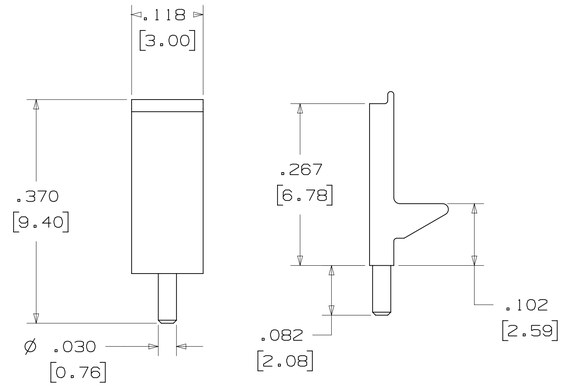
# LOW PROFILE LATCH




| PART NO. | MATERIAL | COLOR |
|---|---|---|
| 3505-33B | NYLON | BLACK |

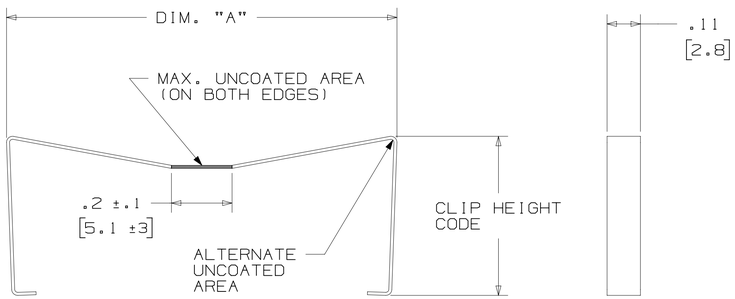
NOTE:
LATCHES NOT COMPATIBLE WITH REFLOW SOLDERING.
ATTACH LATCHES AFTER SOLDERING.

# POLARIZING POST




| PART NO. | MATERIAL | COLOR |
|---|---|---|
| 3201-3 | PCT | BLACK |

# SHORT/LONG SOCKET RETAINER CLIP




| PIN QTY. | DIM. "A" |
|---|---|
| 06 | N/A |
| 08 | 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] |

NOTE:
STAINLESS STEEL WITH GRAY POLYURETHANE COATING.

3505-8XXX

CLIP HEIGHT CODE
0 = .31 [7.9] FOR SOCKETS WITHOUT STRAIN RELIEF
1 = .53 [13.5] FOR SOCKETS WITH STRAIN RELIEF

PIN COUNT (SEE TABLE)

| REV | ECO | ISSUE DATE AND DESCRIPTION | DRFT | CHKD |
|---|---|---|---|---|
| M | 56068 | AUG 11,2014 REVISED AND REDRAWN | JNC | RS |

DESIGN REFERENCE | NEXT ASSEMBLY | ACCESS CODES

DRFT: CASTIGLIONE | DATE: AUG 11,2014 | MFG | DATE
CHKD | DATE | APPVL: R. SCHERER | DATE: SEP 05,2014

DIVISION: Interconnect Solutions | DIVISION CODE: EMSD

DO NOT SCALE DRAWING | SCALE: 4/1

TOLERANCES EXCEPT AS NOTED
INCHES
.0 ±
.00 ±.01
.000 ±.005
.0000 ±
MILLIMETERS
0 ±
.0 ±.3
.00 ±.13
.000 ±
ANGLES ±

THIRD ANGLE PROJECTION

INTERPRET PER ASME Y14.5 - 2009

MAX SURFACE ROUGHNESS
☐ ALL SURFACES
☐ MARKED ONLY


3M 3M Center St. Paul, MN 55144

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TITLE: HEADER, 4-WALL, LO-PRO, .100 X .100, SMT, STRAIGHT & RA

CAGE NUMBER | SIZE: D | DRAWING NO.: 78-5100-0770-7 | REV.: M

MODEL: 3000 SERIES | DET. LISTS ☐ YES ☒ NO | SHT 5 OF 5

78-5100-0770-7 | M


Imaged: M.3 2/10/2015 8:32 AM UTC-06:00