

# .050" × .100" Tripolarized, Latch/Ejector Header

Straight, 4 Wall

810 Series



- Tripolarization to mini socket — high walls to protect pins
- 50 mil × 100 mil doubles board density
- Nine sizes (20–100 position)
- Latch and eject for rugged high performance applications
- Post mount option facilitates soldering process
- Two row design saves board space

Date Modified: February 19, 1999

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## Physical

### Insulation

Material: High Temperature Plastic (LCP)  
Flammability: UL 94V-0  
Color: Ivory (Natural) – LCP  
Marking: 3M Logo, Part Number and Orientation Triangle

### Contact

Material: Copper Alloy  
Plating  
Underplate: 100  $\mu$ " [ 2.54  $\mu$ m ] Nickel — QQ-N-290, Class 2  
Wiping Area: 30  $\mu$ " [ 0.76  $\mu$ m ] Gold — MIL-G-45204, Type II, Grade C  
Solder Tails: 100  $\mu$ " [ 2.54  $\mu$ m ] 90/10 Tin Lead

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## Electrical

**Current Rating:** 0.5 A  
**Insulation Resistance:**  $> 1 \times 10^9 \Omega$  at 500 Vdc  
**Withstanding Voltage:** 500 Vrms at Sea Level

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## Environmental

**Operating Temperature Rating:**  $-55^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$   
**Process Temperature Rating:**  $250^{\circ}\text{C}$  @ 90 Seconds Max

UL File No.: E68080

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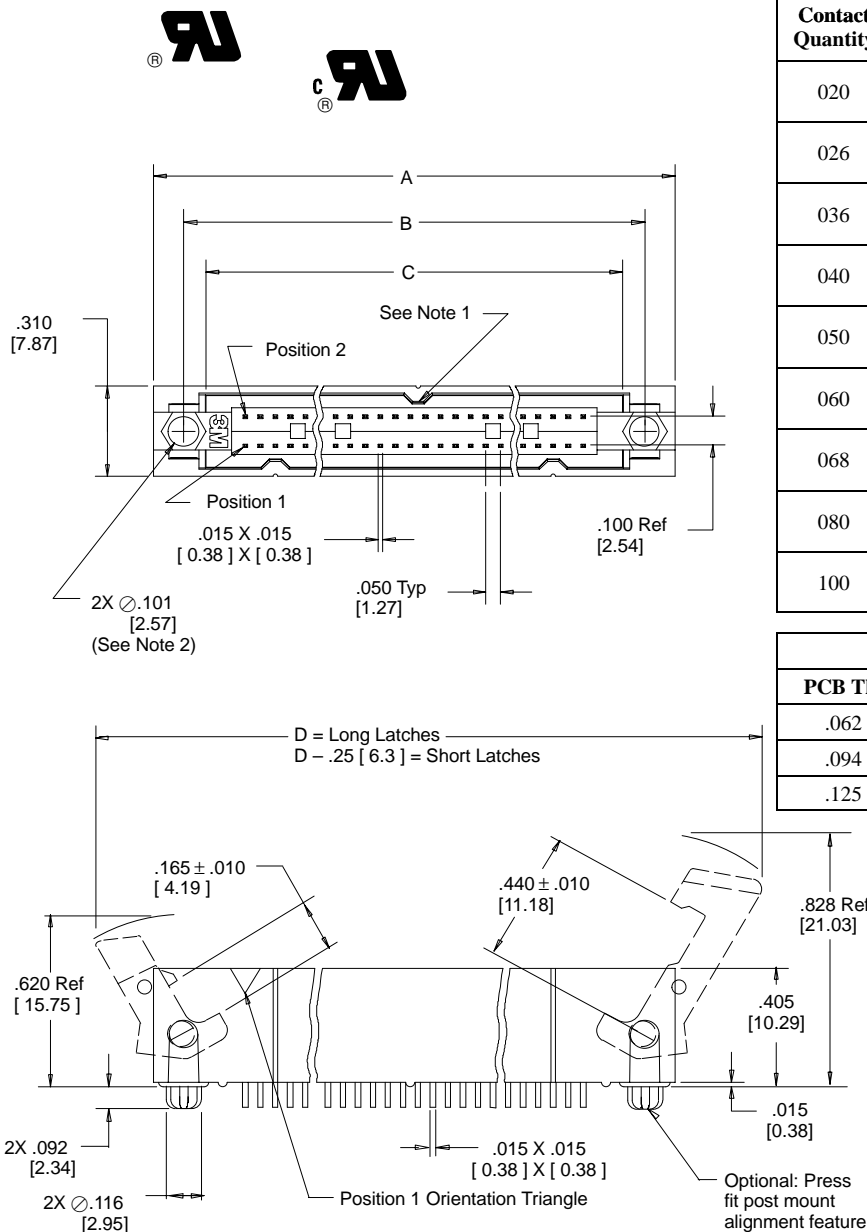
### 3M Interconnect Solutions Division

6801 River Place Blvd.  
Austin, TX 78726-9000

For technical, sales or ordering information call  
**800-225-5373**

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| Table 1          |               |               |               |             |
|------------------|---------------|---------------|---------------|-------------|
| Contact Quantity | Dimensions    |               |               |             |
|                  | A             | B             | C             | D Ref       |
| 020              | 1.060 [26.92] | .860 [21.84]  | .710 [18.03]  | 1.92 [48.8] |
| 026              | 1.210 [30.73] | 1.010 [25.65] | .860 [21.84]  | 2.07 [52.6] |
| 036              | 1.460 [37.08] | 1.260 [32.00] | 1.110 [28.19] | 2.32 [58.9] |
| 040              | 1.560 [39.62] | 1.360 [34.54] | 1.210 [30.73] | 2.42 [61.5] |
| 050              | 1.810 [45.97] | 1.610 [40.89] | 1.460 [37.08] | 2.67 [67.8] |
| 060              | 2.060 [52.32] | 1.860 [47.24] | 1.710 [43.43] | 2.92 [74.2] |
| 068              | 2.260 [57.04] | 2.060 [52.32] | 1.910 [48.51] | 3.12 [79.2] |
| 080              | 2.560 [65.02] | 2.360 [59.94] | 2.210 [56.13] | 3.42 [86.9] |
| 100              | 3.060 [77.72] | 2.860 [72.64] | 2.710 [68.83] | 3.92 [99.6] |

| Table 2       |                               |
|---------------|-------------------------------|
| PCB Thickness | "F" Solder Tail Length ± .010 |
| .062 [15.7]   | .090 [2.29]                   |
| .094 [2.39]   | .112 [2.79]                   |
| .125 [3.18]   | .143 [3.63]                   |

## Notes:

1. This polarization bump does not exist on the 20 position header.
2. Accepts the following mounting hole hardware: 3M Part #3341-6, # 2-56 machine screw and nut.
3. Recommended to be mated to the .050" x .100" 82XXX Series Socket.

## Ordering Information

### Header 81XXX-6X0X0X

Contact Quantity (See Table 1)

Ejector/Latch System:  
0 = None  
1 = Short (Packaged Separately)  
2 = Long (Packaged Separately)  
5 = Short (Installed)  
6 = Long (Installed)

Board Mounting Options:  
0 = Mount screw holes  
1 = None  
3 = Press fit posts both ends

Contact Tail: (See Table 2)  
2 = Solder Tail for .062 [1.57] PC Board  
3 = Solder Tail for .094 [2.39] PC Board  
4 = Solder Tail for .125 [3.18] PC Board

### Ejector / Latch

**3505-29**

Ejector (Short)

**3505-28**

Ejector/latch (Long)

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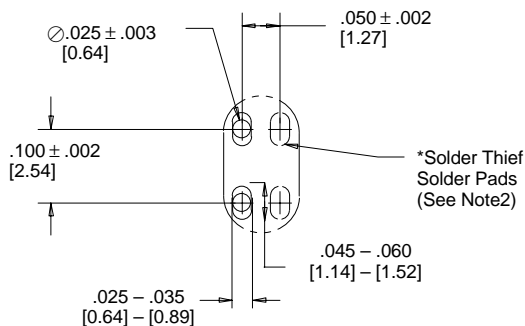
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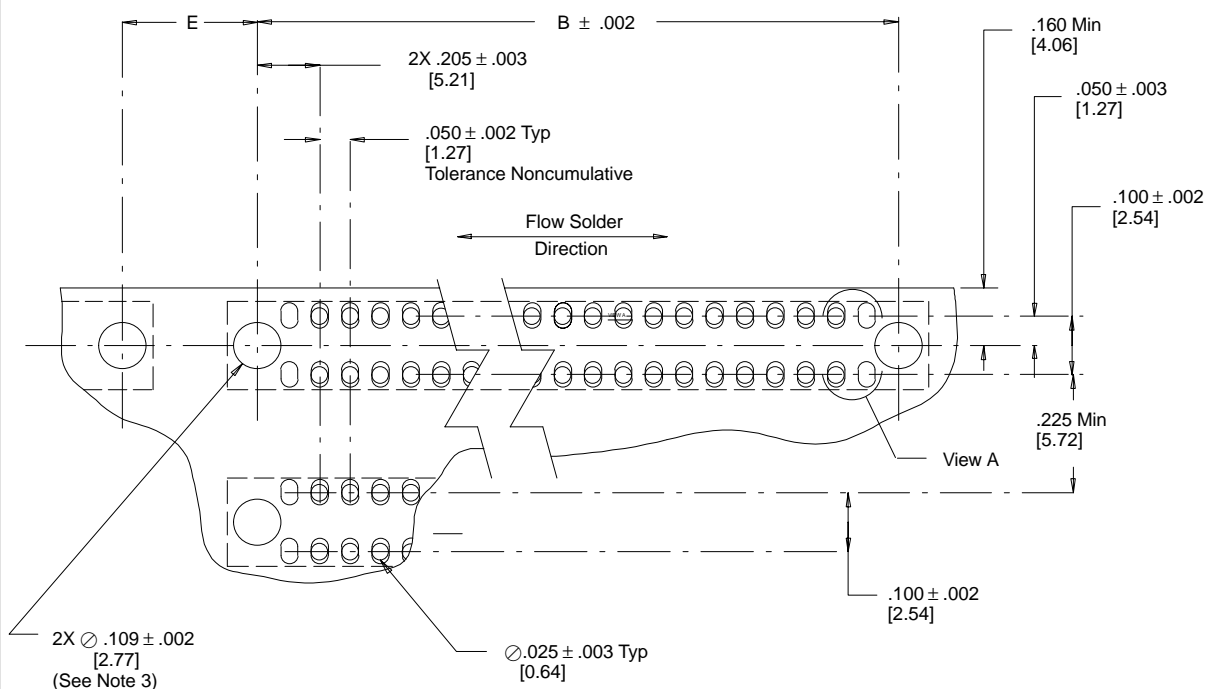
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\*Solder Thief Solder Pads required only on Solder side of PC Board.

View A

| Table 3         |                   |
|-----------------|-------------------|
| Ejector/Latches | Dimension E (Min) |
| None            | .215 [5.46]       |
| Long            | .650 [16.51]      |
| Short           | .525 [13.34]      |



Recommended Mounting Hole Pattern

(Shown for mounting side of PC Board)

**Inch**  
[mm]

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

[ ] Dimensions for Reference only

## Notes:

1. Recommended to process PC Boards through the solder bath such that the connector enters end first (two solder tails at a time). This will help prevent solder bridging.
2. A Solder Thief Solder Pad (Dummy Pad) at the end of each row is recommended on the bottom or solder side of the PC Board in order to help prevent solder bridging on the end solder tails. The Solder Thiefs are only required on the end of the rows which leave the solder bath last.

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