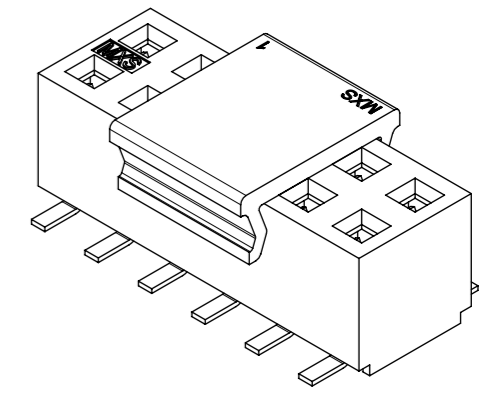
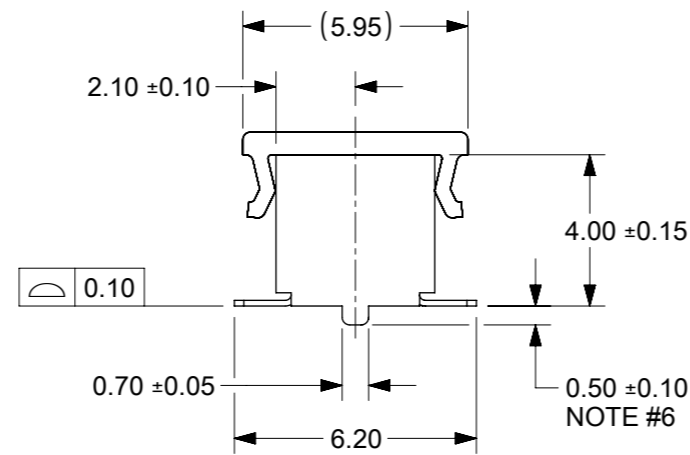
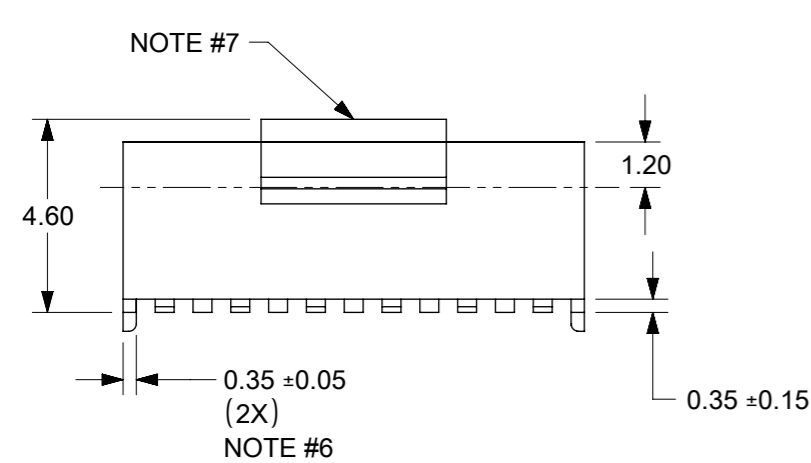


ISOMETRIC VIEW WITHOUT CAP

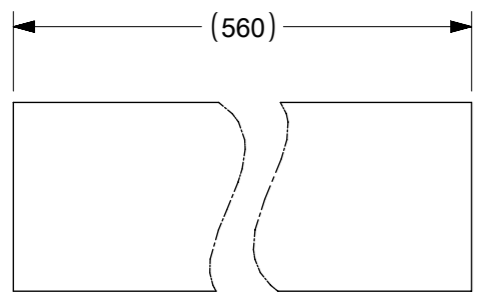


ISOMETRIC VIEW WITH CAP

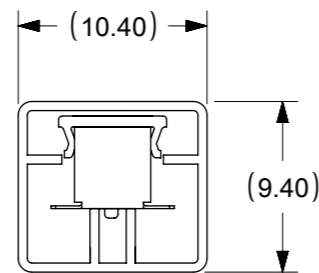


NOTES:

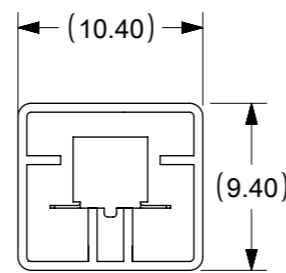
- PLATING FINISH :
  - 0.76µm MIN. GOLD IN CONTACT AREA  
1.27µm MIN TIN IN SOLDER TAIL AREA  
BOTH OVER 1.27µm MIN NICKEL OVERALL
  - 0.38µm MIN GOLD IN CONTACT AREA  
1.27µm MIN TIN IN SOLDER TAIL AREA  
BOTH OVER 1.27µm MIN NI OVERALL
  - 0.05µm MIN. GOLD IN CONTACT AREA  
1.90µm MIN TIN IN SOLDER TAIL AREA  
BOTH OVER 1.27µm MIN NICKEL OVERALL
- MATERIAL:
  - HOUSING : NYLON 4/6, 94V-0, COLOUR BLACK
  - CAP : NYLON, GLASS FILLED, COLOUR BLACK
  - TERMINAL : COPPER ALLOY
  - EMBOSS TAPE : CLEAR POLYSTYRENE
  - COVER TAPE : CLEAR POLYESTER
- PRODUCT SPECIFICATION PS-87380 APPLIES
- COPLANARITY OF SOLDER TAILS ARE TO BE MEASURED BY RESTING THE PART ON A FLAT GAUGE SURFACE
- OTHER PLATING OPTIONS AVAILABLE. PLEASE CONTACT FACTORY
- PEG, PCB HOLE AND CAP ARE OPTIONAL. SEE PART TABLE FOR PART CONFIGURATON
- POSITION OF CAP TO BE LOCATED AT CENTER OF DIM A REGARDLESS OF CKT SIZES.
- 12 CKT SIZE SHOWN FOR ILLUSTRATION ONLY. SEE CHART FOR ALL AVAILABLE PART SIZES. 22 CKT ILLUSTRATED FOR TAPE/REEL VERSION ON SHT 2.
- FOR PACKING QTY PER REEL REFER TO TABLE A IN SHT 2.
- PARTS SHALL BE PACKED IN MOISTURE BARRIER BAG.



CONNECTOR ORIENTATION IN TUBE



PART WITH CAP IN TUBE



PART W/O CAP IN TUBE

|         |   |       |                        |              |                          |
|---------|---|-------|------------------------|--------------|--------------------------|
| SYMBOLS | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |       | CURRENT REV DESC:      |              | <b>molex</b>             |
|         | DIMENSION UNITS   | SCALE |                        |              |                          |
| ▽ = 0   | mm  | NTS   |                        |              | PRODUCT CUSTOMER DRAWING |
| ▽ = 0   | GENERAL TOLERANCES (UNLESS SPECIFIED)   |       |                        |              |                          |
| ▽ = 0   | ANGULAR TOL ± 3.0°  |       |                        |              | DOCUMENT NUMBER          |
| ▽ = 0   | 4 PLACES ±  |       |                        | 873810001-SD |                          |
| ▽ = 0   | 3 PLACES ±  |       |                        |              | DOC TYPE                 |
| ▽ = 0   | 2 PLACES ± 0.2  |       |                        | DOC PART     |                          |
| ▽ = 0   | 1 PLACE ±   |       |                        | REVISION     |                          |
| ▽ = 0   | 0 PLACES ±  |       |                        |              |                          |
| ■ = 0   | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS  |       | THIRD ANGLE PROJECTION | DRAWING      | SERIES                   |
| ▽ = 0   |   |       | A3-SIZE                | 87381        | MATERIAL NUMBER          |
|         |   |       |                        |              | CUSTOMER                 |
|         |   |       |                        |              | GENERAL MARKET           |
|         |   |       |                        |              | SHEET NUMBER             |
|         |   |       |                        |              | 1 OF 7                   |



| 9         | 8                    |                           | 7                        | 6              |     | 5     | 4     |       | 3   |      | 2     | 1     |      |
|-----------|----------------------|---------------------------|--------------------------|----------------|-----|-------|-------|-------|-----|------|-------|-------|------|
| CKT. SIZE | PART W/O CAP IN TUBE | PART NO. WITH CAP IN TUBE | PART NO. WITH CAP IN T&R | PLATING FINISH | PEG | A     | B     | W     | So  | Ao   | F     | Bo    | Ko   |
| E<br>04   | ---                  | 87381-0405                | ---                      | 1              | NO  | 2.00  | 4.00  | ---   | --- | ---  | ---   | ---   | ---  |
|           | ---                  | 87381-0409                | ---                      | 2              |     |       |       |       |     |      |       |       |      |
|           | ---                  | 87381-0415                | ---                      | 1              | YES |       |       |       |     |      |       |       |      |
|           | ---                  | 87381-0419                | ---                      | 2              |     |       |       |       |     |      |       |       |      |
| 06        | 87381-0607           | 87381-0605                | ---                      | 1              | NO  | 4.00  | 6.00  | 24.00 | --- | 7.00 | 11.50 | 6.50  | 4.80 |
|           | 87381-0608           | 87381-0609                | ---                      | 2              |     |       |       |       |     |      |       |       |      |
|           | 87381-0637           | ---                       | ---                      | 3              |     |       |       |       |     |      |       |       |      |
|           | 87381-0617           | 87381-0615                | 87381-9012               | 1              | YES |       |       |       |     |      |       |       |      |
|           | 87381-0618           | 87381-0619                | 87381-9013               | 2              |     |       |       |       |     |      |       |       |      |
|           | 87381-0638           | ---                       | 87381-9011               | 3              |     |       |       |       |     |      |       |       |      |
| D<br>08   | 87381-0807           | 87381-0805                | ---                      | 1              | NO  | 6.00  | 8.00  | 24.00 | --- | 7.00 | 11.50 | 8.50  | 4.80 |
|           | 87381-0808           | 87381-0809                | ---                      | 2              |     |       |       |       |     |      |       |       |      |
|           | 87381-0837           | ---                       | ---                      | 3              |     |       |       |       |     |      |       |       |      |
|           | 87381-0817           | 87381-0815                | ---                      | 1              | YES |       |       |       |     |      |       |       |      |
|           | 87381-0818           | 87381-0819                | 87381-9016               | 2              |     |       |       |       |     |      |       |       |      |
|           | 87381-0838           | ---                       | ---                      | 3              |     |       |       |       |     |      |       |       |      |
| C<br>10   | 87381-1007           | 87381-1005                | ---                      | 1              | NO  | 8.00  | 10.00 | 24.00 | --- | 7.00 | 11.50 | 10.50 | 4.80 |
|           | 87381-1008           | 87381-1009                | ---                      | 2              |     |       |       |       |     |      |       |       |      |
|           | 87381-1037           | ---                       | ---                      | 3              |     |       |       |       |     |      |       |       |      |
|           | 87381-1017           | 87381-1015                | 87381-9030               | 1              | YES |       |       |       |     |      |       |       |      |
|           | 87381-1018           | 87381-1019                | ---                      | 2              |     |       |       |       |     |      |       |       |      |
|           | 87381-1038           | ---                       | ---                      | 3              |     |       |       |       |     |      |       |       |      |
| 12        | 87381-1207           | 87381-1205                | ---                      | 1              | NO  | 10.00 | 12.00 | ---   | --- | ---  | ---   | ---   | ---  |
|           | 87381-1208           | 87381-1209                | ---                      | 2              |     |       |       |       |     |      |       |       |      |
|           | 87381-1237           | ---                       | ---                      | 3              |     |       |       |       |     |      |       |       |      |
|           | 87381-1217           | 87381-1215                | ---                      | 1              | YES |       |       |       |     |      |       |       |      |
|           | 87381-1218           | 87381-1219                | ---                      | 2              |     |       |       |       |     |      |       |       |      |
|           | 87381-1238           | ---                       | ---                      | 3              |     |       |       |       |     |      |       |       |      |
| B<br>14   | 87381-1407           | 87381-1405                | ---                      | 1              | NO  | 12.00 | 14.00 | ---   | --- | ---  | ---   | ---   | ---  |
|           | 87381-1408           | 87381-1409                | ---                      | 2              |     |       |       |       |     |      |       |       |      |
|           | 87381-1437           | ---                       | ---                      | 3              |     |       |       |       |     |      |       |       |      |
|           | 87381-1417           | 87381-1415                | ---                      | 1              | YES |       |       |       |     |      |       |       |      |
|           | 87381-1418           | 87381-1419                | ---                      | 2              |     |       |       |       |     |      |       |       |      |
|           | 87381-1438           | ---                       | ---                      | 3              |     |       |       |       |     |      |       |       |      |

|  |  |  |  |  |               |                  |               |                          |                  |  |                          |                          |                      |
|--|--|--|--|--|---------------|------------------|---------------|--------------------------|------------------|--|--------------------------|--------------------------|----------------------|
| <p>THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION</p> |  |  |  |  |               |                  |               |                          |                  |  |                          |                          |                      |
| <b>SYMBOLS</b><br>= 0<br>= 0<br>= 0<br>= 0<br>= 0<br>= 0<br>= 0<br>= 0<br>= 0  |  | DIMENSION UNITS: <b>mm</b><br>SCALE: <b>NTS</b>                              |  | CURRENT REV DESC:<br>EC NO: 736158<br>DRWN: DANUSA 2023/01/23<br>CHK'D: DANUSA 2023/01/25<br>APPR: MRAMAKRISHNA 2023/02/03 |               |                  |               |                          |                  | MGRID TOP ENTRY RECEPTACLE<br>4MM HEIGHT, SMT. |                          | PRODUCT CUSTOMER DRAWING |                      |
| GENERAL TOLERANCES (UNLESS SPECIFIED)<br>ANGULAR TOL ± 3.0°<br>4 PLACES ±<br>3 PLACES ±<br>2 PLACES ± 0.2<br>1 PLACE ±<br>0 PLACES ±                 |  | INITIAL REVISION:<br>DRWN: SCS02 2018/08/07<br>APPR: MRAMAKRISHNA 2019/07/09 |  | DOCUMENT NUMBER: <b>873810001-SD</b>   |               | DOC TYPE: PSD    | DOC PART: 000 | REVISION: A2             | MATERIAL NUMBER: |  | CUSTOMER: GENERAL MARKET |                          | SHEET NUMBER: 3 OF 7 |
| DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS   |  | THIRD ANGLE PROJECTION   |  | DRAWING: A3-SIZE   | SERIES: 87381 | MATERIAL NUMBER: |               | CUSTOMER: GENERAL MARKET |                  | SHEET NUMBER: 3 OF 7                           |                          |                          |                      |
| DOCUMENT STATUS: P1   RELEASE DATE: 2023/02/03 08:12:09  |  |  |  |  |               |                  |               |                          |                  |  |                          |                          |                      |

| 9         | 8                    | 7                         | 6                        | 5              | 4   | 3     | 2     | 1   |     |     |     |     |     |    |       |      |       |       |      |
|-----------|----------------------|---------------------------|--------------------------|----------------|-----|-------|-------|-----|-----|-----|-----|-----|-----|----|-------|------|-------|-------|------|
| CKT. SIZE | PART W/O CAP IN TUBE | PART NO. WITH CAP IN TUBE | PART NO. WITH CAP IN T&R | PLATING FINISH | PEG | A     | B     | W   | So  | Ao  | F   | Bo  | Ko  |    |       |      |       |       |      |
| E<br>16   | 87381-1607           | 87381-1605                | ---                      | 1              | NO  | 14.00 | 16.00 | TBD | TBD | TBD | TBD | TBD | TBD |    |       |      |       |       |      |
|           | 87381-1608           | 87381-1609                | ---                      | 2              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-1637           | ---                       | ---                      | 3              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-1617           | 87381-1615                | 87381-1627               | 1              | YES |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-1618           | 87381-1619                | ---                      | 2              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-1638           | ---                       | ---                      | 3              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
| 18        | 87381-1807           | 87381-1805                | ---                      | 1              | NO  | 16.00 | 18.00 | --- | --- | --- | --- | --- | --- |    |       |      |       |       |      |
|           | 87381-1808           | 87381-1809                | ---                      | 2              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-1837           | ---                       | ---                      | 3              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-1817           | 87381-1815                | 87381-1820               | (A2) 1         | YES |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-1818           | 87381-1819                | ---                      | 2              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-1838           | ---                       | ---                      | 3              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
| D<br>20   | 87381-2007           | 87381-2005                | ---                      | 1              | NO  | 18.00 | 20.00 | --- | --- | --- | --- | --- | --- |    |       |      |       |       |      |
|           | 87381-2008           | 87381-2009                | ---                      | 2              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2037           | ---                       | ---                      | 3              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2017           | 87381-2015                | ---                      | 1              | YES |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2018           | 87381-2019                | ---                      | 2              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2038           | ---                       | ---                      | 3              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
| C<br>22   | 87381-2207           | 87381-2205                | ---                      | 1              | NO  | 20.00 | 22.00 | --- | --- | --- | --- | --- | --- |    |       |      |       |       |      |
|           | 87381-2208           | 87381-2209                | ---                      | 2              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2237           | ---                       | ---                      | 3              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2217           | 87381-2215                | ---                      | 1              | YES |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2218           | 87381-2219                | ---                      | 2              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2238           | ---                       | ---                      | 3              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
| B<br>24   | 87381-2407           | 87381-2405                | ---                      | 1              | NO  | 22.00 | 24.00 | --- | --- | --- | --- | --- | --- |    |       |      |       |       |      |
|           | 87381-2408           | 87381-2409                | ---                      | 2              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2437           | ---                       | ---                      | 3              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2417           | 87381-2415                | ---                      | 1              | YES |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2418           | 87381-2419                | ---                      | 2              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2438           | ---                       | ---                      | 3              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
| A<br>26   | 87381-2607           | 87381-2605                | ---                      | 1              | NO  | 24.00 | 26.00 | --- | --- | --- | --- | --- | --- |    |       |      |       |       |      |
|           | 87381-2608           | 87381-2609                | ---                      | 2              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2637           | ---                       | ---                      | 3              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2617           | 87381-2615                | 87381-2620               | (A1) 1         | YES |       |       |     |     |     |     |     |     | 44 | 40.40 | 6.60 | 20.20 | 26.35 | 5.60 |
|           | 87381-2618           | 87381-2619                | ---                      | 2              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |
|           | 87381-2638           | ---                       | ---                      | 3              |     |       |       |     |     |     |     |     |     |    |       |      |       |       |      |

|  |   |  |   |  |
|--|---|--|---|--|
| <b>SYMBOLS</b><br>= 0<br>= 0<br>= 0<br>= 0<br>= 0<br>= 0<br>= 0<br>= 0 | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION<br>DIMENSION UNITS: <b>mm</b> SCALE: <b>NTS</b> | CURRENT REV DESC:<br>EC NO: 736158<br>DRWN: DANUSA 2023/01/23<br>CHK'D: DANUSA 2023/01/25<br>APPR: MRAMAKRISHNA 2023/02/03 | <br><b>MGRID TOP ENTRY RECEPTACLE</b><br>4MM HEIGHT, SMT.<br>PRODUCT CUSTOMER DRAWING |  |
|  | GENERAL TOLERANCES (UNLESS SPECIFIED)<br>ANGULAR TOL ± 3.0°<br>4 PLACES ±<br>3 PLACES ±<br>2 PLACES ± 0.2<br>1 PLACE ±<br>0 PLACES ±  | INITIAL REVISION:<br>DRWN: SCS02 2018/08/07<br>APPR: MRAMAKRISHNA 2019/07/09   |   | DOCUMENT NUMBER: <b>873810001-SD</b> DOC TYPE: PSD DOC PART: 000 REVISION: <b>A2</b> |
|  | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS<br>THIRD ANGLE PROJECTION<br>DRAWING: <b>A3-SIZE</b> SERIES: <b>87381</b> MATERIAL NUMBER: CUSTOMER: GENERAL MARKET SHEET NUMBER: 4 OF 7 |  |   |  |
|  |   |  |   |  |

| 9         | 8                    | 7                         | 6                        | 5              | 4   | 3     | 2     | 1     |       |      |       |       |      |
|-----------|----------------------|---------------------------|--------------------------|----------------|-----|-------|-------|-------|-------|------|-------|-------|------|
| CKT. SIZE | PART W/O CAP IN TUBE | PART NO. WITH CAP IN TUBE | PART NO. WITH CAP IN T&R | PLATING FINISH | PEG | A     | B     | W     | So    | Ao   | F     | Bo    | Ko   |
| E<br>28   | 87381-2807           | 87381-2805                | ---                      | 1              | NO  | 30.00 | 28.00 | ---   | ---   | ---  | ---   | ---   | ---  |
|           | 87381-2808           | 87381-2809                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-2837           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
|           | 87381-2817           | 87381-2815                | ---                      | 1              | YES |       |       |       |       |      |       |       |      |
|           | 87381-2818           | 87381-2819                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-2838           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
| 30        | 87381-3007           | 87381-3005                | ---                      | 1              | NO  | 28.00 | 30.00 | 56.00 | 52.40 | 7.00 | 26.20 | 30.50 | 4.80 |
|           | 87381-3008           | 87381-3009                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-3037           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
|           | 87381-3017           | 87381-3015                | 87381-9015               | 1              | YES |       |       |       |       |      |       |       |      |
|           | 87381-3018           | 87381-3019                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-3038           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
| D<br>32   | 87381-3207           | 87381-3205                | ---                      | 1              | NO  | 30.00 | 32.00 | ---   | ---   | ---  | ---   | ---   | ---  |
|           | 87381-3208           | 87381-3209                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-3237           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
|           | 87381-3217           | 87381-3215                | ---                      | 1              | YES |       |       |       |       |      |       |       |      |
|           | 87381-3218           | 87381-3219                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-3238           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
| C<br>34   | 87381-3407           | 87381-3405                | ---                      | 1              | NO  | 32.00 | 34.00 | ---   | ---   | ---  | ---   | ---   | ---  |
|           | 87381-3408           | 87381-3409                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-3437           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
|           | 87381-3417           | 87381-3415                | ---                      | 1              | YES |       |       |       |       |      |       |       |      |
|           | 87381-3418           | 87381-3419                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-3438           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
| 36        | 87381-3607           | 87381-3605                | ---                      | 1              | NO  | 34.00 | 36.00 | ---   | ---   | ---  | ---   | ---   | ---  |
|           | 87381-3608           | 87381-3609                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-3637           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
|           | 87381-3617           | 87381-3615                | ---                      | 1              | YES |       |       |       |       |      |       |       |      |
|           | 87381-3618           | 87381-3619                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-3638           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
| B<br>38   | 87381-3807           | 87381-3805                | ---                      | 1              | NO  | 36.00 | 38.00 | ---   | ---   | ---  | ---   | ---   | ---  |
|           | 87381-3808           | 87381-3809                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-3837           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
|           | 87381-3817           | 87381-3815                | ---                      | 1              | YES |       |       |       |       |      |       |       |      |
|           | 87381-3818           | 87381-3819                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-3838           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |

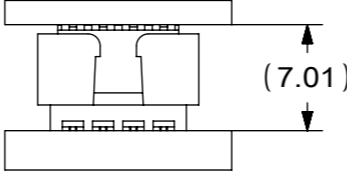
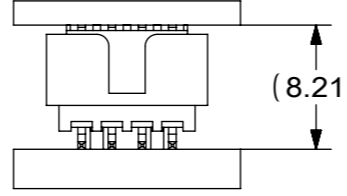
|  |          |  |          |  |  |  |  |  |  |   |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |
|--|----------|--|----------|--|--|--|--|--|--|---|-----|----|-----|--|-----|---------------------------------------|--|--|-----|--------------------|--|--|-----|----------|---|--|-----|----------|---|--|-----|----------|-------|--|-----|---------|---|--|-----|----------|---|--|-----|--|--|--|-----|------------------------|--|--|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|-----------------|----------|----------|----------|--------------|-----|-----|----|
| <p>SYMBOLS</p> <table border="1"> <tr> <td></td> <td>= 0</td> <td>mm</td> <td>NTS</td> </tr> <tr> <td></td> <td>= 0</td> <td colspan="2">GENERAL TOLERANCES (UNLESS SPECIFIED)</td> </tr> <tr> <td></td> <td>= 0</td> <td colspan="2">ANGULAR TOL ± 3.0°</td> </tr> <tr> <td></td> <td>= 0</td> <td>4 PLACES</td> <td>±</td> </tr> <tr> <td></td> <td>= 0</td> <td>3 PLACES</td> <td>±</td> </tr> <tr> <td></td> <td>= 0</td> <td>2 PLACES</td> <td>± 0.2</td> </tr> <tr> <td></td> <td>= 0</td> <td>1 PLACE</td> <td>±</td> </tr> <tr> <td></td> <td>= 0</td> <td>0 PLACES</td> <td>±</td> </tr> <tr> <td></td> <td>= 0</td> <td colspan="2">DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS</td> </tr> <tr> <td></td> <td>= 0</td> <td colspan="2">THIRD ANGLE PROJECTION</td> </tr> </table> |          |  |          |  |  |  |  |  |  |   | = 0 | mm | NTS |  | = 0 | GENERAL TOLERANCES (UNLESS SPECIFIED) |  |  | = 0 | ANGULAR TOL ± 3.0° |  |  | = 0 | 4 PLACES | ± |  | = 0 | 3 PLACES | ± |  | = 0 | 2 PLACES | ± 0.2 |  | = 0 | 1 PLACE | ± |  | = 0 | 0 PLACES | ± |  | = 0 | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS |  |  | = 0 | THIRD ANGLE PROJECTION |  | <p>THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION</p> <p>CURRENT REV DESC:</p> <p>EC NO: 736158<br/> DRWN: DANUSA 2023/01/23<br/> CHK'D: DANUSA 2023/01/25<br/> APPR: MRAMAKRISHNA 2023/02/03</p> <p>INITIAL REVISION:<br/> DRWN: SCS02 2018/08/07<br/> APPR: MRAMAKRISHNA 2019/07/09</p> |  |  |  |  |  |  |  |  |  | <p><b>molex</b></p> <p>MGRID TOP ENTRY RECEPTACLE<br/>4MM HEIGHT, SMT.</p> <p>PRODUCT CUSTOMER DRAWING</p> <table border="1"> <tr> <td>DOCUMENT NUMBER</td> <td>DOC TYPE</td> <td>DOC PART</td> <td>REVISION</td> </tr> <tr> <td>873810001-SD</td> <td>PSD</td> <td>000</td> <td>A2</td> </tr> </table> |  |  |  |  |  |  |  |  |  | DOCUMENT NUMBER | DOC TYPE | DOC PART | REVISION | 873810001-SD | PSD | 000 | A2 |
|  | = 0      | mm   | NTS      |  |  |  |  |  |  |   |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |
|  | = 0      | GENERAL TOLERANCES (UNLESS SPECIFIED)                |          |  |  |  |  |  |  |   |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |
|  | = 0      | ANGULAR TOL ± 3.0°                                   |          |  |  |  |  |  |  |   |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |
|  | = 0      | 4 PLACES   | ±        |  |  |  |  |  |  |   |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |
|  | = 0      | 3 PLACES   | ±        |  |  |  |  |  |  |   |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |
|  | = 0      | 2 PLACES   | ± 0.2    |  |  |  |  |  |  |   |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |
|  | = 0      | 1 PLACE  | ±        |  |  |  |  |  |  |   |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |
|  | = 0      | 0 PLACES   | ±        |  |  |  |  |  |  |   |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |
|  | = 0      | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS |          |  |  |  |  |  |  |   |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |
|  | = 0      | THIRD ANGLE PROJECTION                               |          |  |  |  |  |  |  |   |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |
| DOCUMENT NUMBER  | DOC TYPE | DOC PART   | REVISION |  |  |  |  |  |  |   |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |
| 873810001-SD   | PSD      | 000  | A2       |  |  |  |  |  |  |   |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |
| <p>DOCUMENT STATUS   P1   RELEASE DATE   2023/02/03 08:12:09</p>   |          |  |          |  |  |  |  |  |  | <p>FORMAT: master-b-prod-A3<br/> REVISION: 11<br/> DATE: 2018/01/18</p> |     |    |     |  |     |                                       |  |  |     |                    |  |  |     |          |   |  |     |          |   |  |     |          |       |  |     |         |   |  |     |          |   |  |     |  |  |  |     |                        |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |  |                 |          |          |          |              |     |     |    |


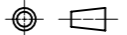
| 9         | 8                    | 7                         | 6                        | 5              | 4   | 3     | 2     | 1     |       |      |       |       |      |
|-----------|----------------------|---------------------------|--------------------------|----------------|-----|-------|-------|-------|-------|------|-------|-------|------|
| CKT. SIZE | PART W/O CAP IN TUBE | PART NO. WITH CAP IN TUBE | PART NO. WITH CAP IN T&R | PLATING FINISH | PEG | A     | B     | W     | So    | Ao   | F     | Bo    | Ko   |
| E         | 87381-4007           | 87381-4005                | ---                      | 1              | NO  | 38.00 | 40.00 | ---   | ---   | ---  | ---   | ---   | ---  |
|           | 87381-4008           | 87381-4009                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-4037           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
|           | 87381-4017           | 87381-4015                | ---                      | 1              | YES |       |       |       |       |      |       |       |      |
|           | 87381-4018           | 87381-4019                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-4038           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
| D         | 87381-4207           | 87381-4205                | ---                      | 1              | NO  | 40.00 | 42.00 | ---   | ---   | ---  | ---   | ---   | ---  |
|           | 87381-4208           | 87381-4209                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-4237           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
|           | 87381-4217           | 87381-4215                | ---                      | 1              | YES |       |       |       |       |      |       |       |      |
|           | 87381-4218           | 87381-4219                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-4238           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
| C         | 87381-4407           | 87381-4405                | ---                      | 1              | NO  | 42.00 | 44.00 | ---   | ---   | ---  | ---   | ---   | ---  |
|           | 87381-4408           | 87381-4409                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-4437           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
|           | 87381-4417           | 87381-4415                | ---                      | 1              | YES |       |       |       |       |      |       |       |      |
|           | 87381-4418           | 87381-4419                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-4438           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
| B         | 87381-4607           | 87381-4605                | ---                      | 1              | NO  | 44.00 | 46.00 | ---   | ---   | ---  | ---   | ---   | ---  |
|           | 87381-4608           | 87381-4609                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-4637           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
|           | 87381-4617           | 87381-4615                | ---                      | 1              | YES |       |       |       |       |      |       |       |      |
|           | 87381-4618           | 87381-4619                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-4638           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
| A         | 87381-4807           | 87381-4805                | ---                      | 1              | NO  | 46.00 | 48.00 | ---   | ---   | ---  | ---   | ---   | ---  |
|           | 87381-4808           | 87381-4809                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-4837           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
|           | 87381-4817           | 87381-4815                | ---                      | 1              | YES |       |       |       |       |      |       |       |      |
|           | 87381-4818           | 87381-4819                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-4838           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
| A         | 87381-5007           | 87381-5005                | ---                      | 1              | NO  | 48.00 | 50.00 | 72.00 | 68.40 | 7.00 | 34.20 | 50.50 | 4.80 |
|           | 87381-5008           | 87381-5009                | ---                      | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-5037           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |
|           | 87381-5017           | 87381-5015                | 87381-9028               | 1              | YES |       |       |       |       |      |       |       |      |
|           | 87381-5018           | 87381-5019                | 87381-9027               | 2              |     |       |       |       |       |      |       |       |      |
|           | 87381-5038           | ---                       | ---                      | 3              |     |       |       |       |       |      |       |       |      |

|   |   |                        |                               |              |   |                 |
|---|---|------------------------|-------------------------------|--------------|---|-----------------|
| <b>SYMBOLS</b><br>= 0<br>= 0<br>= 0<br>= 0<br>= 0<br>= 0<br>= 0<br>= 0<br>= 0 | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |                        | CURRENT REV DESC:             |              | <br><b>MGRID TOP ENTRY RECEPTACLE</b><br>4MM HEIGHT, SMT.<br>PRODUCT CUSTOMER DRAWING |                 |
|   | DIMENSION UNITS   | SCALE                  | EC NO: 736158                 |              |   | DOCUMENT NUMBER |
|   | mm  | NTS                    | DRWN: DANUSA 2023/01/23       |              |   | DOC TYPE        |
|   | GENERAL TOLERANCES (UNLESS SPECIFIED)   |                        | CHK'D: DANUSA 2023/01/25      |              |   | DOC PART        |
|   | ANGULAR TOL ± 3.0°  |                        | APPR: MRAMAKRISHNA 2023/02/03 |              |   | REVISION        |
|   | 4 PLACES ±  |                        | INITIAL REVISION:             |              |   | 873810001-SD    |
|   | 3 PLACES ±  |                        | DRWN: SCS02 2018/08/07        |              |   |                 |
|   | 2 PLACES ± 0.2  |                        | APPR: MRAMAKRISHNA 2019/07/09 |              |   | PSD             |
|   | 1 PLACE ±   |                        | SERIES                        |              |   | 000             |
|   | 0 PLACES ±  |                        | MATERIAL NUMBER               |              |   | A2              |
| DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS                          |   | THIRD ANGLE PROJECTION | DRAWING                       | SHEET NUMBER |   |                 |
|   |   |                        | A3-SIZE                       | 87381        |   |                 |
|   |   | CUSTOMER               |                               | 6 OF 7       |   |                 |
|   |   | GENERAL MARKET         |                               |              |   |                 |

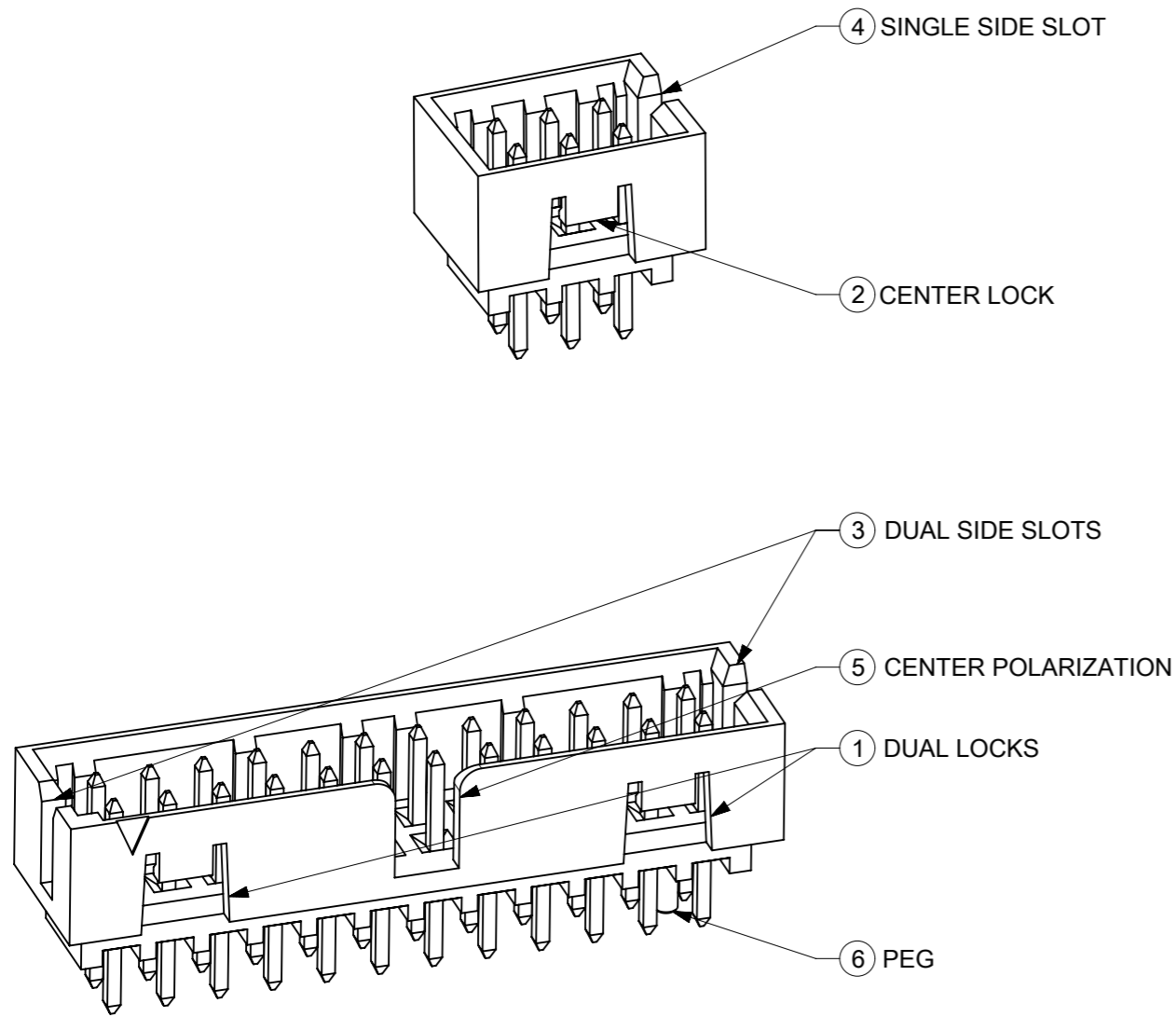
DOCUMENT STATUS | P1 | RELEASE DATE | 2023/02/03 08:12:09

**BOARD TO BOARD (BTB) DISTANCE**

| RECEPTACLE | MATES WITH(HEADER) | BTB DISTANCE | PICTORIAL VIEW  |
|------------|--------------------|--------------|---|
| 87381      | 87831              | 7.01         |  |
|            | 87832              | 8.21         |  |

|  |   |                   |   |   |  |                 |                |          |              |
|--|---|-------------------|---|---|--|-----------------|----------------|----------|--------------|
| <b>SYMBOLS</b><br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0 | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | CURRENT REV DESC: |   | <br>MGRID TOP ENTRY RECEPTACLE<br>4MM HEIGHT, SMT. |  |                 |                |          |              |
|  | DIMENSION UNITS   | SCALE             | EC NO: 736158<br>DRWN: DANUSA 2023/01/23<br>CHK'D: DANUSA 2023/01/25<br>APPR: MRAMAKRISHNA 2023/02/03           |   |  |                 |                |          |              |
|  | mm  | NTS               | INITIAL REVISION:<br>DRWN: SCS02 2018/08/07<br>APPR: MRAMAKRISHNA 2019/07/09                                    |   |  | DOCUMENT NUMBER | DOC TYPE       | DOC PART | REVISION     |
|  | GENERAL TOLERANCES (UNLESS SPECIFIED)   |                   | DRWN: SCS02 2018/08/07<br>APPR: MRAMAKRISHNA 2019/07/09   |   |  | 873810001-SD    | PSD            | 000      | A2           |
|  | ANGULAR TOL ± 3.0 °   |                   | DRAFT WHERE APPLICABLE<br>MUST REMAIN WITHIN DIMENSIONS   |   |  | MATERIAL NUMBER | CUSTOMER       |          | SHEET NUMBER |
|  | 4 PLACES ±  |                   | THIRD ANGLE PROJECTION<br> |   |  | A3-SIZE         | GENERAL MARKET |          | 7 OF 7       |
|  | 3 PLACES ±  |                   |   |   |  | 87381           |                |          |              |
|  | 2 PLACES ± 0.2  |                   |   |   |  |                 |                |          |              |
|  | 1 PLACE ±   |                   |   |   |  |                 |                |          |              |
|  | 0 PLACES ±  |                   |   |   |  |                 |                |          |              |

# FEATURES SELECTION GUIDE



| CIRCUIT SIZE | FRICTION LOCKS |          | SIDE SLOTS |          | 5 CENTER POLARIZATION | 6 PEG | SHEET NO |
|--------------|----------------|----------|------------|----------|-----------------------|-------|----------|
|              | 1 DUAL         | 2 CENTER | 3 DUAL     | 4 SINGLE |                       |       |          |
| 4            | N.A            | N.A      | YES        | N.A      | N.A                   | N.A   | 2 - 3    |
|              | N.A            | YES      | YES        | N.A      | N.A                   | N.A   |          |
|              | N.A            | YES      | N.A        | YES      | N.A                   | N.A   |          |
| 6            | N.A            | N.A      | YES        | N.A      | N.A                   | N.A   | 4 - 5    |
|              | N.A            | N.A      | YES        | N.A      | N.A                   | YES   |          |
|              | N.A            | YES      | YES        | N.A      | N.A                   | N.A   |          |
|              | N.A            | YES      | YES        | N.A      | N.A                   | YES   |          |
|              | N.A            | YES      | N.A        | YES      | N.A                   | N.A   |          |
|              | N.A            | N.A      | YES        | N.A      | YES                   | N.A   |          |
| 8 TO 12      | N.A            | N.A      | YES        | N.A      | YES                   | N.A   | 6 - 8    |
|              | N.A            | N.A      | YES        | N.A      | YES                   | YES   |          |
|              | N.A            | YES      | YES        | N.A      | N.A                   | N.A   |          |
|              | N.A            | YES      | YES        | N.A      | N.A                   | YES   |          |
|              | N.A            | YES      | N.A        | YES      | N.A                   | N.A   |          |
|              | N.A            | YES      | N.A        | YES      | N.A                   | YES   |          |
| 14 TO 50     | YES            | N.A      | YES        | N.A      | YES                   | N.A   | 9 - 13   |
|              | YES            | N.A      | YES        | N.A      | YES                   | YES   |          |

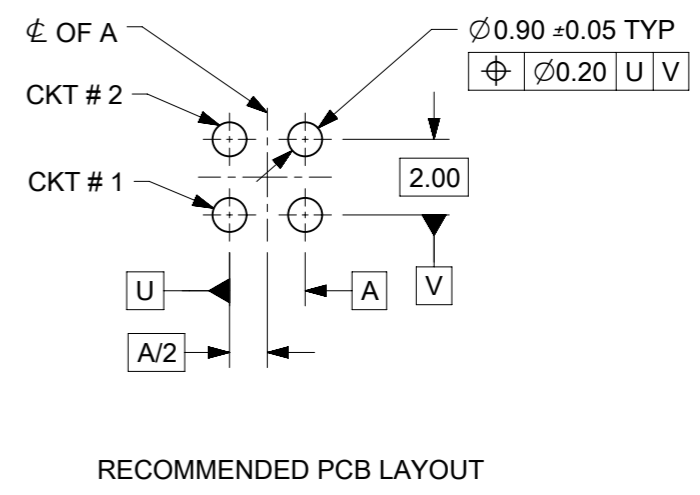
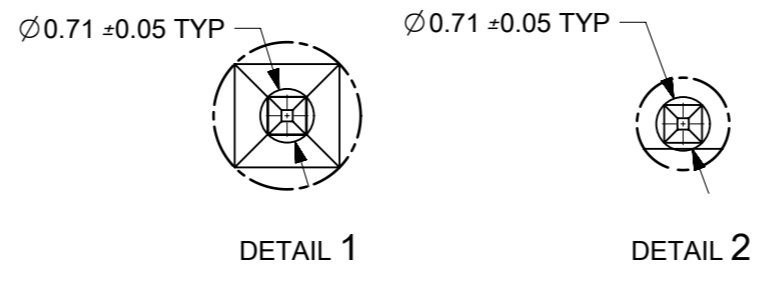
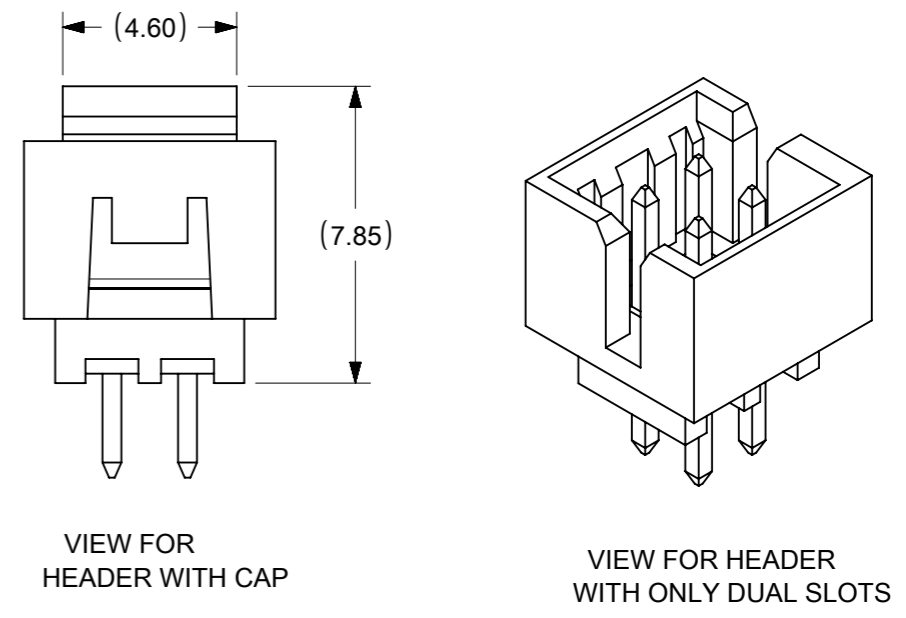
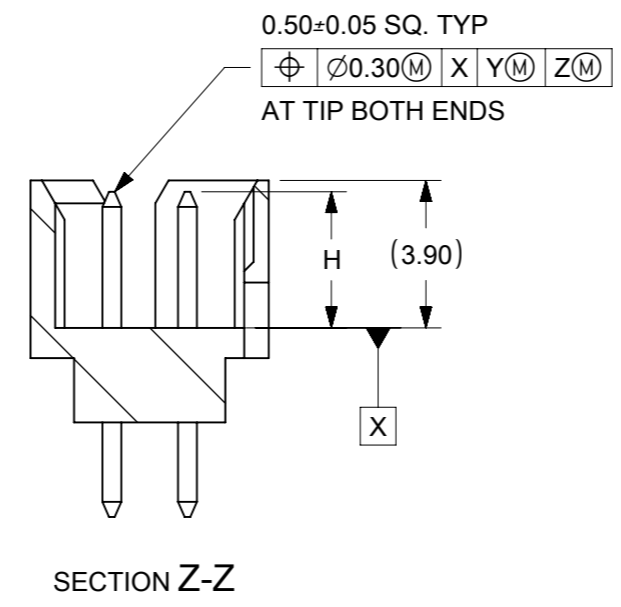
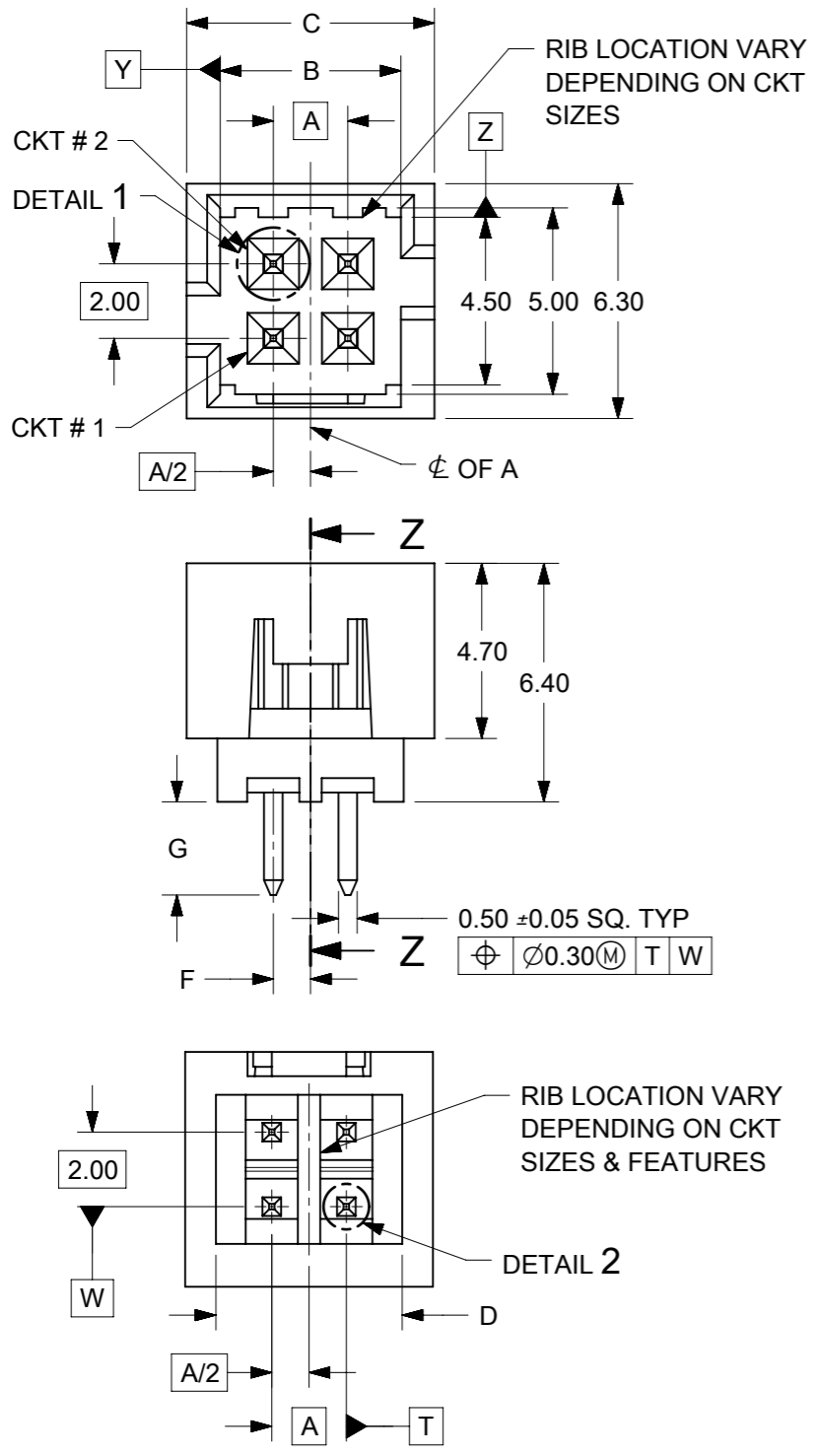
## PACKAGING SPECIFICATION TABLE

|                                  |              |
|----------------------------------|--------------|
| TAPE AND REEL PACKAGING          | PK-87831-300 |
| TUBE STANDARD PACKAGING          | PK-87831-001 |
| TUBE NON-STANDARD PACKAGING FOR: | PK-87831-002 |
| 87831-0419      87831-0645       |              |
| 87831-5141      87831-5119       |              |
| 87831-0443      87831-1011       |              |
| 87831-5241      87831-1420       |              |
| 87831-5242                       |              |
| 87831-0643                       |              |

|  |   |   |   |
|--|---|---|---|
| <b>SYMBOLS</b><br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0 | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION<br>DIMENSION UNITS: <b>mm</b> <b>NTS</b><br>SCALE: <b>NTS</b><br>GENERAL TOLERANCES (UNLESS SPECIFIED)<br>4 PLACES ±    ±<br>3 PLACES ±    ±<br>2 PLACES ± 0.2 ±<br>1 PLACE ±    ±<br>0 PLACES ±    ±<br>ANGULAR TOL ± 3.0°<br>DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | CURRENT REV DESC: ADDED BTB DIST.<br>EC NO: 619055<br>DRWN: NMANE02      2019/03/25<br>CHK'D: NMANE02      2019/07/09<br>APPR: MRAMAKRISHNA    2019/07/09<br>INITIAL REVISION:<br>DRWN: GMENARLY      2015/04/15<br>APPR: KHLIM      2015/06/29 | <br>MILLIGRID<br>2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER<br>PRODUCT CUSTOMER DRAWING |
|  | DOCUMENT NUMBER: <b>SD-87831-0001</b><br>DOC TYPE: PSD    DOC PART: 001    REVISION: A16  | MATERIAL NUMBER: SEE TABLE<br>CUSTOMER: GENERAL MARKET<br>SHEET NUMBER: 1 OF 14   |   |
|  | THIRD ANGLE PROJECTION:<br>DRAWING: <b>A3-SIZE</b><br>SERIES: <b>87831</b>  |   |   |
|  | DOCUMENT STATUS: P1    RELEASE DATE: 2019/07/09    06:47:12   |   |   |



# 4 CIRCUITS



- NOTES:
- MATERIALS:  
HOUSING: 30% GF, NYLON, UL94V-0, COLOR: BLACK  
PIN: 0.50mm SQ. PHOSPHOR BRONZE
  - FINISHES: REFER TO PLATING OPTIONS
  - PRODUCT SPECIFICATION: PS-87831-027
  - PACKAGING SPECIFICATION: SEE PACKAGING SPECS TABLE ON SHEET 1
  - MATES WITH: A. MOLEX CRIMP RECEPTACLE HOUSING: 51110 SERIES AND CRIMP TERMINAL: 50394 SERIES  
B. MOLEX 2mm MILLIGRID DUAL ROW IDT: 87568 SERIES  
C. MOLEX 2mm MILLIGRID DUAL ROW RECEPTACLE: 79107 (GOLD PLATED), 78787 (TIN PLATED)


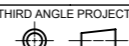
|         |   |       |                                   |         |  |   |
|---------|---|-------|-----------------------------------|---------|--|---|
| SYMBOLS | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |       | CURRENT REV DESC: ADDED BTB DIST. |         | <b>molex</b>   |   |
|         | DIMENSION UNITS   | SCALE |                                   |         |  |   |
| ▽ = 0   | mm  | NTS   |                                   |         | MILLIGRID<br>2MM PITCH, THROUGH HOLE VERTICAL SHROUDED<br>HEADER |   |
| ▽ = 0   | GENERAL TOLERANCES<br>(UNLESS SPECIFIED)  |       |                                   |         |  |   |
| ▽ = 0   |   | MM    | INCH                              |         |  | PRODUCT CUSTOMER DRAWING                |
| ▽ = 0   | 4 PLACES ±  |       |                                   |         |  |   |
| ▽ = 0   | 3 PLACES ±  |       |                                   |         |  | DOCUMENT NUMBER<br><b>SD-87831-0001</b> |
| ▽ = 0   | 2 PLACES ±  | 0.2   |                                   |         |  |   |
| ▽ = 0   | 1 PLACE ±   |       |                                   |         |  | DOC TYPE<br>PSD                         |
| ▽ = 0   | 0 PLACES ±  |       |                                   |         |  |   |
| ▽ = 0   | ANGULAR TOL ±   | 3.0°  |                                   |         |  | DOC PART<br>001                         |
| ▽ = 0   | DRAFT WHERE APPLICABLE<br>MUST REMAIN<br>WITHIN DIMENSIONS  |       | THIRD ANGLE PROJECTION            | DRAWING | SERIES   |   |
| ▽ = 0   |   |       |                                   | A3-SIZE | 87831  | SHEET NUMBER<br>2 OF 14                 |
| ▽ = 0   |   |       |                                   |         | MATERIAL NUMBER  |   |
| ▽ = 0   |   |       |                                   |         | CUSTOMER   |   |
| ▽ = 0   |   |       |                                   |         | SEE TABLE  | GENERAL MARKET                          |

4 CIRCUITS

| CKT SIZE | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS |        | SIDE SLOTS |        | CENTER POLARIZATION | PEG | DIMENSION |      |      |      |     |     |      |           |     |     |     |      |      |           |
|----------|------------------------------|---------------------------|--------------------------|-----------------|----------------|--------|------------|--------|---------------------|-----|-----------|------|------|------|-----|-----|------|-----------|-----|-----|-----|------|------|-----------|
|          |                              |                           |                          |                 | DUAL           | CENTER | DUAL       | SINGLE |                     |     | A         | B    | C    | D    | E   | F   | G    | H         |     |     |     |      |      |           |
| 4        | 87831-0419                   | N.A                       | N.A                      | 1               | N.A            | N.A    | YES        | N.A    | N.A                 | N.A | 2.00      | 4.85 | 6.65 | 5.00 | N.A | N.A | 2.50 | 3.60±0.20 |     |     |     |      |      |           |
|          | 87831-0420                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |      |      |           |
|          | 87831-0421                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |      |      |           |
|          | 87831-0436                   | N.A                       | N.A                      | 4               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |      |      |           |
|          | 87831-0441                   | 87831-0456                | N.A                      | 2               | N.A            | YES    | YES        | N.A    | N.A                 | N.A |           |      |      |      |     | N.A | N.A  |           | N.A | N.A | N.A | 1.00 | 2.50 | 3.60±0.20 |
|          | 87831-0442                   | N.A                       | 87831-5565               | 3               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |      |      |           |
|          | 87831-5141                   | N.A                       | N.A                      | 2               | N.A            | YES    | YES        | N.A    | N.A                 | N.A |           |      |      |      |     | N.A | N.A  |           | N.A | N.A | N.A | 1.00 | 3.50 | 3.60±0.20 |
|          | 87831-5142                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |      |      |           |
|          | 87831-6141                   | N.A                       | N.A                      | 2               | N.A            | YES    | YES        | N.A    | N.A                 | N.A |           |      |      |      |     | N.A | N.A  |           | N.A | N.A | N.A | 1.00 | 2.80 | 3.60±0.20 |
|          | 87831-6142                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |      |      |           |
|          | 87831-0443                   | N.A                       | N.A                      | 2               | N.A            | YES    | N.A        | YES    | N.A                 | N.A |           |      |      |      |     | N.A | N.A  |           | N.A | N.A | N.A | 1.00 | 2.50 | 3.60±0.20 |
|          | 87831-0444                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |      |      |           |

**PLATING OPTIONS:**

- 1 - 0.05-0.13µm/2-5µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 2 - 0.38µm/15µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 3 - 0.76µm/30µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 4 - 2.50µm/100µin MIN. MATTE TIN OVER 1.25µm/50µin MIN. NICKEL OVERALL.

|         |   |     |       |  |   |         |          |        |          |                 |          |                |  |
|---------|---|-----|-------|--|---|---------|----------|--------|----------|-----------------|----------|----------------|--|
| SYMBOLS | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |     |       |  |   |         |          |        |          |                 |          |                |  |
|         | DIMENSION UNITS   |     | SCALE |  | CURRENT REV DESC: ADDED BTB DIST.   |         |          |        |          |                 |          |                |  |
| ▽ = 0   | mm  | NTS |       | <br>MILLIGRID<br>2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER |   |         |          |        |          |                 |          |                |  |
| ▽ = 0   | GENERAL TOLERANCES (UNLESS SPECIFIED)   |     |       |  |   |         |          |        |          |                 |          |                |  |
| ▽ = 0   |   |     | MM    | INCH   | EC NO: 619055<br>DRWN: NMANE02 2019/03/25<br>CHK'D: NMANE02 2019/07/09<br>APPR: MRAMAKRISHNA 2019/07/09 |         |          |        |          |                 |          |                |  |
| ▽ = 0   | 4 PLACES  | ±   |       |  |   |         |          |        |          |                 |          |                |  |
| ▽ = 0   | 3 PLACES  | ±   |       |  | INITIAL REVISION:<br>DRWN: GMENARLY 2015/04/15<br>APPR: KHLIM 2015/06/29                                |         |          |        |          |                 |          |                |  |
| ▽ = 0   | 2 PLACES  | ±   | 0.2   |  |   |         |          |        |          |                 |          |                |  |
| ▽ = 0   | 1 PLACE   | ±   |       |  | DOCUMENT NUMBER   |         | DOC TYPE |        | DOC PART |                 | REVISION |                |  |
| ▽ = 0   | 0 PLACES  | ±   |       |  | SD-87831-0001   |         | PSD      |        | 001      |                 | A16      |                |  |
| ▽ = 0   | ANGULAR TOL ± 3.0°  |     |       | THIRD ANGLE PROJECTION   |   | DRAWING |          | SERIES |          | MATERIAL NUMBER |          | CUSTOMER       |  |
| ▽ = 0   | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS  |     |       |   |   | A3-SIZE |          | 87831  |          | SEE TABLE       |          | GENERAL MARKET |  |
| ▽ = 0   |   |     |       |  |   |         |          |        |          | SHEET NUMBER    |          | 3 OF 14        |  |



6 CIRCUITS

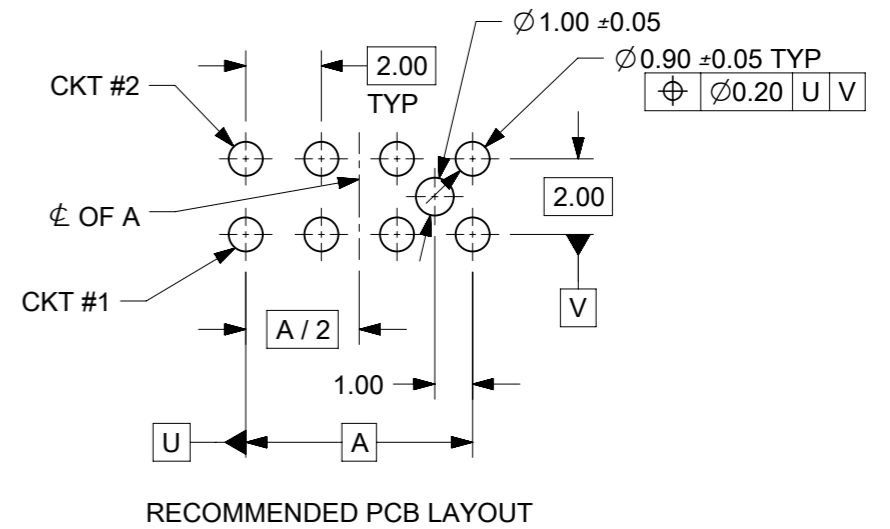
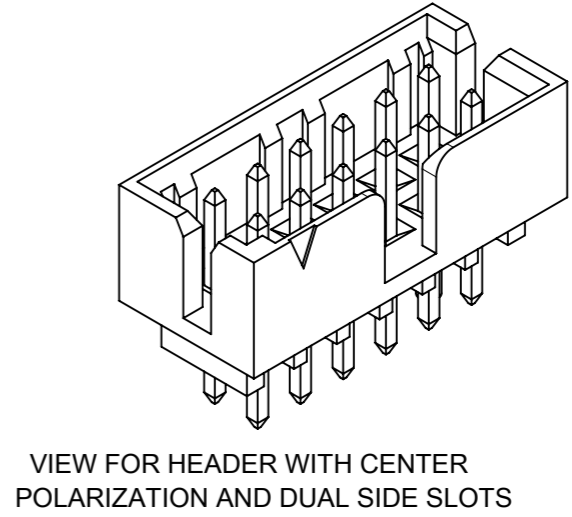
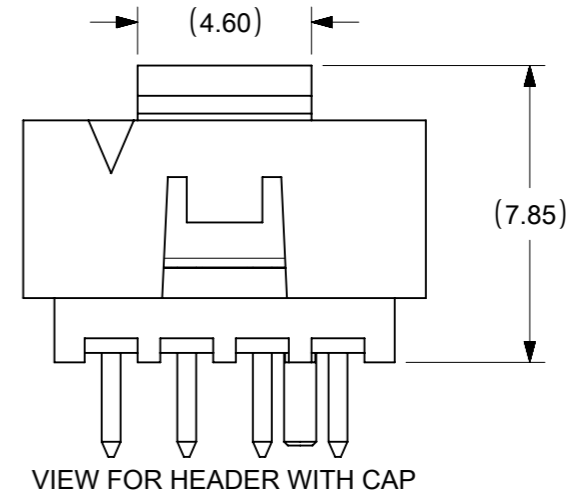
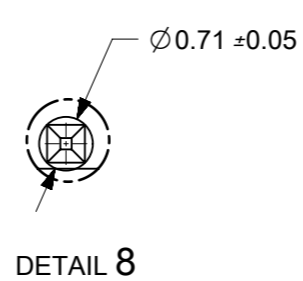
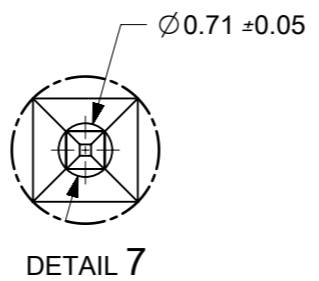
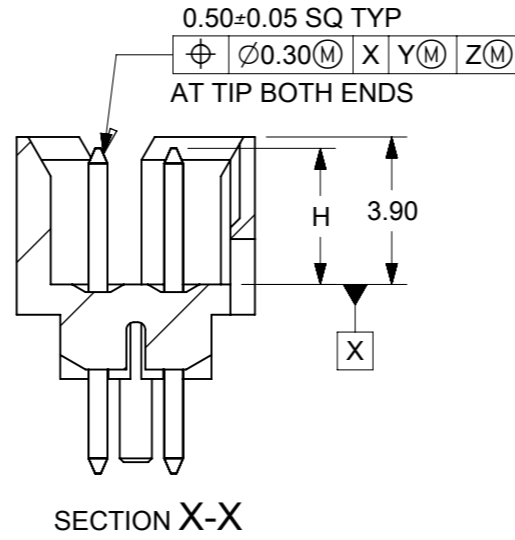
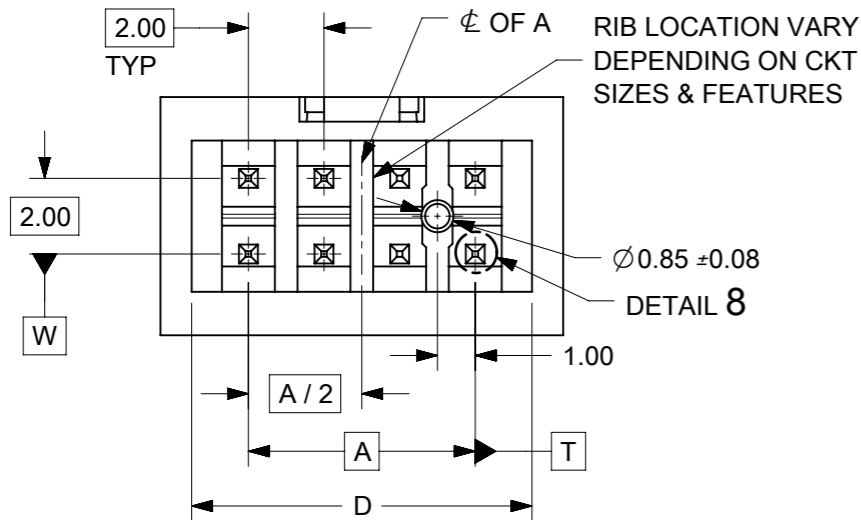
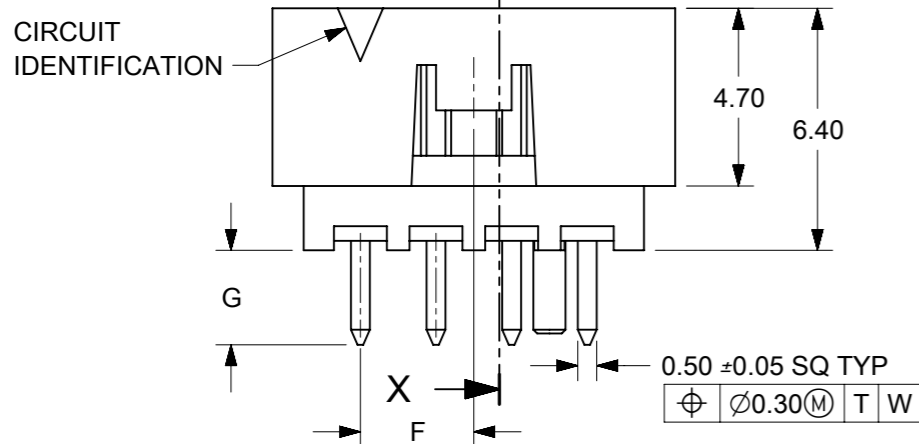
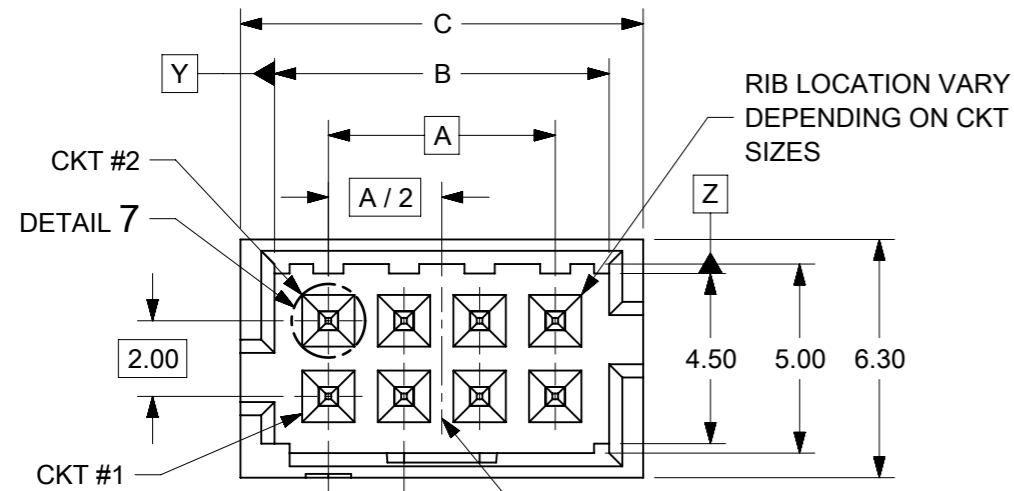
| CKT SIZE   | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS |        | SIDE SLOTS |        | CENTER POLARIZATION | PEG | DIMENSION |      |      |      |     |     |      |           |     |     |     |     |      |                                |
|------------|------------------------------|---------------------------|--------------------------|-----------------|----------------|--------|------------|--------|---------------------|-----|-----------|------|------|------|-----|-----|------|-----------|-----|-----|-----|-----|------|--------------------------------|
|            |                              |                           |                          |                 | DUAL           | CENTER | DUAL       | SINGLE |                     |     | A         | B    | C    | D    | E   | F   | G    | H         |     |     |     |     |      |                                |
| 6          | 87831-0619                   | N.A                       | N.A                      | 1               | N.A            | N.A    | YES        | N.A    | N.A                 | N.A | 4.00      | 6.85 | 8.65 | 7.00 | N.A | N.A | 2.50 | 3.60±0.20 |     |     |     |     |      |                                |
|            | 87831-0620                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |     |      |                                |
|            | 87831-0621                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |     |      |                                |
|            | 87831-0636                   | N.A                       | N.A                      | 4               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |     |      |                                |
|            | 87831-0628                   | N.A                       | N.A                      | 2               | N.A            | N.A    | YES        | N.A    | N.A                 | YES |           |      |      |      |     | N.A | N.A  |           | N.A | N.A | N.A | N.A | 2.50 | N.A                            |
|            | 87831-0629                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |     |      |                                |
|            | 87831-0641                   | N.A                       | N.A                      | 2               | N.A            | YES    | YES        | N.A    | N.A                 | N.A |           |      |      |      |     | N.A | N.A  |           | N.A | N.A | N.A | N.A | 2.50 | N.A                            |
|            | 87831-0642                   | N.A                       | 87831-5552               | 3               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |     |      |                                |
|            | 87831-5241                   | N.A                       | N.A                      | 2               | N.A            | YES    | YES        | N.A    | N.A                 | N.A |           |      |      |      |     | N.A | N.A  |           | N.A | N.A | N.A | N.A | 3.50 | N.A                            |
|            | 87831-5242                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |     |      |                                |
|            | 87831-6241                   | N.A                       | N.A                      | 2               | N.A            | YES    | YES        | N.A    | N.A                 | N.A |           |      |      |      |     | N.A | N.A  |           | N.A | N.A | N.A | N.A | 2.80 | N.A                            |
|            | 87831-6242                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |     |      |                                |
|            | 87831-0643                   | N.A                       | N.A                      | 2               | N.A            | YES    | N.A        | YES    | N.A                 | N.A |           |      |      |      |     | N.A | N.A  |           | N.A | N.A | N.A | N.A | 2.50 | N.A                            |
|            | 87831-0644                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |     |      |                                |
|            | 87831-0645                   | N.A                       | N.A                      | 2               | N.A            | YES    | N.A        | YES    | N.A                 | N.A |           |      |      |      |     | YES | N.A  |           | N.A | N.A | N.A | N.A | 2.50 | 3.60 <sup>+0.15</sup><br>-0.10 |
|            | 87831-0646                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |     |      |                                |
|            | 87831-0632                   | N.A                       | N.A                      | 2               | N.A            | YES    | YES        | N.A    | N.A                 | YES |           |      |      |      |     | N.A | N.A  |           | N.A | N.A | N.A | N.A | 2.50 | N.A                            |
|            | 87831-5119                   | N.A                       | N.A                      | 1               | N.A            | N.A    | YES        | N.A    | YES                 | N.A |           |      |      |      |     | N.A | N.A  |           | N.A | N.A | N.A | N.A | N.A  | 2.50                           |
| 87831-5121 | N.A                          | N.A                       | 3                        |                 |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |     |      |                                |
| 87831-5136 | N.A                          | N.A                       | 4                        |                 |                |        |            |        |                     |     |           |      |      |      |     |     |      |           |     |     |     |     |      |                                |

PLATING OPTIONS:

- 1 - 0.05-0.13µm/2-5µm GOLD IN CONTACT AREA AND 1.88µm/75µm MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µm MIN. NICKEL OVERALL.
- 2 - 0.38µm/15µm GOLD IN CONTACT AREA AND 1.88µm/75µm MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µm MIN. NICKEL OVERALL.
- 3 - 0.76µm/30µm GOLD IN CONTACT AREA AND 1.88µm/75µm MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µm MIN. NICKEL OVERALL.
- 4 - 2.50µm/100µm MIN. MATTE TIN OVER 1.25µm/50µm MIN. NICKEL OVERALL.

|         |   |       |                                       |  |   |  |
|---------|---|-------|---------------------------------------|--|---|--|
| SYMBOLS | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |       | CURRENT REV DESC: ADDED BTB DIST.     |  | <b>molex</b>  |  |
|         | DIMENSION UNITS   | SCALE | GENERAL TOLERANCES (UNLESS SPECIFIED) |  |   |  |
| ▽ = 0   | mm  | NTS   | EC NO: 619055                         |  | MILLIGRID<br>2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER |  |
| ▽ = 0   | GENERAL TOLERANCES (UNLESS SPECIFIED)   |       | DRWN: NMANE02 2019/03/25              |  |   |  |
| ▽ = 0   | MM INCH   |       | CHK'D: NMANE02 2019/07/09             |  | PRODUCT CUSTOMER DRAWING                                      |  |
| ▽ = 0   | 4 PLACES ± ±  |       | APPR: MRAMAKRISHNA 2019/07/09         |  |   |  |
| ▽ = 0   | 3 PLACES ± ±  |       | INITIAL REVISION:                     |  | DOCUMENT NUMBER   |  |
| ▽ = 0   | 2 PLACES ± 0.2 ±  |       | DRWN: GMENARLY 2015/04/15             |  | SD-87831-0001   |  |
| ▽ = 0   | 1 PLACE ± ±   |       | APPR: KHLIM 2015/06/29                |  | DOC TYPE DOC PART REVISION                                    |  |
| ▽ = 0   | 0 PLACES ± ±  |       | THIRD ANGLE PROJECTION                |  | PSD 001 A16   |  |
| ▽ = 0   | ANGULAR TOL ± 3.0°  |       | DRAWING                               |  | SHEET NUMBER  |  |
| ▽ = 0   | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS  |       | SERIES                                |  | 5 OF 14   |  |
| ▽ = 0   |   |       | MATERIAL NUMBER                       |  | SEE TABLE   |  |
| ▽ = 0   |   |       | CUSTOMER                              |  | GENERAL MARKET  |  |

# 8 TO 12 CIRCUITS



- NOTES:
- MATERIALS:  
HOUSING: 30% GF, NYLON, UL94V-0, COLOR: BLACK  
PIN: 0.50mm SQ PHOSPHOR BRONZE
  - FINISHES: REFER TO PLATING OPTIONS
  - PRODUCT SPECIFICATION: PS-87831-027
  - PACKAGING SPECIFICATION: SEE PACKAGING SPECS TABLE ON SHEET 1
  - MATES WITH: A. MOLEX CRIMP RECEPTACLE HOUSING: 51110 SERIES AND CRIMP TERMINAL: 50394 SERIES  
B. MOLEX 2mm MILLIGRID DUAL ROW IDT: 87568 SERIES  
C. MOLEX 2mm MILLIGRID DUAL ROW RECEPTACLE: 79107 (GOLD PLATED), 78787 (TIN PLATED)

|                 |   |                |                                   |               |
|-----------------|---|----------------|-----------------------------------|---------------|
| SYMBOLS         | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |                | CURRENT REV DESC: ADDED BTB DIST. |               |
|                 | DIMENSION UNITS   | SCALE          |                                   |               |
| $\nabla = 0$    | mm  | NTS            |                                   |               |
| $\nabla = 0$    | GENERAL TOLERANCES (UNLESS SPECIFIED)   |                |                                   |               |
| $\nabla = 0$    |   | MM             | INCH                              |               |
| $\nabla = 0$    | 4 PLACES  | ±              | ±                                 |               |
| $\nabla = 0$    | 3 PLACES  | ±              | ±                                 |               |
| $\nabla = 0$    | 2 PLACES  | ±              | 0.2                               | ±             |
| $\nabla = 0$    | 1 PLACE   | ±              | ±                                 |               |
| $\nabla = 0$    | 0 PLACES  | ±              | ±                                 |               |
| $\nabla = 0$    | ANGULAR TOL   | ±              | 3.0°                              |               |
| $\nabla = 0$    | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS  |                | THIRD ANGLE PROJECTION            |               |
| $\nabla = 0$    |   |                | DRAWING                           | SERIES        |
|                 |   |                | A3-SIZE                           | 87831         |
| DOCUMENT NUMBER |   | DOCUMENT TYPE  |                                   | DOCUMENT PART |
| SD-87831-0001   |   | PSD            |                                   | 001           |
| MATERIAL NUMBER |   | CUSTOMER       |                                   | SHEET NUMBER  |
| SEE TABLE       |   | GENERAL MARKET |                                   | 6 OF 14       |

8 CIRCUITS

| CKT SIZE   | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS |        | SIDE SLOTS |        | CENTER POLARIZATION | PEG | DIMENSION |      |       |      |     |     |      |      |      |
|------------|------------------------------|---------------------------|--------------------------|-----------------|----------------|--------|------------|--------|---------------------|-----|-----------|------|-------|------|-----|-----|------|------|------|
|            |                              |                           |                          |                 | DUAL           | CENTER | DUAL       | SINGLE |                     |     | A         | B    | C     | D    | E   | F   | G    | H    |      |
| 8          | 87831-0819                   | N.A                       | N.A                      | 1               | N.A            | N.A    | YES        | N.A    | YES                 | N.A | 6.00      | 8.85 | 10.65 | 9.00 | N.A | N.A | 2.50 |      |      |
|            | 87831-0820                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |      |       |      |     |     |      |      |      |
|            | 87831-0821                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |       |      |     |     |      |      |      |
|            | 87831-0836                   | N.A                       | N.A                      | 4               |                |        |            |        |                     |     |           |      |       |      |     |     |      |      |      |
|            | 87831-0828                   | N.A                       | N.A                      | 2               | N.A            | N.A    | YES        | N.A    | YES                 | YES |           |      |       |      |     | N.A | N.A  | 2.50 |      |
|            | 87831-0829                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |       |      |     |     |      |      |      |
|            | 87831-0841                   | N.A                       | 87831-5551               | 2               | N.A            | YES    | YES        | N.A    | N.A                 | N.A |           |      |       |      |     | N.A | N.A  | 3.00 | 2.50 |
|            | 87831-0842                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |       |      |     |     |      |      |      |
|            | 87831-5841                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |      |       |      |     |     |      |      |      |
|            | 87831-5441                   | N.A                       | N.A                      | 2               | N.A            | YES    | YES        | N.A    | N.A                 | N.A |           |      |       |      |     | N.A | N.A  | 3.50 |      |
|            | 87831-5442                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |       |      |     |     |      |      |      |
|            | 87831-5541                   | N.A                       | N.A                      | 2               | N.A            | YES    | YES        | N.A    | N.A                 | N.A |           |      |       |      |     | N.A | N.A  | 2.80 |      |
|            | 87831-5542                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |       |      |     |     |      |      |      |
|            | 87831-5741                   | N.A                       | N.A                      | 2               | N.A            | YES    | YES        | N.A    | N.A                 | N.A |           |      |       |      |     | N.A | N.A  | 4.70 |      |
|            | 87831-5742                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |       |      |     |     |      |      |      |
|            | 87831-0832                   | N.A                       | N.A                      | 2               | N.A            | YES    | YES        | N.A    | N.A                 | N.A |           |      |       |      |     | N.A | N.A  | N.A  | 2.50 |
|            | 87831-0843                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |      |       |      |     |     |      |      |      |
|            | 87831-0844                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |      |       |      |     |     |      |      |      |
| 87831-0845 | N.A                          | N.A                       | 2                        | N.A             | YES            | N.A    | YES        | N.A    | N.A                 | N.A | N.A       | N.A  | 2.50  |      |     |     |      |      |      |
| 87831-0846 | N.A                          | N.A                       | 3                        |                 |                |        |            |        |                     |     |           |      |       |      |     |     |      |      |      |

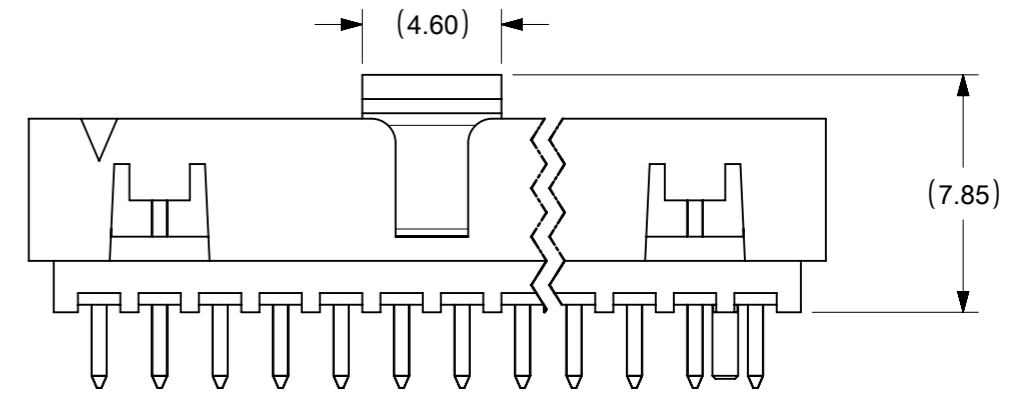
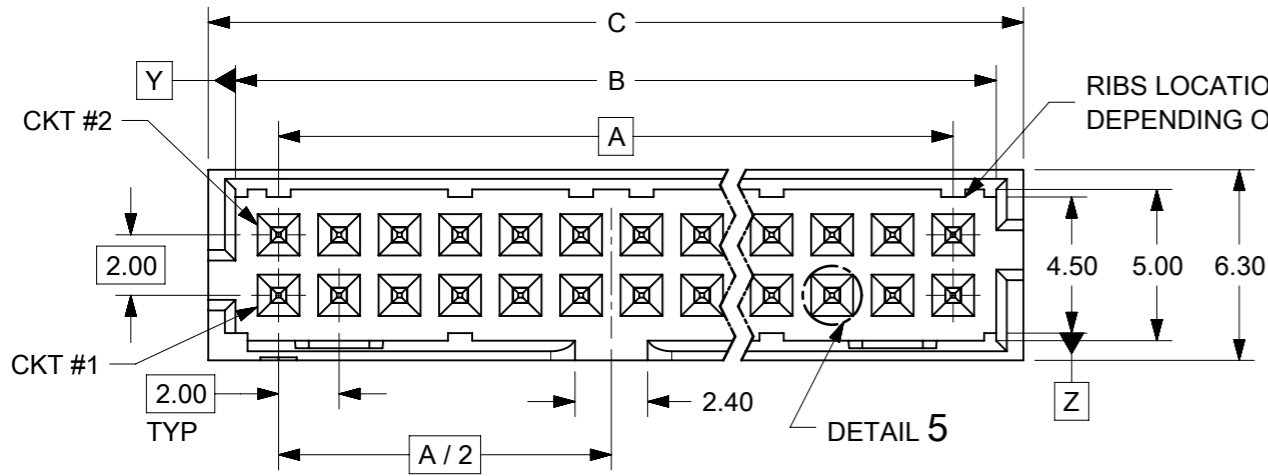
PLATING OPTIONS:

- 1 - 0.05-0.13µm/2-5µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 2 - 0.38µm/15µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 3 - 0.76µm/30µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 4 - 2.50µm/100µin MIN. MATTE TIN OVER 1.25µm/50µin MIN. NICKEL OVERALL.

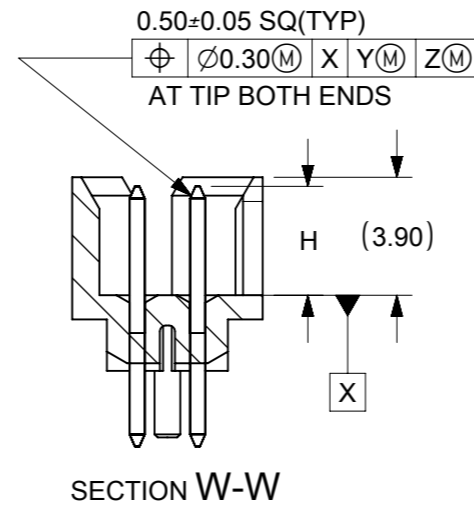
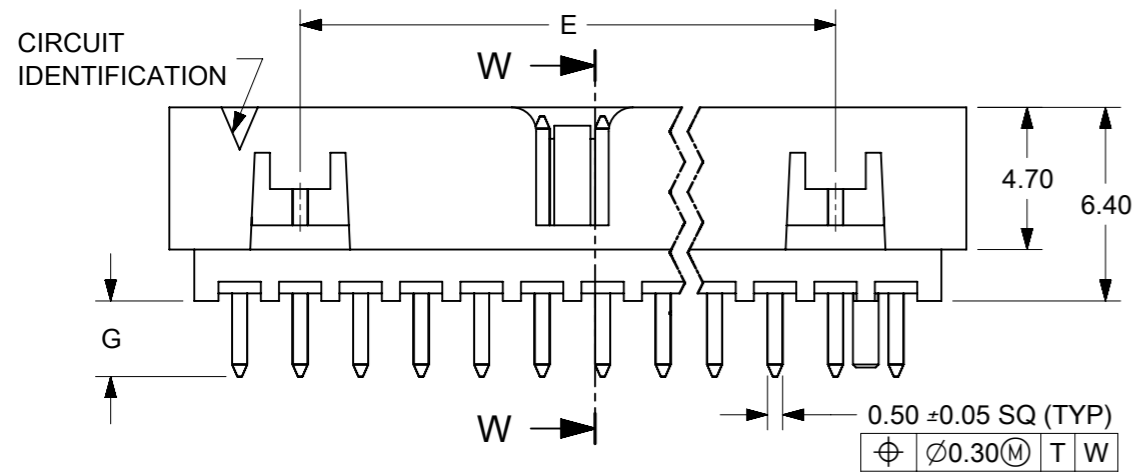
|                                   |   |                 |
|-----------------------------------|---|-----------------|
| SYMBOLS                           | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |                 |
|                                   | DIMENSION UNITS   | SCALE           |
| ▽ = 0                             | mm  | NTS             |
| ▽ = 0                             | GENERAL TOLERANCES (UNLESS SPECIFIED)   |                 |
| ▽ = 0                             | MM  | INCH            |
| ▽ = 0                             | 4 PLACES ±  | ±               |
| ▽ = 0                             | 3 PLACES ±  | ±               |
| ▽ = 0                             | 2 PLACES ±  | 0.2 ±           |
| ▽ = 0                             | 1 PLACE ±   | ±               |
| ▽ = 0                             | 0 PLACES ±  | ±               |
| ▽ = 0                             | ANGULAR TOL ±   | 3.0°            |
| ■ = 0                             | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS  |                 |
| ▽ = 0                             | THIRD ANGLE PROJECTION  | DRAWING         |
| CURRENT REV DESC: ADDED BTB DIST. |   | SERIES          |
| EC NO: 619055                     |   | MATERIAL NUMBER |
| DRWN: NMANE02 2019/03/25          |   | CUSTOMER        |
| CHK'D: NMANE02 2019/07/09         |   | GENERAL MARKET  |
| APPR: MRAMAKRISHNA 2019/07/09     |   | SHEET NUMBER    |
| INITIAL REVISION:                 |   | 7 OF 14         |
| DRWN: GMENARLY 2015/04/15         |   |                 |
| APPR: KHLIM 2015/06/29            |   |                 |
| DOCUMENT NUMBER                   |   |                 |
| SD-87831-0001                     |   |                 |
| DOC TYPE                          |   |                 |
| PSD                               |   |                 |
| DOC PART                          |   |                 |
| 001                               |   |                 |
| REVISION                          |   |                 |
| A16                               |   |                 |



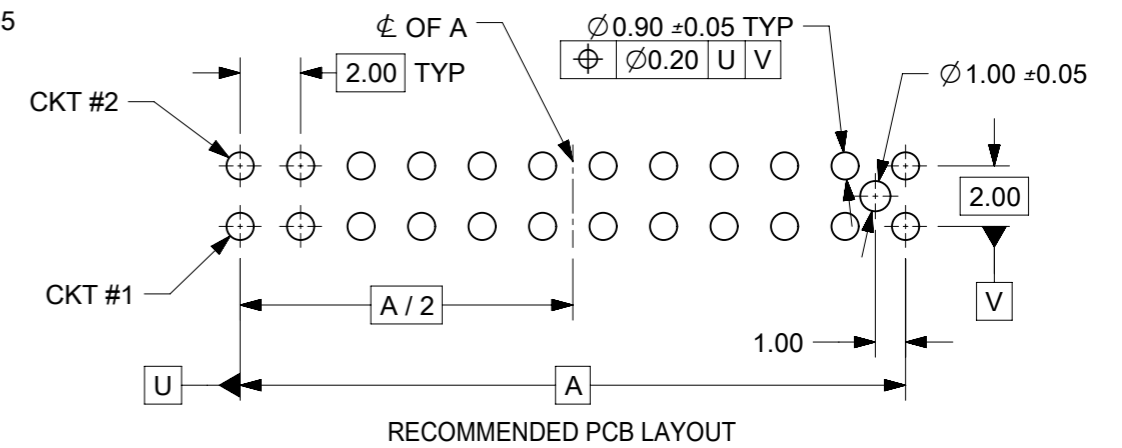
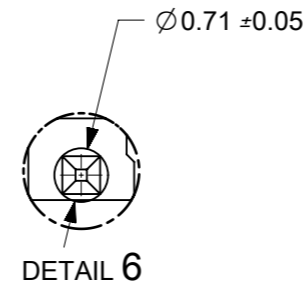
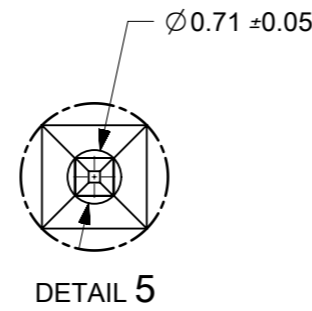
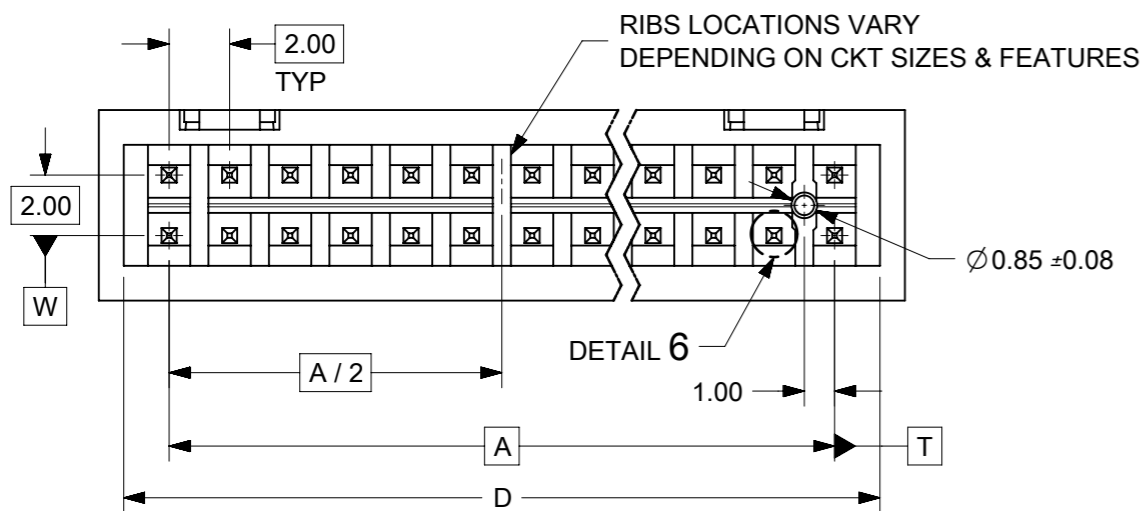
# 14 TO 50 CIRCUITS



VIEW FOR HEADER WITH CAP



SECTION W-W



RECOMMENDED PCB LAYOUT

**NOTES:**

- MATERIALS:**  
HOUSING: 30% GF, NYLON, UL94V-0, COLOR: BLACK  
PIN: 0.50mm SQ PHOSPHOR BRONZE
- FINISHES:** REFER TO PLATING OPTIONS
- PRODUCT SPECIFICATION:** PS-87831-027
- PACKAGING SPECIFICATION:** SEE PACKAGING SPECS TABLE ON SHEET 1
- MATES WITH:** A. MOLEX CRIMP RECEPTACLE HOUSING: 51110 SERIES AND CRIMP TERMINAL: 50394 SERIES  
B. MOLEX 2mm MILLIGRID DUAL ROW IDT: 87568 SERIES  
C. MOLEX 2mm MILLIGRID DUAL ROW RECEPTACLE: 79107 (GOLD PLATED), 78787 (TIN PLATED)

|         |   |       |                                   |                               |                          |                 |
|---------|---|-------|-----------------------------------|-------------------------------|--------------------------|-----------------|
| SYMBOLS | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |       | CURRENT REV DESC: ADDED BTB DIST. |                               |                          |                 |
|         | DIMENSION UNITS   | SCALE |                                   |                               |                          |                 |
| ▽ = 0   | mm  | NTS   |                                   |                               | PRODUCT CUSTOMER DRAWING |                 |
| ▽ = 0   | GENERAL TOLERANCES (UNLESS SPECIFIED)   |       |                                   |                               | DOCUMENT NUMBER          |                 |
| ▽ = 0   |   | MM    | INCH                              | EC NO: 619055                 |                          | DOC TYPE        |
| ▽ = 0   | 4 PLACES ±  |       |                                   | DRWN: NMANE02 2019/03/25      |                          | DOC PART        |
| ▽ = 0   | 3 PLACES ±  |       |                                   | CHK'D: NMANE02 2019/07/09     |                          | REVISION        |
| ▽ = 0   | 2 PLACES ±  | 0.2   |                                   | APPR: MRAMAKRISHNA 2019/07/09 |                          |                 |
| ▽ = 0   | 1 PLACE ±   |       |                                   | INITIAL REVISION:             |                          |                 |
| ▽ = 0   | 0 PLACES ±  |       |                                   | DRWN: GMENARLY 2015/04/15     |                          |                 |
| ▽ = 0   | ANGULAR TOL ±   | 3.0°  |                                   | APPR: KHLIM 2015/06/29        |                          |                 |
| ▽ = 0   | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS  |       | THIRD ANGLE PROJECTION            | DRAWING                       | SERIES                   | MATERIAL NUMBER |
| ▽ = 0   |   |       |                                   | A3-SIZE                       | 87831                    | CUSTOMER        |
|         |   |       |                                   | SEE TABLE                     | GENERAL MARKET           | SHEET NUMBER    |
|         |   |       |                                   |                               |                          | 9 OF 14         |



# 14 TO 20 CIRCUITS

| CKT SIZE   | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS |        | SIDE SLOTS |        | CENTER POLARIZATION | PEG  | DIMENSION |       |       |       |       |     |      |           |
|------------|------------------------------|---------------------------|--------------------------|-----------------|----------------|--------|------------|--------|---------------------|------|-----------|-------|-------|-------|-------|-----|------|-----------|
|            |                              |                           |                          |                 | DUAL           | CENTER | DUAL       | SINGLE |                     |      | A         | B     | C     | D     | E     | F   | G    | H         |
| 14         | 87831-1419                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A  | 12.00     | 14.85 | 16.65 | 15.00 | 8.00  | N.A | 2.50 | 3.60±0.20 |
|            | 87831-1420                   | 87831-1430                | 87831-5554               | 2               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-1421                   | N.A                       | 87831-5560               | 3               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-1436                   | N.A                       | N.A                      | 4               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-1428                   | N.A                       | (A14) 87831-5564         | 2               | YES            | N.A    | YES        | N.A    | YES                 | YES  |           |       |       |       |       |     |      |           |
|            | 87831-1429                   | N.A                       | 87831-5563               | 3               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-1435                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-1410                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
| 87831-1411 | N.A                          | N.A                       | 3                        | YES             | N.A            | YES    | N.A        | YES    | N.A                 | 3.50 |           |       |       |       |       |     |      |           |
| 16         | 87831-1619                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A  | 14.00     | 16.85 | 18.65 | 17.00 | 10.00 | N.A | 2.50 | 3.60±0.20 |
|            | 87831-1620                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-1621                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-1636                   | N.A                       | N.A                      | 4               | YES            | N.A    | YES        | N.A    | YES                 | YES  |           |       |       |       |       |     |      |           |
|            | 87831-1628                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-1629                   | N.A                       | 87831-5559               | 3               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-1635                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
| 18         | 87831-1819                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A  | 16.00     | 18.85 | 20.65 | 19.00 | 12.00 | N.A | 2.50 | 3.60±0.20 |
|            | 87831-1820                   | N.A                       | 87831-5566               | 2               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-1821                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-1836                   | N.A                       | N.A                      | 4               | YES            | N.A    | YES        | N.A    | YES                 | YES  |           |       |       |       |       |     |      |           |
|            | 87831-1828                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-1829                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
| 20         | 87831-2019                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A  | 18.00     | 20.85 | 22.65 | 21.00 | 14.00 | N.A | 2.50 | 3.60±0.20 |
|            | 87831-2020                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-2021                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-2036                   | N.A                       | N.A                      | 4               | YES            | N.A    | YES        | N.A    | YES                 | YES  |           |       |       |       |       |     |      |           |
|            | 87831-2028                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-2029                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |
|            | 87831-2035                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES  |           |       |       |       |       |     | 3.50 |           |
|            | 87831-2010                   | N.A                       | N.A                      | 2               | YES            | N.A    | YES        | N.A    | YES                 | N.A  |           |       |       |       |       |     |      |           |
|            | 87831-2011                   | N.A                       | (A13) 87831-2041         | 3               |                |        |            |        |                     |      |           |       |       |       |       |     |      |           |

**PLATING OPTIONS:**

- 1 - 0.05-0.13µm/2-5µm GOLD IN CONTACT AREA AND 1.88µm/75µm MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µm MIN. NICKEL OVERALL.
- 2 - 0.38µm/15µm GOLD IN CONTACT AREA AND 1.88µm/75µm MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µm MIN. NICKEL OVERALL.
- 3 - 0.76µm/30µm GOLD IN CONTACT AREA AND 1.88µm/75µm MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µm MIN. NICKEL OVERALL.
- 4 - 2.50µm/100µm MIN. MATTE TIN OVER 1.25µm/50µm MIN. NICKEL OVERALL.


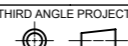
|  |  |                        |   |   |  |  |  |
|--|--|------------------------|---|---|--|--|--|
| <b>SYMBOLS</b><br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0 | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION<br>DIMENSION UNITS: <b>mm</b> SCALE: <b>NTS</b><br>CURRENT REV DESC: ADDED BTB DIST. |                        | MILLIGRID<br>2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER |   |  |  |  |
|  | GENERAL TOLERANCES (UNLESS SPECIFIED)  |                        |   | PRODUCT CUSTOMER DRAWING  |  |  |  |
|  | EC NO: 619055<br>DRWN: NMANE02    2019/03/25<br>CHK'D: NMANE02    2019/07/09<br>APPR: MRAMAKRISHNA    2019/07/09   |                        |   | DOCUMENT NUMBER: <b>SD-87831-0001</b> DOC TYPE: PSD    DOC PART: 001    REVISION: A16 |  |  |  |
|  | INITIAL REVISION:<br>DRWN: GMENARLY    2015/04/15<br>APPR: KHLIM    2015/06/29   |                        |   | MATERIAL NUMBER: SEE TABLE    CUSTOMER: GENERAL MARKET    SHEET NUMBER: 10 OF 14      |  |  |  |
| DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS   |  | THIRD ANGLE PROJECTION |   | DRAWING: <b>A3-SIZE</b> SERIES: <b>87831</b>  |  |  |  |

22 TO 30 CIRCUITS

| CKT SIZE   | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | ASSY P/N WITHOUT CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS |        | SIDE SLOTS |        | CENTER POLARIZATION | PEG | DIMENSION |       |       |       |       |     |      |           |
|------------|------------------------------|---------------------------|--------------------------|-----------------------------|-----------------|----------------|--------|------------|--------|---------------------|-----|-----------|-------|-------|-------|-------|-----|------|-----------|
|            |                              |                           |                          |                             |                 | DUAL           | CENTER | DUAL       | SINGLE |                     |     | A         | B     | C     | D     | E     | F   | G    | H         |
| 22         | 87831-2219                   | N.A                       | N.A                      | N.A                         | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 20.00     | 22.85 | 24.65 | 23.00 | 16.00 | N.A | 2.50 | 3.60±0.20 |
|            | 87831-2220                   | N.A                       | N.A                      | N.A                         | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2221                   | N.A                       | N.A                      | N.A                         | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2236                   | N.A                       | N.A                      | N.A                         | 4               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2228                   | N.A                       | N.A                      | N.A                         | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2229                   | N.A                       | N.A                      | N.A                         | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
| 24         | 87831-2419                   | N.A                       | N.A                      | N.A                         | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 22.00     | 24.85 | 26.65 | 25.00 | 18.00 | N.A | 2.50 | 3.60±0.20 |
|            | 87831-2420                   | N.A                       | N.A                      | 87831-7420                  | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2421                   | N.A                       | N.A                      | N.A                         | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2436                   | N.A                       | N.A                      | N.A                         | 4               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2428                   | N.A                       | N.A                      | N.A                         | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2429                   | N.A                       | N.A                      | N.A                         | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2435                   | N.A                       | N.A                      | N.A                         | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2445                   | N.A                       | N.A                      | N.A                         | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
| 87831-2410 | N.A                          | N.A                       | N.A                      | 2                           |                 |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
| 26         | 87831-2619                   | N.A                       | N.A                      | N.A                         | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 24.00     | 26.85 | 28.65 | 27.00 | 20.00 | N.A | 2.50 | 3.60±0.20 |
|            | 87831-2620                   | 87831-2630                | 87831-5555               | N.A                         | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2621                   | N.A                       | N.A                      | N.A                         | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2636                   | N.A                       | N.A                      | N.A                         | 4               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2628                   | N.A                       | N.A                      | N.A                         | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2629                   | N.A                       | N.A                      | N.A                         | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2610                   | N.A                       | N.A                      | N.A                         | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
| 28         | 87831-2819                   | N.A                       | N.A                      | N.A                         | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 26.00     | 28.85 | 30.65 | 29.00 | 22.00 | N.A | 2.50 | 3.60±0.20 |
|            | 87831-2820                   | N.A                       | N.A                      | N.A                         | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2821                   | N.A                       | N.A                      | N.A                         | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2836                   | N.A                       | N.A                      | N.A                         | 4               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2828                   | N.A                       | N.A                      | N.A                         | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-2829                   | N.A                       | N.A                      | N.A                         | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
| 30         | 87831-3019                   | N.A                       | N.A                      | N.A                         | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 28.00     | 30.85 | 32.65 | 31.00 | 24.00 | N.A | 2.50 | 3.60±0.20 |
|            | 87831-3020                   | N.A                       | N.A                      | N.A                         | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-3021                   | N.A                       | N.A                      | N.A                         | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-3036                   | N.A                       | N.A                      | N.A                         | 4               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-3028                   | N.A                       | N.A                      | N.A                         | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-3029                   | N.A                       | N.A                      | N.A                         | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-3035                   | N.A                       | N.A                      | N.A                         | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|            | 87831-3010                   | 87831-3030                | 87831-3050               | N.A                         | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |

PLATING OPTIONS:

- 1 - 0.05-0.13µm/2-5µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 2 - 0.38µm/15µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 3 - 0.76µm/30µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 4 - 2.50µm/100µin MIN. MATTE TIN OVER 1.25µm/50µin MIN. NICKEL OVERALL.


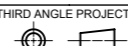
|   |   |                               |       |               |  |                 |  |                     |  |   |  |                 |  |                 |  |                 |  |                          |  |
|---|---|-------------------------------|-------|---------------|--|-----------------|--|---------------------|--|---|--|-----------------|--|-----------------|--|-----------------|--|--------------------------|--|
| SYMBOLS   | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |                               |       |               |  |                 |  |                     |  |   |  |                 |  |                 |  |                 |  |                          |  |
|   | DIMENSION UNITS   |                               | SCALE |               | CURRENT REV DESC: ADDED BTB DIST.  |                 |  |                     |  |   |  |                 |  |                 |  |                 |  |                          |  |
|   | mm  |                               | NTS   |               | <br>MILLIGRID<br>2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER |                 |  |                     |  |   |  |                 |  |                 |  |                 |  |                          |  |
|   | GENERAL TOLERANCES (UNLESS SPECIFIED)   |                               |       |               |  |                 |  |                     |  |   |  |                 |  |                 |  |                 |  |                          |  |
| ▽ = 0   | 4 PLACES ±  | MM                            | INCH  | EC NO: 619055 |  |                 |  |                     |  |   |  |                 |  |                 |  |                 |  |                          |  |
| ▽ = 0   | 3 PLACES ±  | DRWN: NMANE02 2019/03/25      |       |               |  |                 |  |                     |  |   |  |                 |  |                 |  |                 |  |                          |  |
| ▽ = 0   | 2 PLACES ± 0.2  | CHK'D: NMANE02 2019/07/09     |       |               |  |                 |  |                     |  |   |  |                 |  |                 |  |                 |  |                          |  |
| ▽ = 0   | 1 PLACE ±   | APPR: MRAMAKRISHNA 2019/07/09 |       |               |  |                 |  |                     |  |   |  |                 |  |                 |  |                 |  |                          |  |
| ▽ = 0   | 0 PLACES ±  | INITIAL REVISION:             |       |               |  |                 |  |                     |  |   |  |                 |  |                 |  |                 |  |                          |  |
| ▽ = 0   | ANGULAR TOL ± 3.0°  | DRWN: GMENARLY 2015/04/15     |       |               |  |                 |  |                     |  |   |  |                 |  |                 |  |                 |  |                          |  |
| ▽ = 0   | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS  | APPR: KHLIM 2015/06/29        |       |               |  |                 |  |                     |  |   |  |                 |  |                 |  |                 |  |                          |  |
| THIRD ANGLE PROJECTION  |   | DRAWING                       |       | SERIES        |  | MATERIAL NUMBER |  | CUSTOMER            |  |   |  |                 |  |                 |  |                 |  |                          |  |
|  |   | A3-SIZE                       |       | 87831         |  | SEE TABLE       |  | GENERAL MARKET      |  |   |  |                 |  |                 |  |                 |  |                          |  |
| DOCUMENT STATUS   |   |                               |       | P1            |  | RELEASE DATE    |  | 2019/07/09 06:47:12 |  | DOCUMENT NUMBER<br><b>SD-87831-0001</b> |  | DOC TYPE<br>PSD |  | DOC PART<br>001 |  | REVISION<br>A16 |  | SHEET NUMBER<br>11 OF 14 |  |

32 TO 40 CIRCUITS

| CKT SIZE | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS |        | SIDE SLOTS |        | CENTER POLARIZATION | PEG | DIMENSION |       |       |       |       |     |      |           |
|----------|------------------------------|---------------------------|--------------------------|-----------------|----------------|--------|------------|--------|---------------------|-----|-----------|-------|-------|-------|-------|-----|------|-----------|
|          |                              |                           |                          |                 | DUAL           | CENTER | DUAL       | SINGLE |                     |     | A         | B     | C     | D     | E     | F   | G    | H         |
| 32       | 87831-3219                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 30.00     | 32.85 | 34.65 | 33.00 | 26.00 | N.A | 2.50 | 3.60±0.20 |
|          | 87831-3220                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3221                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3236                   | N.A                       | N.A                      | 4               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3228                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3229                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     | 2.50 |           |
| 34       | 87831-3419                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 32.00     | 34.85 | 36.65 | 35.00 | 28.00 | N.A | 2.50 | 3.60±0.20 |
|          | 87831-3420                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3421                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3436                   | N.A                       | N.A                      | 4               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3428                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3429                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     | 2.50 |           |
|          | 87831-3435                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     | 3.50 |           |
| 36       | 87831-3619                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 34.00     | 36.85 | 38.65 | 37.00 | 30.00 | N.A | 2.50 | 3.60±0.20 |
|          | 87831-3620                   | N.A                       | 87831-5564               | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3621                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3636                   | N.A                       | N.A                      | 4               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3628                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3629                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     | 2.50 |           |
| 38       | 87831-3819                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 36.00     | 38.85 | 40.65 | 39.00 | 32.00 | N.A | 2.50 | 3.60±0.20 |
|          | 87831-3820                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3821                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3836                   | N.A                       | N.A                      | 4               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3828                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-3829                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     | 2.50 |           |
| 40       | 87831-4019                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 38.00     | 40.85 | 42.65 | 41.00 | 34.00 | N.A | 2.50 | 3.60±0.20 |
|          | 87831-4020                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4021                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4036                   | N.A                       | N.A                      | 4               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4028                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4029                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     | 2.50 |           |
|          | 87831-4010                   | N.A                       | N.A                      | 2               | YES            | N.A    | YES        | N.A    | YES                 | N.A |           |       |       |       |       |     | 3.50 |           |

PLATING OPTIONS:

- 1 - 0.05-0.13µm/2-5µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 2 - 0.38µm/15µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 3 - 0.76µm/30µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 4 - 2.50µm/100µin MIN. MATTE TIN OVER 1.25µm/50µin MIN. NICKEL OVERALL.

|         |   |   |   |    |  |                               |        |  |                 |  |
|---------|---|---|---|----|--|-------------------------------|--------|--|-----------------|--|
| SYMBOLS | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |   |   |    |  |                               |        |  |                 |  |
|         | DIMENSION UNITS   |   | SCALE   |    | CURRENT REV DESC: ADDED BTB DIST.  |                               |        |  |                 |  |
|         | mm  |   | NTS   |    | <br>MILLIGRID<br>2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER |                               |        |  |                 |  |
|         | GENERAL TOLERANCES (UNLESS SPECIFIED)   |   |   |    |  |                               |        |  |                 |  |
| ▽ = 0   | 4 PLACES  | ± |   | MM | INCH   | EC NO: 619055                 |        |  |                 |  |
| ▽ = 0   | 3 PLACES  | ± |   |    |  | DRWN: NMANE02 2019/03/25      |        |  |                 |  |
| ▽ = 0   | 2 PLACES  | ± | 0.2   |    |  | CHK'D: NMANE02 2019/07/09     |        |  |                 |  |
| ▽ = 0   | 1 PLACE   | ± |   |    |  | APPR: MRAMAKRISHNA 2019/07/09 |        |  |                 |  |
| ☒ = 0   | 0 PLACES  | ± |   |    |  | INITIAL REVISION:             |        |  |                 |  |
| ■ = 0   | ANGULAR TOL ± 3.0°  |   | THIRD ANGLE PROJECTION  |    | DRAWING  |                               | SERIES |  | MATERIAL NUMBER |  |
| ▽ = 0   | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS  |   |  |    | A3-SIZE  |                               | 87831  |  | SEE TABLE       |  |

|                 |    |              |            |          |
|-----------------|----|--------------|------------|----------|
| DOCUMENT STATUS | P1 | RELEASE DATE | 2019/07/09 | 06:47:12 |
|-----------------|----|--------------|------------|----------|

# 42 TO 50 CIRCUITS

| CKT SIZE | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS |        | SIDE SLOTS |        | CENTER POLARIZATION | PEG | DIMENSION |       |       |       |       |     |      |           |
|----------|------------------------------|---------------------------|--------------------------|-----------------|----------------|--------|------------|--------|---------------------|-----|-----------|-------|-------|-------|-------|-----|------|-----------|
|          |                              |                           |                          |                 | DUAL           | CENTER | DUAL       | SINGLE |                     |     | A         | B     | C     | D     | E     | F   | G    | H         |
| 42       | 87831-4219                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 40.00     | 42.85 | 44.65 | 43.00 | 36.00 | N.A | 2.50 | 3.60±0.20 |
|          | 87831-4220                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4221                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4236                   | N.A                       | N.A                      | 4               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4228                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4229                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     | 2.50 |           |
| 44       | 87831-4419                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 42.00     | 44.85 | 46.65 | 45.00 | 38.00 | N.A | 2.50 | 3.60±0.20 |
|          | 87831-4420                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4421                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4436                   | N.A                       | N.A                      | 4               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4428                   | N.A                       | N.A                      | 2               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     | 2.50 |           |
|          | 87831-4429                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     | 3.50 |           |
|          | 87831-4435                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     |      |           |
| 46       | 87831-4619                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 44.00     | 46.85 | 48.65 | 47.00 | 40.00 | N.A | 2.50 | 3.60±0.20 |
|          | 87831-4620                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4621                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4636                   | N.A                       | N.A                      | 4               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     | 2.50 |           |
|          | 87831-4628                   | N.A                       | N.A                      | 2               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     |      |           |
|          | 87831-4629                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     |      |           |
| 48       | 87831-4819                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 46.00     | 48.85 | 50.65 | 49.00 | 42.00 | N.A | 2.50 | 3.60±0.20 |
|          | 87831-4820                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4821                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-4836                   | N.A                       | N.A                      | 4               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     | 2.50 |           |
|          | 87831-4828                   | N.A                       | N.A                      | 2               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     |      |           |
|          | 87831-4829                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     |      |           |
| 50       | 87831-5019                   | N.A                       | N.A                      | 1               | YES            | N.A    | YES        | N.A    | YES                 | N.A | 48.00     | 50.85 | 52.65 | 51.00 | 44.00 | N.A | 2.50 | 3.60±0.20 |
|          | 87831-5020                   | N.A                       | N.A                      | 2               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-5021                   | N.A                       | N.A                      | 3               |                |        |            |        |                     |     |           |       |       |       |       |     |      |           |
|          | 87831-5036                   | N.A                       | N.A                      | 4               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     | 2.50 |           |
|          | 87831-5028                   | N.A                       | N.A                      | 2               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     |      |           |
|          | 87831-5029                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     |      |           |
|          | 87831-5035                   | N.A                       | N.A                      | 3               | YES            | N.A    | YES        | N.A    | YES                 | YES |           |       |       |       |       |     |      |           |

**PLATING OPTIONS:**

- 1 - 0.05-0.13µm/2-5µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 2 - 0.38µm/15µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 3 - 0.76µm/30µin GOLD IN CONTACT AREA AND 1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER 1.27µm/50µin MIN. NICKEL OVERALL.
- 4 - 2.50µm/100µin MIN. MATTE TIN OVER 1.25µm/50µin MIN. NICKEL OVERALL.

| <b>SYMBOLS</b><br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0<br>▽ = 0 | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION<br>DIMENSION UNITS: <b>mm</b> SCALE: <b>NTS</b><br>CURRENT REV DESC: ADDED BTB DIST.   | <br>MILLIGRID<br>2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER<br>PRODUCT CUSTOMER DRAWING | EC NO: 619055<br>DRWN: NMANE02    2019/03/25<br>CHK'D: NMANE02    2019/07/09<br>APPR: MRAMAKRISHNA    2019/07/09 | INITIAL REVISION:<br>DRWN: GMENARLY    2015/04/15<br>APPR: KHLIM    2015/06/29 | DOCUMENT NUMBER<br><b>SD-87831-0001</b> | DOC TYPE<br>PSD | DOC PART<br>001 | REVISION<br>A16 |  |  |            |  |  |            |     |  |           |  |  |            |  |  |               |      |  |  |  |  |                           |                        |                              |                            |                          |  |
|--|--|---|--|--|---|-----------------|-----------------|-----------------|--|--|------------|--|--|------------|-----|--|-----------|--|--|------------|--|--|---------------|------|--|--|--|--|---------------------------|------------------------|------------------------------|----------------------------|--------------------------|--|
|  | GENERAL TOLERANCES (UNLESS SPECIFIED)<br><table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th>MM</th> <th>INCH</th> </tr> <tr> <td>4 PLACES ±</td> <td></td> <td></td> </tr> <tr> <td>3 PLACES ±</td> <td></td> <td></td> </tr> <tr> <td>2 PLACES ±</td> <td>0.2</td> <td></td> </tr> <tr> <td>1 PLACE ±</td> <td></td> <td></td> </tr> <tr> <td>0 PLACES ±</td> <td></td> <td></td> </tr> <tr> <td>ANGULAR TOL ±</td> <td colspan="2">3.0°</td> </tr> </table> |   |  |  |   | MM              | INCH            | 4 PLACES ±      |  |  | 3 PLACES ± |  |  | 2 PLACES ± | 0.2 |  | 1 PLACE ± |  |  | 0 PLACES ± |  |  | ANGULAR TOL ± | 3.0° |  | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS<br>THIRD ANGLE PROJECTION<br> |  |  | DRAWING<br><b>A3-SIZE</b> | SERIES<br><b>87831</b> | MATERIAL NUMBER<br>SEE TABLE | CUSTOMER<br>GENERAL MARKET | SHEET NUMBER<br>13 OF 14 |  |
|  |  |   |  |  | MM                                      | INCH            |                 |                 |  |  |            |  |  |            |     |  |           |  |  |            |  |  |               |      |  |  |  |  |                           |                        |                              |                            |                          |  |
|  | 4 PLACES ±   |   |  |  |   |                 |                 |                 |  |  |            |  |  |            |     |  |           |  |  |            |  |  |               |      |  |  |  |  |                           |                        |                              |                            |                          |  |
| 3 PLACES ±   |  |   |  |  |   |                 |                 |                 |  |  |            |  |  |            |     |  |           |  |  |            |  |  |               |      |  |  |  |  |                           |                        |                              |                            |                          |  |
| 2 PLACES ±   | 0.2  |   |  |  |   |                 |                 |                 |  |  |            |  |  |            |     |  |           |  |  |            |  |  |               |      |  |  |  |  |                           |                        |                              |                            |                          |  |
| 1 PLACE ±  |  |   |  |  |   |                 |                 |                 |  |  |            |  |  |            |     |  |           |  |  |            |  |  |               |      |  |  |  |  |                           |                        |                              |                            |                          |  |
| 0 PLACES ±   |  |   |  |  |   |                 |                 |                 |  |  |            |  |  |            |     |  |           |  |  |            |  |  |               |      |  |  |  |  |                           |                        |                              |                            |                          |  |
| ANGULAR TOL ±  | 3.0°   |   |  |  |   |                 |                 |                 |  |  |            |  |  |            |     |  |           |  |  |            |  |  |               |      |  |  |  |  |                           |                        |                              |                            |                          |  |
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