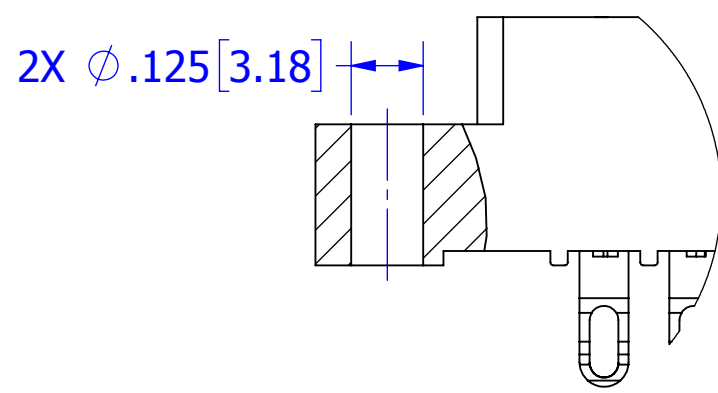
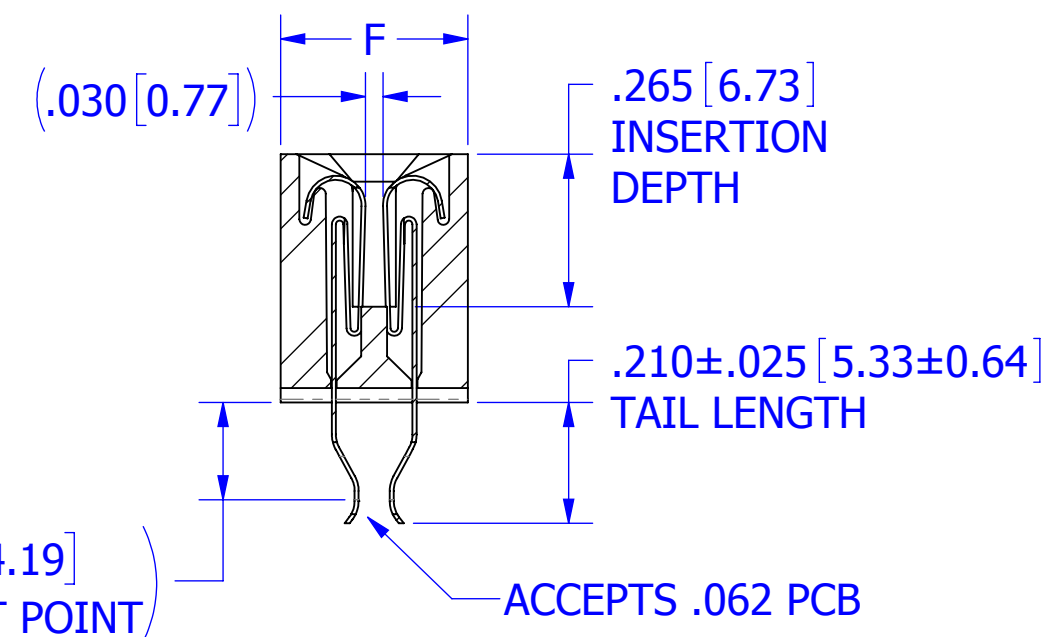
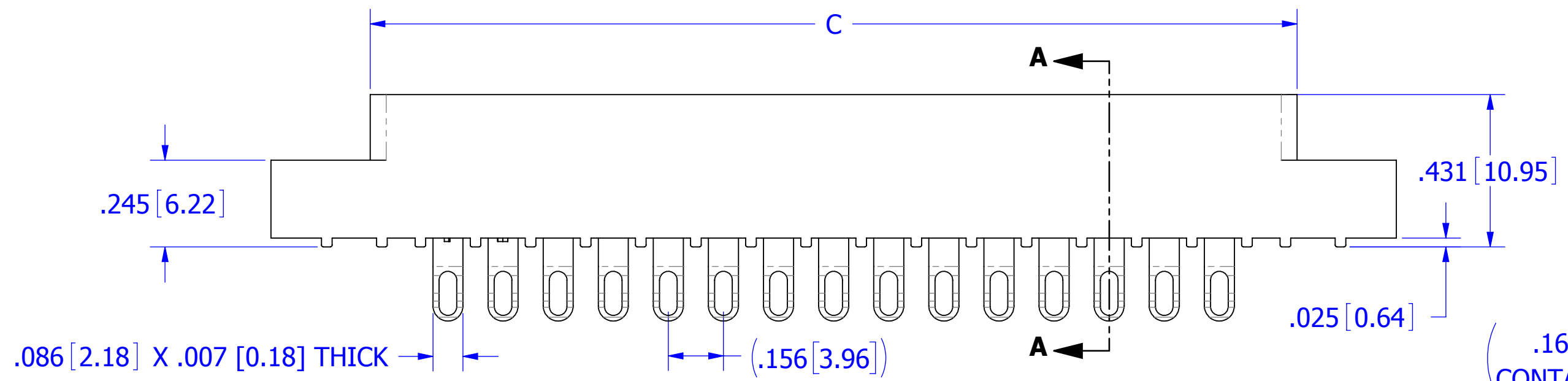
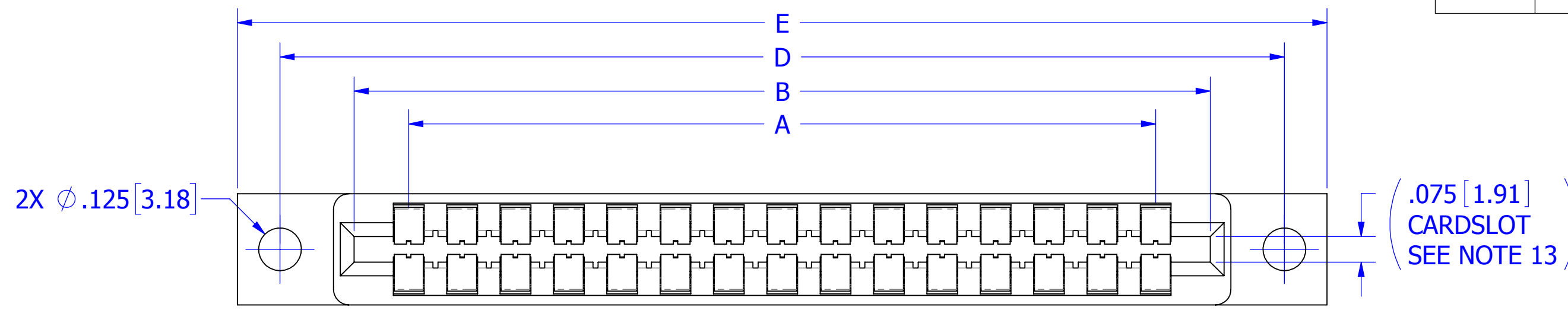


| REVISIONS |         |   |           |    |
|-----------|---------|---|-----------|----|
| REV.      | ECO. NO | DESCRIPTION   | DATE      | BY |
| E         | 3450    | UPDATE 'M' PAD VIEW TO HAVE SQUARE CORNER, UPDATED ACCEPTS .062 PCB | 2/28/2017 | EP |
| F         | 4033    | ADD 2M MOUNTING OPTION  | 4/18/2019 | JH |



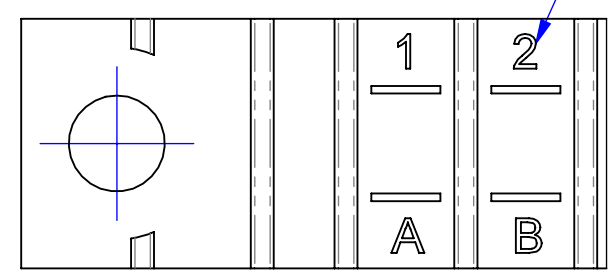
**EMP \_ \_ \_156\_ \_ \_DPE-1(E) \_ \_ \_**

ADD 'M' TO END OF PART NUMBER FOR PADS ON ENDS OF CONNECTOR

**EMP \_ \_ \_156\_ \_ \_DPE-1(E) \_ \_ \_M**

CONTACT MARKINGS (LETTERS G, I, O & Q NOT USED)

- SIZE 02 THRU 25
  - 1 2 3 ... 23 24 25
  - A B C ... AA BB CC
- SIZE 28 & 44
  - 1 2 3 ... 23 24 25
  - A B C ... A B C
- SIZE 36 & 43
  - A B C ... A B C
  - 1 2 3 ... 23 24 25



**CONTACT ID**

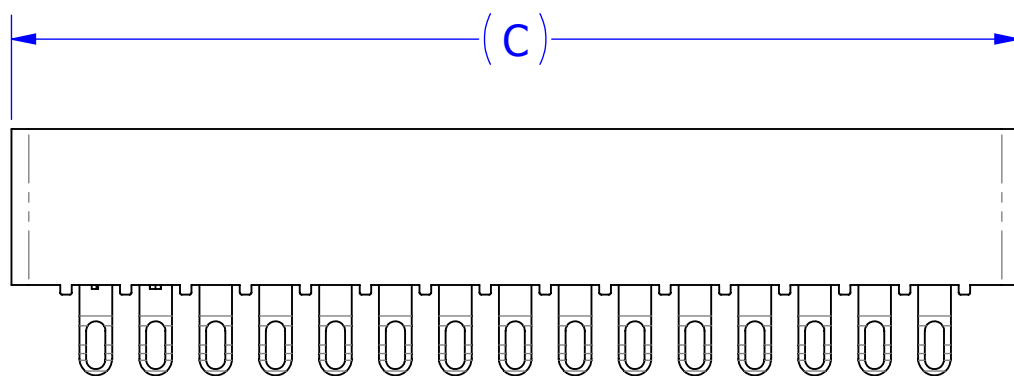
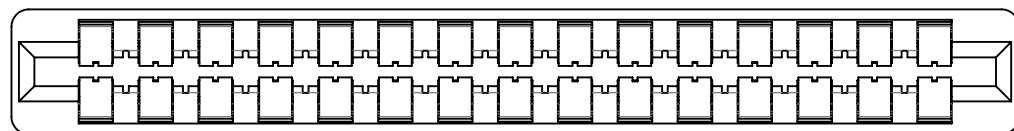
- NOTES:**
- INSULATOR MATERIAL: SEE PART NUMBER CODING
  - CONTACT MATERIAL: SEE PART NUMBER CODING
  - PLATING: SEE PART NUMBER CODING
  - OPERATING TEMPERATURE: SEE PART NUMBER CODING
  - PROCESSING TEMP: SEE PART NUMBER CODING
  - UL FLAMMABILITY RATING: 94V-0
  - OPERATING VOLTAGE: 950 VAC
  - CURRENT RATING: 3 AMP
  - CONTACT RESISTANCE: 30 MILLI OHMS MAX
  - INSULATION RESISTANCE: 5000 MEGA OHMS
  - DURABILITY: 500 CYCLES MINIMUM
  - CONNECTOR IDENTIFICATION: THE PART SHALL BE MARKED WITH A PART NUMBER AND LOT CODE
  - BOARD THICKNESS ACCOMMODATED: .062 ± .008 [1.57 ± 0.20]
  - INSERTION FORCE: 16 OZ MAX PER CONTACT PAIR WHEN USING A .062 [1.57] TEST BLADE  
INTERNAL INSPECTION TO BE PER SULLINS WORK INSTRUCTION WI7.3-01
  - WITHDRAWAL FORCE: 1 OZ MIN PER CONTACT PAIR USING .062 [1.57] PCB
  - MODIFICATION: MICRO PLASTICS FLARED, CARD EXTENDER BEND FOR LOW PROFILE CONNECTOR, .055" INSIDE DIMENSION FOR .062" PCB.

REF: \_ \_M\_ \_DSE\_ -P13, P69, S1077, S1165

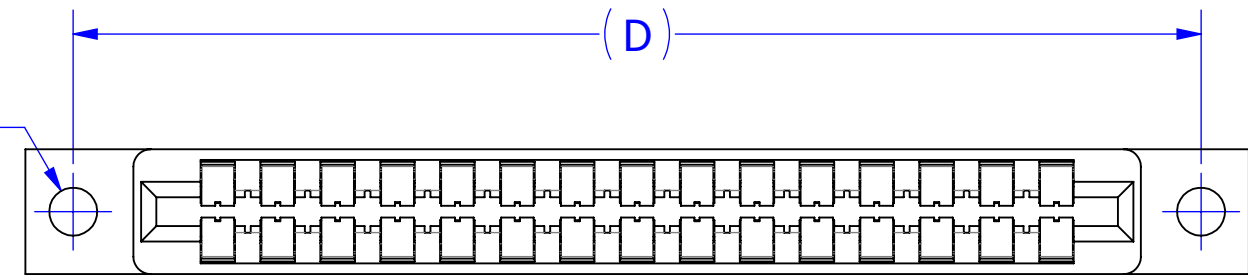
**CUSTOMER COPY**



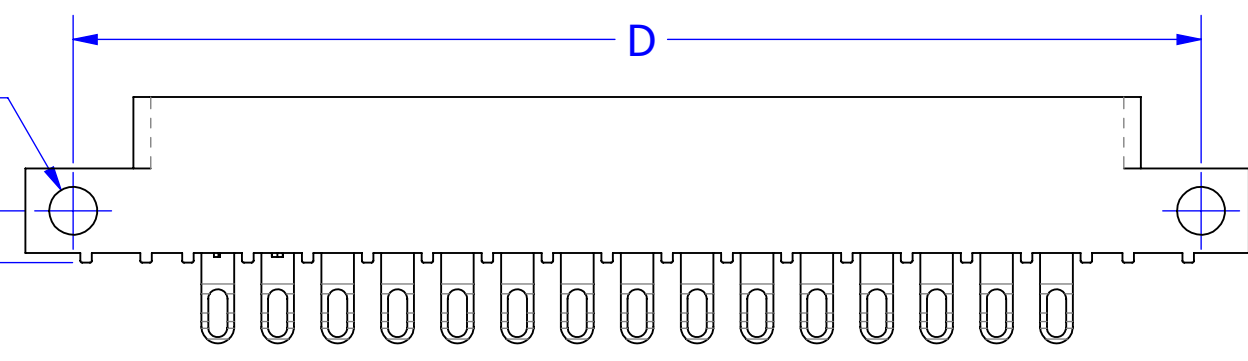
|   |  |       |           |      |   |           |
|---|--|-------|-----------|------|---|-----------|
| UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES [MM] |  | DRAWN | DATE      | NAME |   |           |
|   |  |       | 7/14/2009 | JH   |   |           |
| TOLERANCES:   |  |       |           |      | <small>THE INFORMATION HEREIN CONTAINS PROPRIETARY INFORMATION OF SULLINS ELECTRONICS AND IS NOT TO BE REPRODUCED, USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY AN OFFICER OF SULLINS ELECTRONICS.</small> |           |
| ANGULAR: ± 1°   |  |       |           |      | TITLE   |           |
| DECIMALS  |  |       |           |      | EDGE CARD, .156 CC, LP  |           |
| .XX = ± .02 [.5]  |  |       |           |      | PART NUMBER   |           |
| .XXX = ± .005 [1.3]                                       |  |       |           |      | EMP _ _ _156_ _ _DPE_ _ (E) _ _ _   |           |
| .XXXX = ± .0005 [.013]                                    |  |       |           |      | SIZE  | CAGE CODE |
|   |  |       |           |      | C   | 54453     |
|   |  |       |           |      | DWG. NO.  | C11270    |
|   |  |       |           |      | SCALE: 3:1  | REV       |
|   |  |       |           |      |   | F         |
|   |  |       |           |      | SHEET 1 OF 3  |           |



**EMP\_-156\_-DPE-4(E)\_**



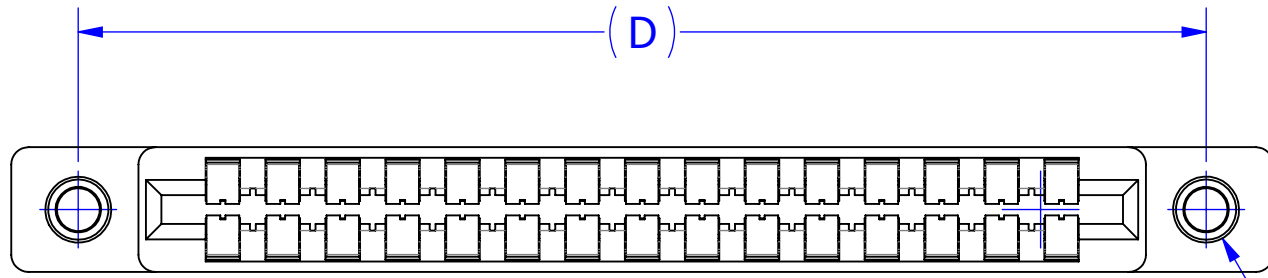
2X  $\phi$ .125 [3.18]



2X  $\phi$ .125 [3.18] THRU

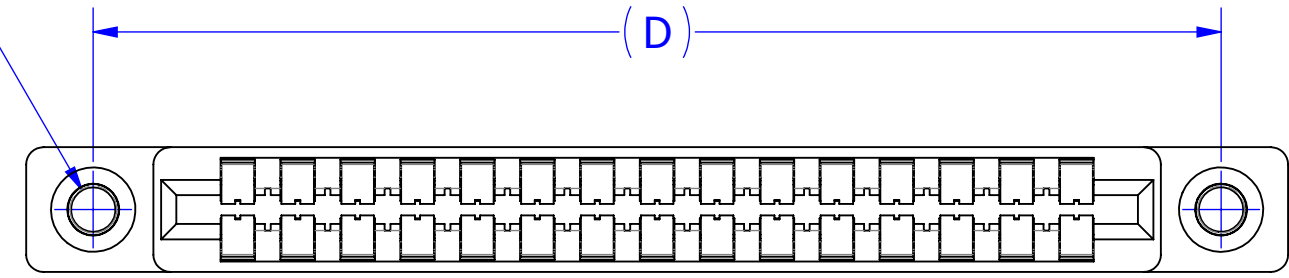
.135 [3.43]

**EMP\_-156\_-DPE-8(E)\_**



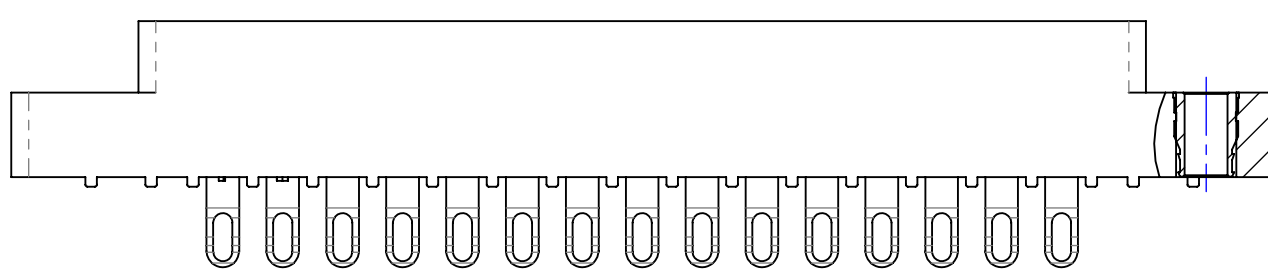
2X FLOATING BOBBIN  
 $\phi$ .116 [2.95] CLEARANCE  
HOLE FOR #4 SCREW

2X #4-40  
THREADED  
INSERTS



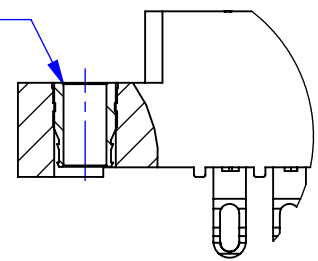
(.280 [7.11])

**EMP\_-156\_-DPE-3(E)\_**



**EMP\_-156\_-DPE-2(E)\_**

2X #4-40  
THREADED  
INSERT



**EMP\_-156\_-DPE-2(E)\_M**

ADD 'M' TO END OF PART NUMBER  
FOR PADS ON ENDS OF CONNECTOR

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|  |   |           |              |                        |
|--|---|-----------|--------------|------------------------|
| UNLESS OTHERWISE SPECIFIED:<br>DIMENSIONS ARE IN INCHES [MM]   | DRAWN   | DATE      | NAME         |                        |
|  |   | 7/14/2009 | JH           |                        |
| TOLERANCES:<br>ANGULAR: $\pm 1^\circ$<br>DECIMALS<br>.XX = $\pm .02$ [.5]<br>.XXX = $\pm .005$ [.13]<br>.XXXX = $\pm .0005$ [.013] | <small>THE INFORMATION HEREIN CONTAINS PROPRIETARY INFORMATION OF SULLINS ELECTRONICS AND IS NOT TO BE REPRODUCED, USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY AN OFFICER OF SULLINS ELECTRONICS.</small> |           |              | TITLE                  |
|  |   |           |              | EDGE CARD, .156 CC, LP |
| PART NUMBER  |   |           |              | REV                    |
| EMP_-156_-DPE_ (E) _   |   |           |              | F                      |
| SIZE   | CAGE CODE   | DWG. NO.  |              |                        |
| C  | 54453   | C11270    |              |                        |
| SCALE: 2:1   |   |           | SHEET 2 OF 3 |                        |

| PART NUMBER          | NO. OF POS. | A ± .008[0.20]       |        | B ± .008[0.20] |        | C ± .015[0.38] |        | D ± .010[0.25] |        | E ± .020[0.51]           |        | E ± .020[0.51] |        | F + .005 [0.13]/-.015 [0.38] |       |  |  |
|----------------------|-------------|----------------------|--------|----------------|--------|----------------|--------|----------------|--------|--------------------------|--------|----------------|--------|------------------------------|-------|--|--|
|                      |             | IN                   | MM     | IN             | MM     | IN             | MM     | IN             | MM     | IN                       | MM     | IN             | MM     | IN                           | MM    |  |  |
|                      |             | EMP- 156-02-DPE- (E) | 2      | 0.156          | 3.96   | 0.476          | 12.09  | 0.596          | 15.14  | MOUNTING OPTION '4' ONLY |        |                |        |                              |       |  |  |
| EMP- 156-03-DPE- (E) | 3           | 0.312                | 7.92   | 0.632          | 16.05  | 0.752          | 19.10  |                |        |                          |        |                |        |                              |       |  |  |
| EMP- 156-06-DPE- (E) | 6           | 0.780                | 19.81  | 1.100          | 27.94  | 1.220          | 30.99  | 1.533          | 38.94  | 1.782                    | 45.26  | 1.882          | 47.80  |                              |       |  |  |
| EMP- 156-08-DPE- (E) | 8           | 1.092                | 27.74  | 1.412          | 35.86  | 1.532          | 38.91  | 1.845          | 46.86  | 2.094                    | 53.19  | 2.194          | 55.73  |                              |       |  |  |
| EMP- 156-10-DPE- (E) | 10          | 1.404                | 35.66  | 1.724          | 43.79  | 1.844          | 46.84  | 2.157          | 54.79  | 2.406                    | 61.11  | 2.506          | 63.65  |                              |       |  |  |
| EMP- 156-11-DPE- (E) | 11          | 1.560                | 39.62  | 1.880          | 47.75  | 2.000          | 50.80  | 2.313          | 58.75  | 2.562                    | 65.07  | 2.662          | 67.61  |                              |       |  |  |
| EMP- 156-12-DPE- (E) | 12          | 1.716                | 43.59  | 2.036          | 51.71  | 2.156          | 54.76  | 2.469          | 62.71  | 2.718                    | 69.04  | 2.818          | 71.58  |                              |       |  |  |
| EMP- 156-15-DPE- (E) | 15          | 2.184                | 55.47  | 2.504          | 63.60  | 2.624          | 66.65  | 2.937          | 74.60  | 3.186                    | 80.92  | 3.286          | 83.46  |                              |       |  |  |
| EMP- 156-18-DPE- (E) | 18          | 2.652                | 67.36  | 2.972          | 75.49  | 3.092          | 78.54  | 3.405          | 86.49  | 3.654                    | 92.81  | 3.754          | 95.35  |                              |       |  |  |
| EMP- 156-22-DPE- (E) | 22          | 3.276                | 83.21  | 3.596          | 91.34  | 3.716          | 94.39  | 4.029          | 102.34 | 4.278                    | 108.66 | 4.378          | 111.20 |                              |       |  |  |
| EMP- 156-24-DPE- (E) | 24          | 3.588                | 91.14  | 3.908          | 99.26  | 4.028          | 102.31 | 4.341          | 110.26 | 4.590                    | 116.59 | 4.690          | 119.13 |                              |       |  |  |
| EMP- 156-25-DPE- (E) | 25          | 3.744                | 95.10  | 4.064          | 103.23 | 4.184          | 106.27 | 4.497          | 114.22 | 4.746                    | 120.55 | 4.846          | 123.09 |                              |       |  |  |
| EMP- 156-28-DPE- (E) | 28          | 4.212                | 106.98 | 4.532          | 115.11 | 4.652          | 118.16 | 4.965          | 126.11 | 5.214                    | 132.44 | 5.314          | 134.98 | 0.438                        | 11.13 |  |  |
| EMP- 156-36-DPE- (E) | 36          | 5.460                | 138.68 | 5.780          | 146.81 | 5.900          | 149.86 | 6.213          | 157.81 | 6.462                    | 164.13 | 6.562          | 166.67 | 0.500                        | 12.70 |  |  |
| EMP- 156-43-DPE- (E) | 43          | 6.552                | 166.42 | 6.872          | 174.55 | 6.992          | 177.60 | 7.305          | 185.55 | 7.554                    | 191.87 | 7.654          | 194.41 |                              |       |  |  |
| EMP- 156-44-DPE- (E) | 44          | 6.708                | 170.38 | 7.028          | 178.51 | 7.148          | 181.56 | 7.461          | 189.51 | 7.710                    | 195.83 | 7.810          | 198.37 |                              |       |  |  |

FOR CONNECTORS WITH THREADED INSERTS OR FLOATS

**PART NUMBER CODING**

EMP - 156 - DPE - (E)

- CONTACT MATERIAL**  
 OMIT = PHOSPHOR BRONZE (SEE TABLE 2)  
 Y = BERYLLIUM COPPER (SEE TABLE 3)  
 OMIT WITH 'EMPP' PLATING CODE = SPINODAL (SEE TABLE 4)
- PLATING MODIFICATION CODE (SEE TABLE 1)**
- MODIFICATION CODE**  
 E = OBSOLETE (CAN BE OMITTED)\*\*
- MOUNTING STYLE**  
 1 = .125" DIA. CLEARANCE HOLES  
 2 = #4-40 THREADED INSERT  
 3 = FLOATING BOBBIN  
 4 = NO MOUNTING EARS  
 8 = .125" DIA. SIDE HOLES  
 1M = .125" DIA. CLEARANCE HOLES, PADS ON BOTH ENDS  
 2M = #4-40 THREADED INSERT, PADS ON BOTH ENDS
- NUMBER OF POSITIONS (CONTACTS PER ROW)**
- INSULATOR MATERIAL**  
 0 = PBT, BLUE  
 2 = PBT, GREEN  
 3 = PBT, BLACK  
 4 = PA9T, BLACK  
 1 = PPS, BROWN  
 5 = PPS, BLACK  
 6 = PPS, GREEN  
 7 = PPS, BROWN
- PLATING (SEE TABLE 1)**

\*\*OPTIONAL "E" CODE MEANS .020" LONGER CARD SLOT, NOW STANDARD, SEE DIMENSION 'B'

**TABLE 1 (PLATING):**

ALL PLATINGS HAVE .000050" MIN NICKEL UNDERPLATE

|           | CONTACT SURFACE                  | TERMINATION              | PLATING MODIFICATION CODE |
|-----------|----------------------------------|--------------------------|---------------------------|
| EMP, EMPP | .000010" GOLD OVERALL            |                          | OMIT                      |
|           | .000030" GOLD                    | .000010" GOLD OVERALL    | G                         |
| EMPSL     | .000010" GOLD                    | .000100" PURE TIN, MATTE | K                         |
|           | .000030" GOLD                    | .000100" PURE TIN, MATTE | GK                        |
| EMPL      | .000100" PURE TIN, MATTE OVERALL |                          | K                         |

- EMPL AVAILABLE WITH PHOSPHOR BRONZE CONTACTS ONLY
- EMP, EMPSL AVAILABLE IN PHOSPHOR BRONZE OR BERYLLIUM COPPER
- EMPP = SPINODAL

**TABLE 2 (PHOSPHOR BRONZE CONTACTS): EMP, EMPL, EMPSL**

| INSULATOR MATERIAL CODE | OPERATING TEMPERATURE | PROCESSING TEMPERATURE     |
|-------------------------|-----------------------|----------------------------|
| 0, 2, 3                 | -65°C TO +125°C       | WAVE/MANUAL SOLDERING ONLY |
| 1, 5, 6, 7              | -65°C TO +125°C       | 260°C MAX FOR 20 SEC       |
| 4                       | -65°C TO +125°C       | 260°C MAX FOR 20 SEC       |

**TABLE 3 (BERYLLIUM COPPER CONTACTS): EMP OR EMPSL WITH 'Y' MODIFICATION CODE**

| INSULATOR MATERIAL CODE | OPERATING TEMPERATURE | PROCESSING TEMPERATURE      |
|-------------------------|-----------------------|-----------------------------|
| 0, 2, 3                 | -65°C TO +125°C       | WAVE /MANUAL SOLDERING ONLY |
| 1, 5, 6, 7              | -65°C TO +150°C       | 260°C MAX FOR 20 SEC        |
| 4                       | -65°C TO +150°C       | 260°C MAX FOR 20 SEC        |

**TABLE 4 (SPINODAL CONTACTS): EMPP**

| INSULATOR MATERIAL CODE | OPERATING TEMPERATURE | PROCESSING TEMPERATURE |
|-------------------------|-----------------------|------------------------|
| 1, 5, 6, 7              | -65°C TO +200°C       | 260°C MAX FOR 20 SEC   |

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|   |  |              |          |                        |
|---|--|--------------|----------|------------------------|
| UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES [MM]   | DRAWN  | DATE         | NAME     |                        |
|   |  | 7/14/2009    | JH       |                        |
| TOLERANCES:<br>ANGULAR: ± 1°<br>DECIMALS<br>.XX = ± .02 [.5]<br>.XXX = ± .005 [.13]<br>.XXXX = ± .0005 [.013] | THE INFORMATION HEREIN CONTAINS PROPRIETARY INFORMATION OF SULLINS ELECTRONICS AND IS NOT TO BE REPRODUCED, USED OR DISCLOSED TO OTHERS FOR ANY PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY AN OFFICER OF SULLINS ELECTRONICS. |              |          | TITLE                  |
|   |  |              |          | EDGE CARD, .156 CC, LP |
|   |  |              |          | PART NUMBER            |
|   |  |              |          | EMP - 156 - DPE - (E)  |
|   | SIZE   | CAGE CODE    | DWG. NO. | REV                    |
|   | C  | 54453        | C11270   | F                      |
|   | SCALE: 2:1   | SHEET 3 OF 3 |          |                        |