

| Component name                   | Base material                          | Finish   |
|----------------------------------|--|--|
| Case                             | LCP, black, UL94 V-0                   |  |
| Terminal, wire lug (gold)        | Brass                                  | Gold over nickel   |
| Terminal, PC & RA (gold)         | Brass                                  | Gold over nickel in contact area, Tin over nickel in solder area |
| Terminal, PC & wire lug (silver) | Silver clad copper                     | Silver over nickel   |
| Contact (gold)                   | Copper alloy or brass                  | Gold over nickel   |
| Contact (silver)                 | Silver clad copper or copper           | Silver over nickel   |
| Frame                            | Steel                                  | Tin over copper  |
| Spring                           | Music wire                             |  |
| Plunger Button                   | Nylon 6/6, black, red or blue, UL94 HB |  |
| Guide, CC & FF switches only     | Nylon 6/6, white                       |  |

| Model | Poles   | Rating           | Function           | Plating        | Terminations         | Button color | 04 |
|-------|---------|------------------|--------------------|----------------|----------------------|--------------|----|
| TPA   |         |                  |                    |                |                      |              | 04 |
|       | 1       | 1 = Gold .4VA    | C = SPST momentary | G = Gold       | Blank = Wire lug     | 0 = Black    |    |
|       | 2 (1+1) | 3 = Silver 1 Amp | F = SPDT momentary | Blank = Silver | PC = printed circuit | 2 = Red      |    |
|       |         |                  | M = DPST momentary |                | RA = right angle     | 6 = Blue     |    |
|       |         |                  | R = DPDT momentary |                |                      |              |    |

Notes:  
1. Silver only available in wire lug and pc terminations

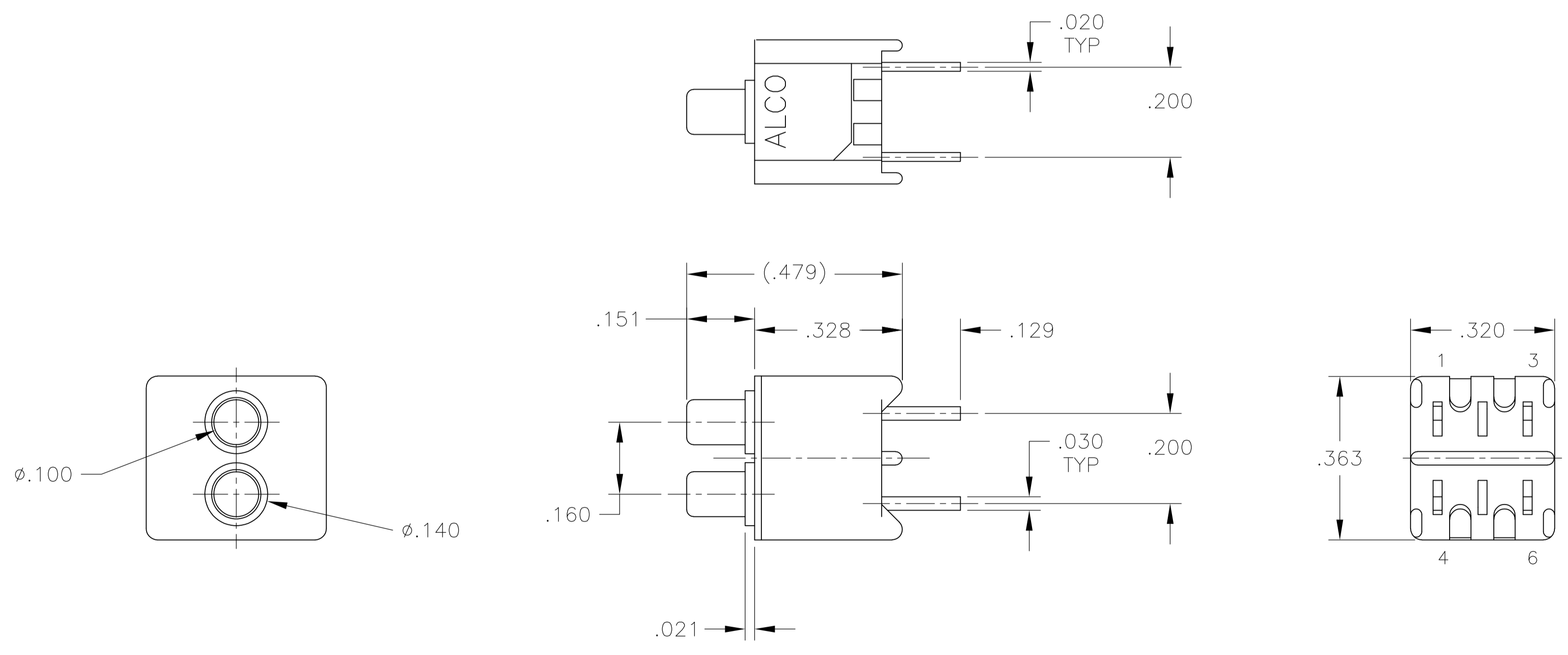
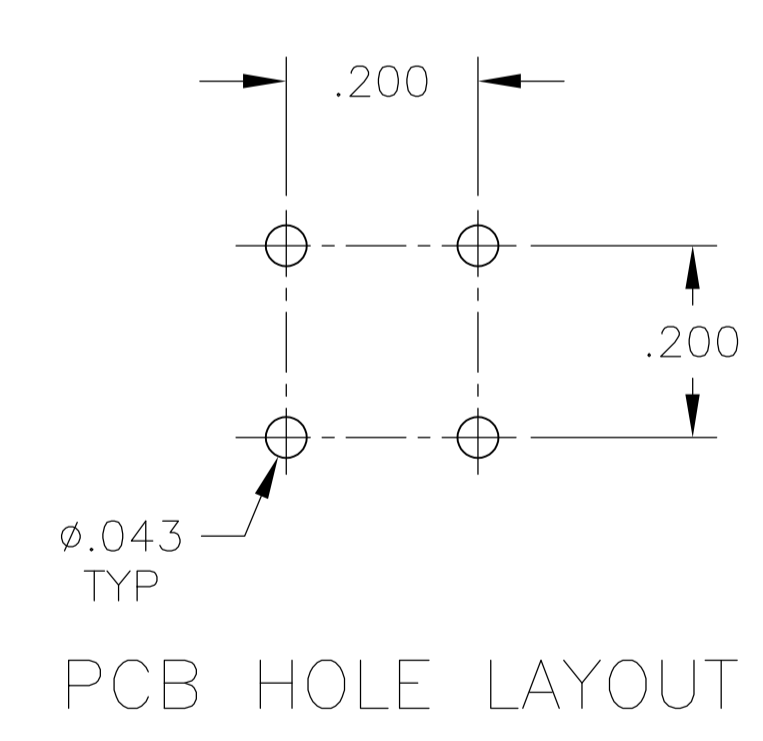
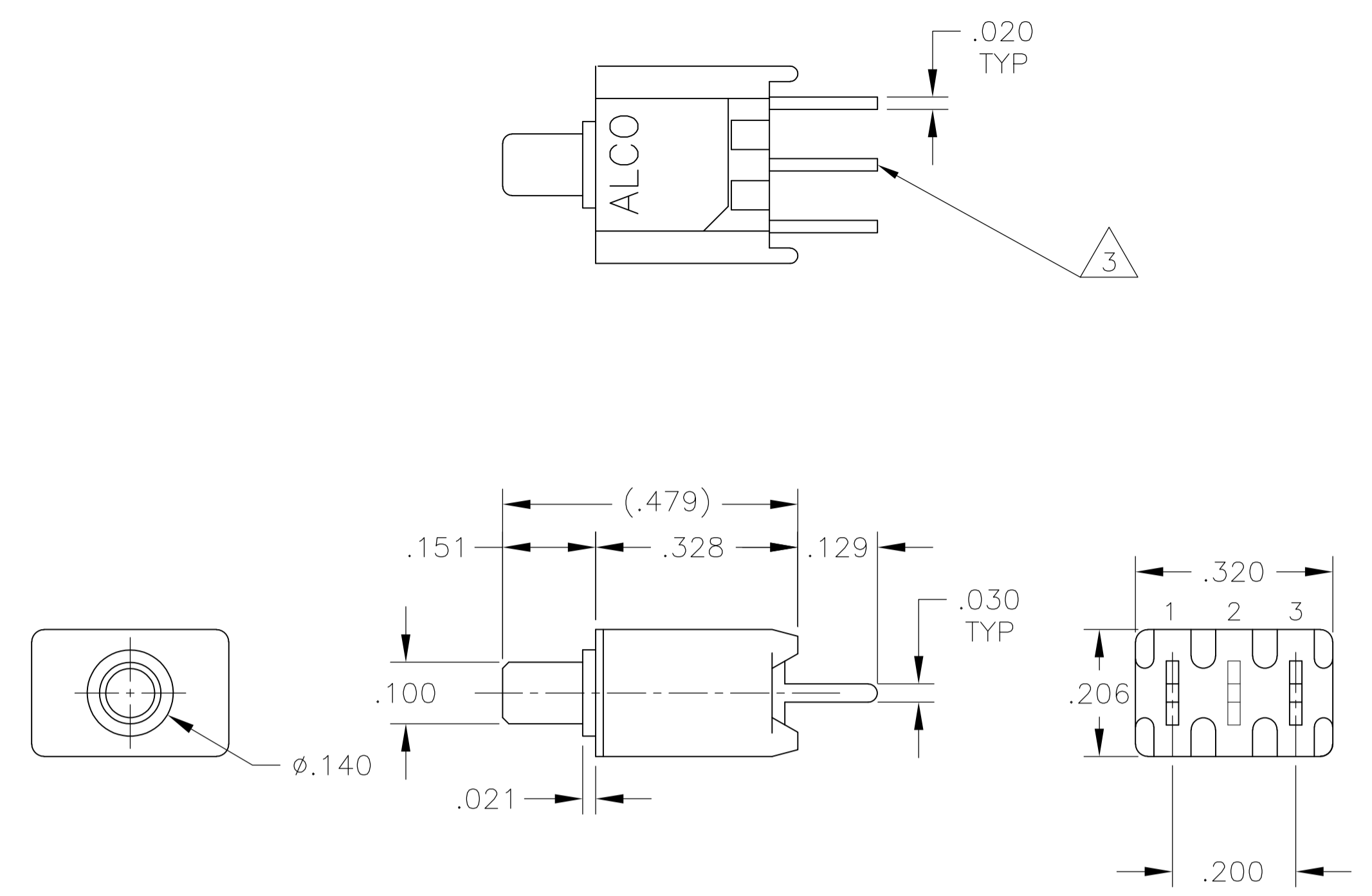
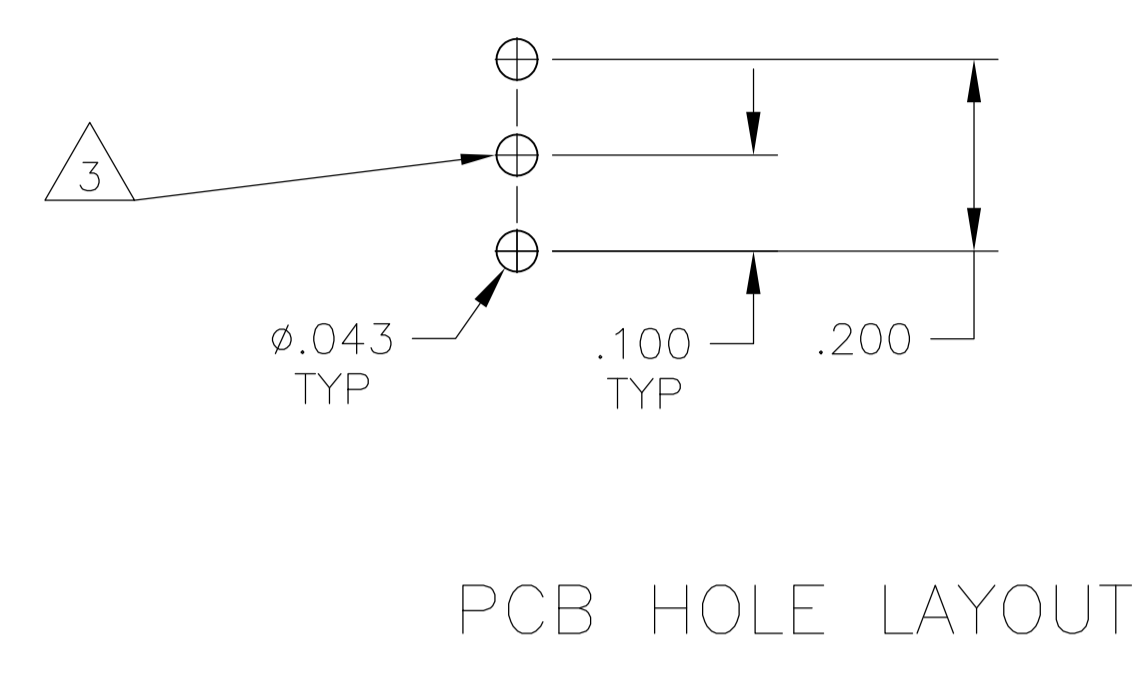
| Specifications                 |   |
|--------------------------------|---|
| Rating                         | Gold: .4VA max. @ 20VDC or peak AC resistive<br>Silver: 1 A @ 125VAC or 28 VDC resistive        |
| Initial termination resistance | 20 milliohms max.   |
| Insulation resistance          | 1,000 Megohms min @ 500 VDC   |
| Dielectric strength            | 1,000 volts RMS at sea level  |
| Timing                         | Break before make   |
| Plunger travel                 | .030  |
| Actuation force                | 50 to 400 grams   |
| Life expectancy                | .4 VA, 1 pole: 100,000<br>.4 VA, 2 poles: 80,000<br>1 A, 1 pole: 60,000<br>1 A, 2 poles: 50,000 |
| Operating temperature          | -30° C to +65° C  |
| Storage temperature            | -30° C to +65° C  |
| Terminal seal                  | Single pole: epoxy<br>Double pole: epoxy optional   |

| TE P/N        | Alco P/N      | Poles   | Throws | Plating | Terminals   | Button Color | Function |     | Connected Terminals |          |
|---------------|---------------|---------|--------|---------|-------------|--------------|----------|-----|---------------------|----------|
|               |               |         |        |         |             |              |          |     |                     |          |
| 1825096-1     | TPA11CGPC004  | 1       | 1      | Gold    | PC          | Black        | Off      | Mom | Off                 | 1-3      |
| 4 1825096-2   | TPA11CGPC204  | 1       | 1      | Gold    | PC          | Red          | Off      | Mom | Off                 | 1-3      |
| 4 1825096-3   | TPA11CGPC604  | 1       | 1      | Gold    | PC          | Blue         | Off      | Mom | Off                 | 1-3      |
| 1825096-4     | TPA11CGRA004  | 1       | 1      | Gold    | Right Angle | Black        | Off      | Mom | Off                 | 1-3      |
| 1825096-5     | TPA11CGRA204  | 1       | 1      | Gold    | Right Angle | Red          | Off      | Mom | Off                 | 1-3      |
| 4 1825096-6   | TPA11CGRA604  | 1       | 1      | Gold    | Right Angle | Blue         | Off      | Mom | Off                 | 1-3      |
| 1825096-7     | TPA11FGPC004  | 1       | 2      | Gold    | PC          | Black        | On       | Mom | 1-2                 | 2-3      |
| 4 1825096-8   | TPA11FGPC204  | 1       | 2      | Gold    | PC          | Red          | On       | Mom | 1-2                 | 2-3      |
| 4 1825096-9   | TPA11FGPC604  | 1       | 2      | Gold    | PC          | Blue         | On       | Mom | 1-2                 | 2-3      |
| 1-1825096-0   | TPA11FGRA004  | 1       | 2      | Gold    | Right Angle | Black        | On       | Mom | 1-2                 | 2-3      |
| 4 1-1825096-1 | TPA11FGRA204  | 1       | 2      | Gold    | Right Angle | Red          | On       | Mom | 1-2                 | 2-3      |
| 4 1-1825096-2 | TPA11FGRA604  | 1       | 2      | Gold    | Right Angle | Blue         | On       | Mom | 1-2                 | 2-3      |
| 4 1-1825096-3 | TPA21CCGPC004 | 2 (1+1) | 1      | Gold    | PC          | Black        | Off      | Mom | Off                 | 1-3, 4-6 |
| 1-1825096-4   | TPA21CCGRA004 | 2 (1+1) | 1      | Gold    | Right Angle | Black        | Off      | Mom | Off                 | 1-3, 4-6 |
| 4 1-1825096-5 | TPA21FFGRA204 | 2 (1+1) | 2      | Gold    | Right Angle | Red          | On       | Mom | 1-2, 4-5            | 2-3, 5-6 |
| 4 1-1825096-6 | TPA21MGRA004  | 2       | 1      | Gold    | Right Angle | Black        | Off      | Mom | Off                 | 1-3, 4-6 |

- NOTES:
- 1 TERMINAL NUMBERS ARE FOR REFERENCE ONLY AND DO NOT APPEAR ON SWITCHES.
  - 2 ALL MATERIALS AND FINISHES COMPLY WITH EU DIRECTIVE 2002/95/EC OF 27JAN2003 (ROHS).
  - 3 CENTER TERMINAL PRESENT ON DOUBLE THROW SWITCHES ONLY.
  - 4 OBSOLETE.

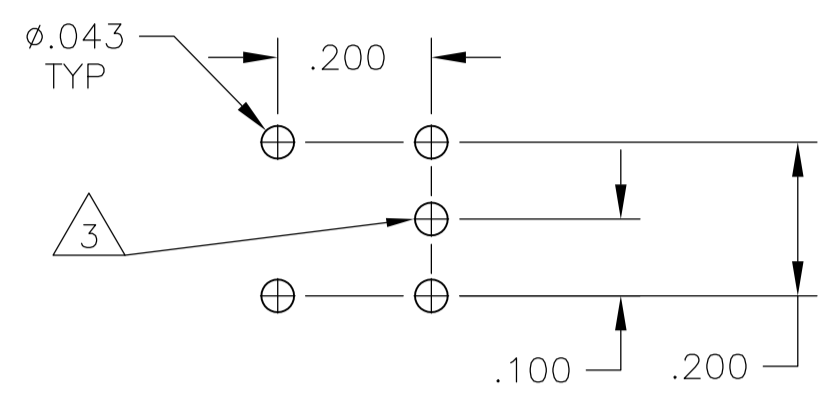
THIS DRAWING IS A CONTROLLED DOCUMENT. DIMENSIONS: INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ± .010, 1 PLC ± .010, 2 PLC ± .010, 3 PLC ± .010, 4 PLC ± .010, ANGLES ± .010. MATERIAL: -. FINISH: -. DWG: M. BINNER, CHK: M. ZITTO, APVD: M. ZITTO. DATE: 21JUL05. NAME: M. ZITTO. PRODUCT SPEC: -. APPLICATION SPEC: -. SIZE: A1. CAGE CODE: 00779. DRAWING NO: 1825096. WEIGHT: -. RESTRICTED TO: -. CUSTOMER DRAWING. SCALE: 4:1. SHEET: 1 OF 4. REV: A2.

**STE** TE Connectivity  
PUSHBUTTON SWITCH, TPA SERIES

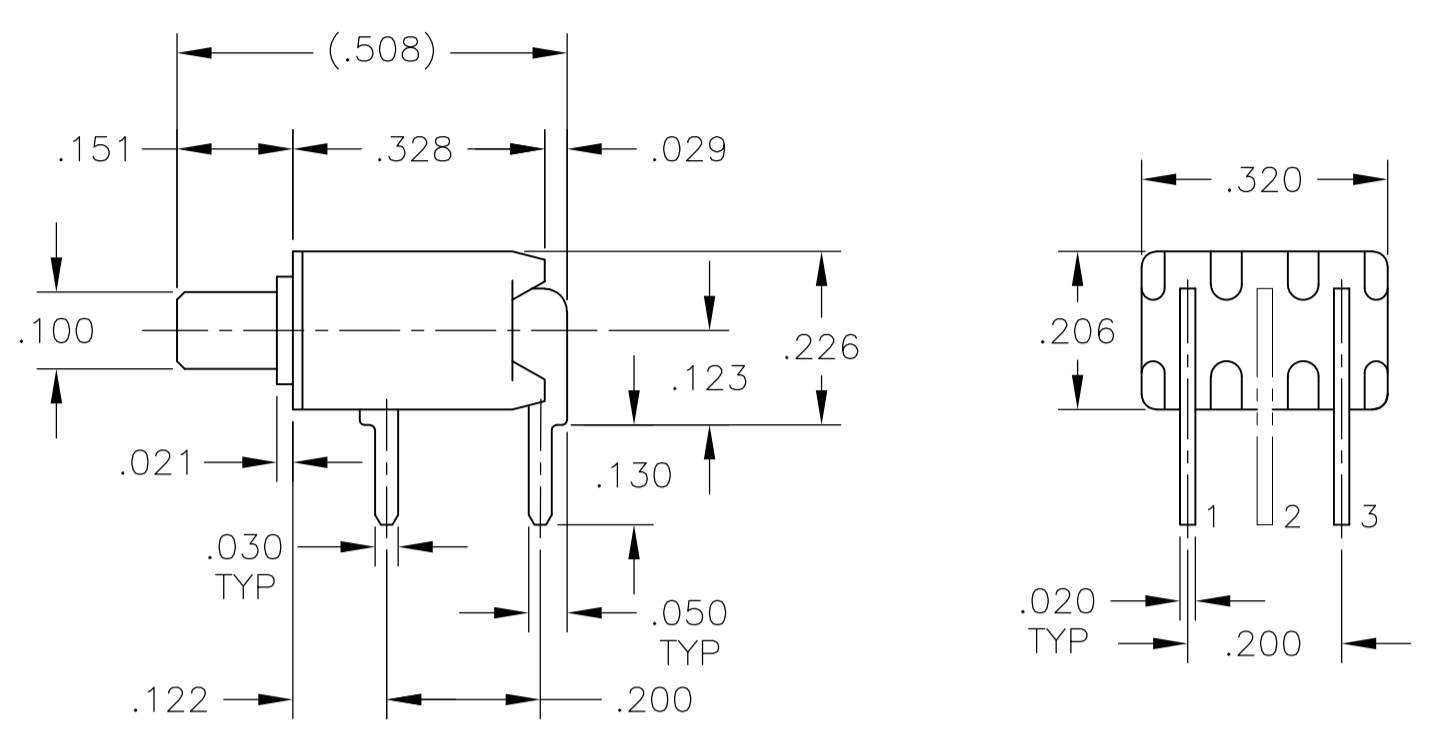
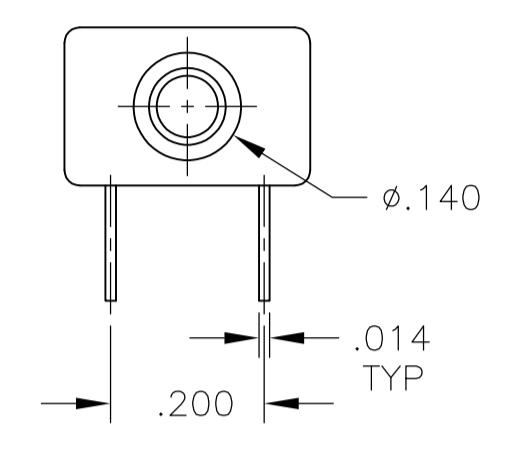


|   |   |                  |         |                               |       |   |   |       |   |   |       |   |      |       |   |   |        |   |   |              |  |               |  |
|---|---|------------------|---------|-------------------------------|-------|---|---|-------|---|---|-------|---|------|-------|---|---|--------|---|---|--------------|--|---------------|--|
| THIS DRAWING IS A CONTROLLED DOCUMENT.  |   | DWN<br>M. BINNER | 01SEP05 | TE Connectivity               |       |   |   |       |   |   |       |   |      |       |   |   |        |   |   |              |  |               |  |
| DIMENSIONS:<br>INCHES   |   | CHK<br>M. ZITTO  | 21JUL05 | PUSHBUTTON SWITCH, TPA SERIES |       |   |   |       |   |   |       |   |      |       |   |   |        |   |   |              |  |               |  |
| TOLERANCES UNLESS OTHERWISE SPECIFIED:  |   | APVD<br>M. ZITTO | 21JUL05 | NAME                          |       |   |   |       |   |   |       |   |      |       |   |   |        |   |   |              |  |               |  |
| <table border="1"> <tr><td>0 PLC</td><td>±</td><td>-</td></tr> <tr><td>1 PLC</td><td>±</td><td>-</td></tr> <tr><td>2 PLC</td><td>±</td><td>-</td></tr> <tr><td>3 PLC</td><td>±</td><td>.010</td></tr> <tr><td>4 PLC</td><td>±</td><td>-</td></tr> <tr><td>ANGLES</td><td>±</td><td>-</td></tr> </table> |   | 0 PLC            | ±       | -                             | 1 PLC | ± | - | 2 PLC | ± | - | 3 PLC | ± | .010 | 4 PLC | ± | - | ANGLES | ± | - | PRODUCT SPEC |  | RESTRICTED TO |  |
| 0 PLC   | ± | -                |         |                               |       |   |   |       |   |   |       |   |      |       |   |   |        |   |   |              |  |               |  |
| 1 PLC   | ± | -                |         |                               |       |   |   |       |   |   |       |   |      |       |   |   |        |   |   |              |  |               |  |
| 2 PLC   | ± | -                |         |                               |       |   |   |       |   |   |       |   |      |       |   |   |        |   |   |              |  |               |  |
| 3 PLC   | ± | .010             |         |                               |       |   |   |       |   |   |       |   |      |       |   |   |        |   |   |              |  |               |  |
| 4 PLC   | ± | -                |         |                               |       |   |   |       |   |   |       |   |      |       |   |   |        |   |   |              |  |               |  |
| ANGLES  | ± | -                |         |                               |       |   |   |       |   |   |       |   |      |       |   |   |        |   |   |              |  |               |  |
| MATERIAL  |   | APPLICATION SPEC |         | SIZE CAGE CODE DRAWING NO     |       |   |   |       |   |   |       |   |      |       |   |   |        |   |   |              |  |               |  |
| FINISH  |   | WEIGHT           |         | A1 00779 ©=1825096            |       |   |   |       |   |   |       |   |      |       |   |   |        |   |   |              |  |               |  |
|   |   | CUSTOMER DRAWING |         | SCALE 4:1 SHEET 2 OF 4 REV A2 |       |   |   |       |   |   |       |   |      |       |   |   |        |   |   |              |  |               |  |

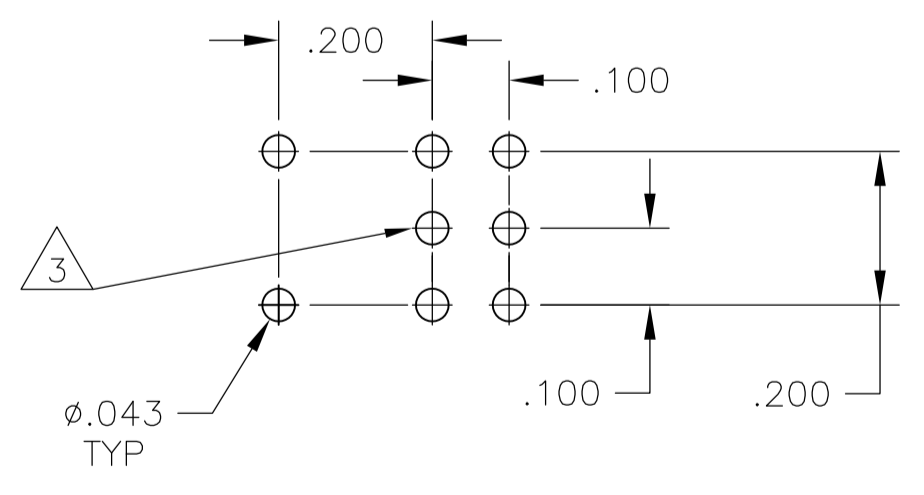
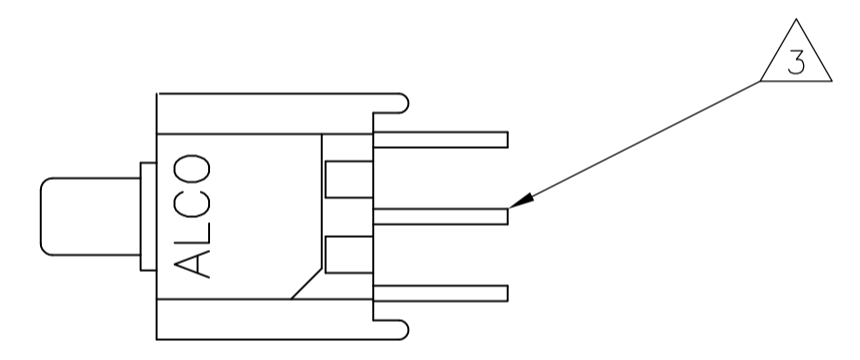
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|-----|-----|-------------|------|-----------|------|--|--|
| P   | LTR | DESCRIPTION | DATE | DNW       | APVD |  |  |
| -   | -   | SEE SHEET 1 | -    | -         | -    |  |  |



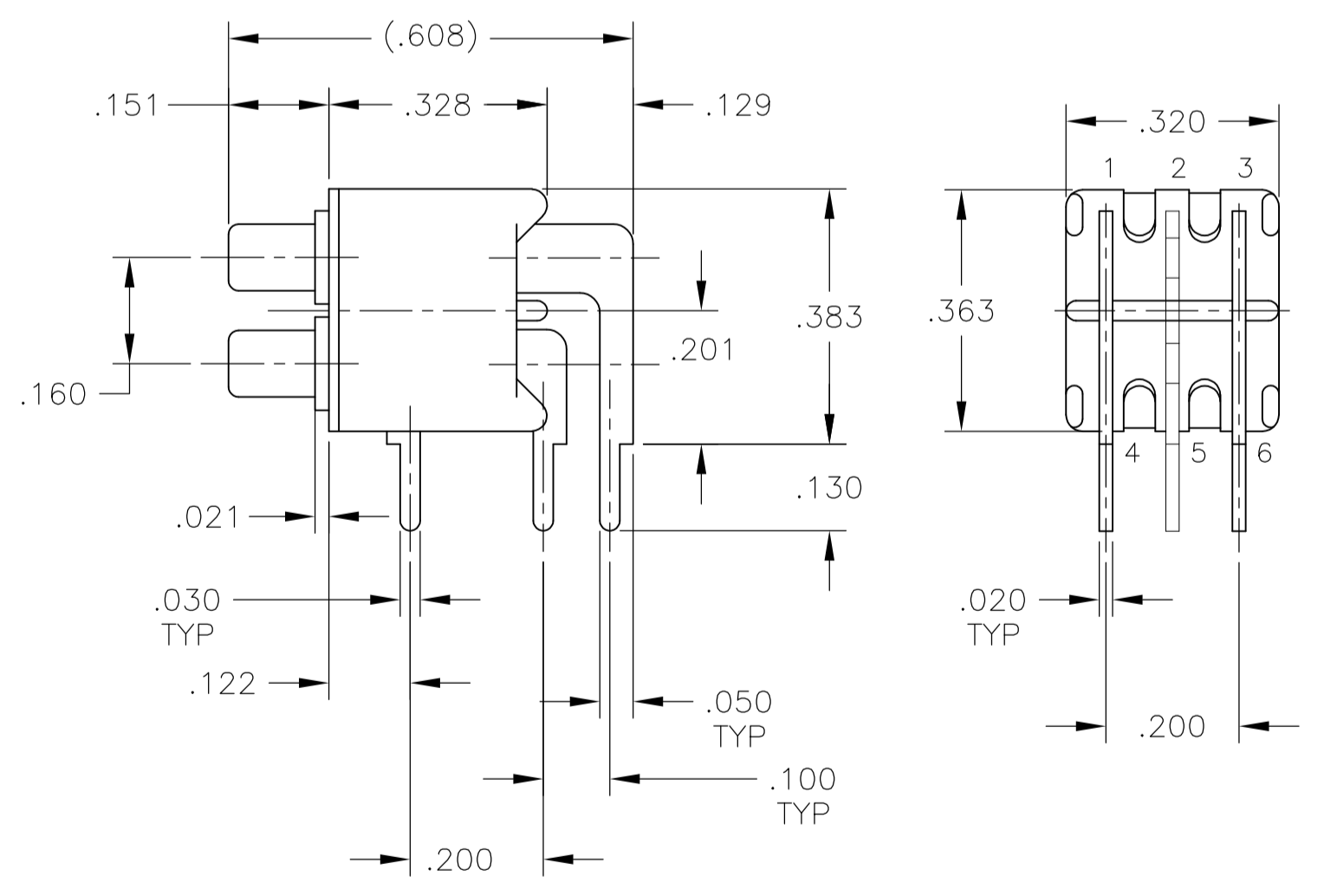
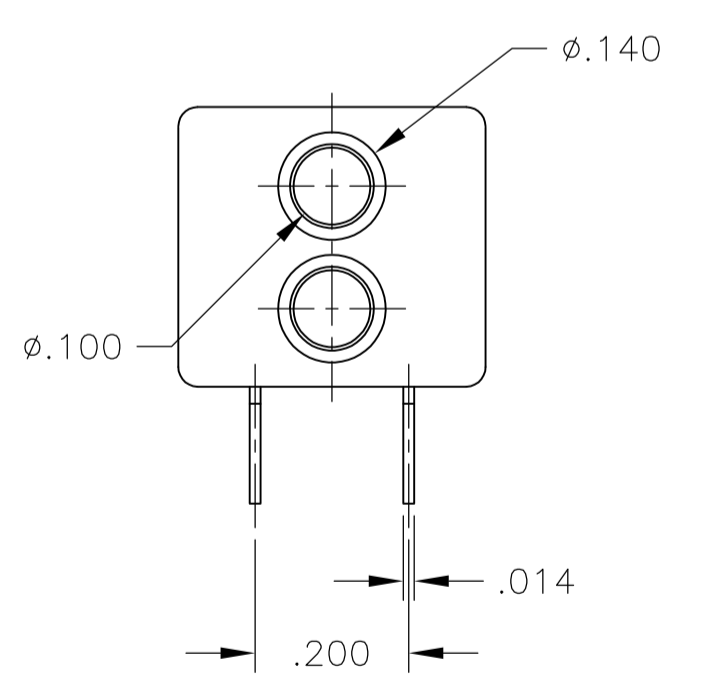
PCB HOLE LAYOUT



TPA11CGRA  
TPA11FGRA

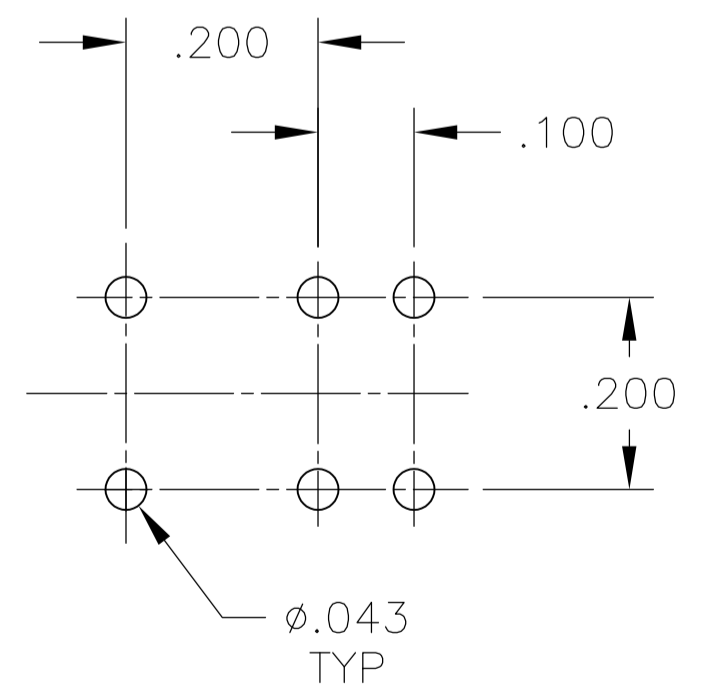
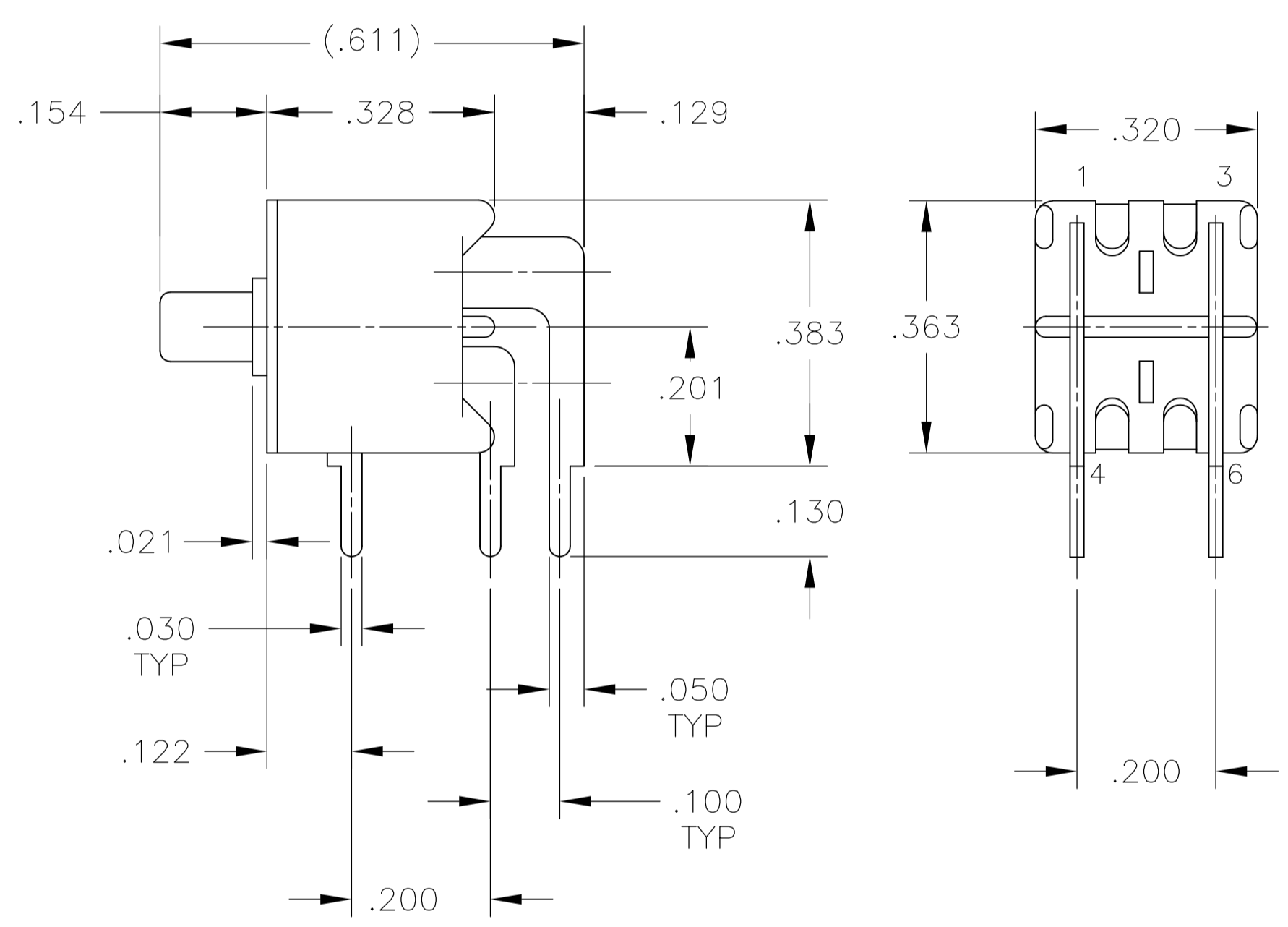
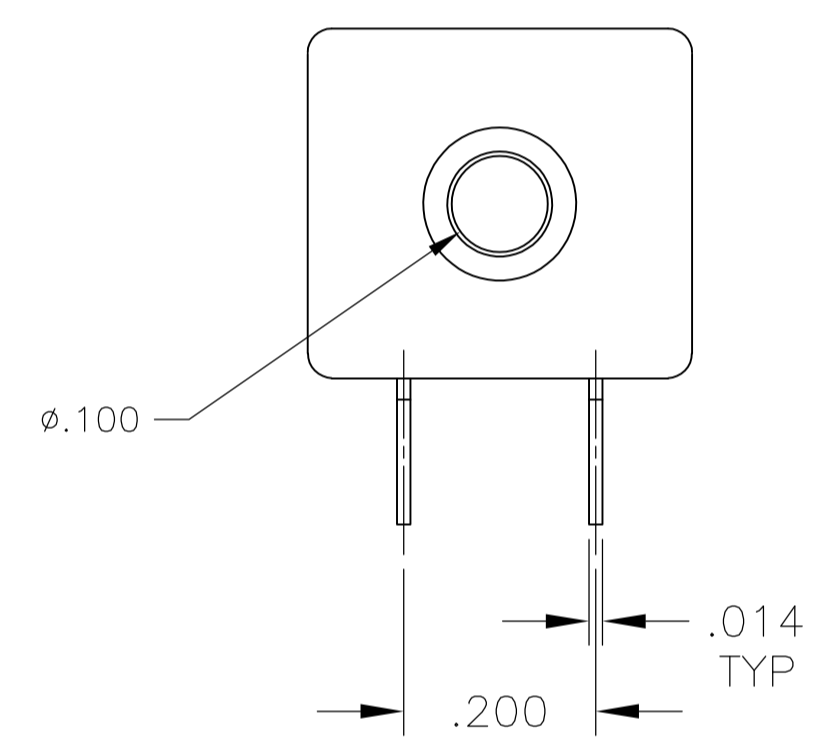
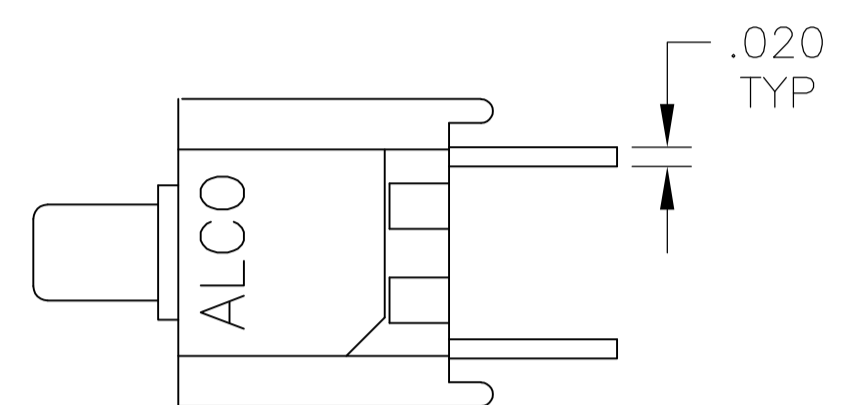


PCB HOLE LAYOUT



TPA21CCGRA  
TPA21FFGRA

|   |  |                  |         |                                       |                    |                        |               |
|---|--|------------------|---------|---------------------------------------|--------------------|------------------------|---------------|
| THIS DRAWING IS A CONTROLLED DOCUMENT.  |  | DWN<br>M. BINNER | 01SEP05 | TE Connectivity                       |                    |                        |               |
| DIMENSIONS: INCHES  |  | CHK<br>M. ZITTO  | 21JUL05 |                                       |                    |                        |               |
| TOLERANCES UNLESS OTHERWISE SPECIFIED:  |  | APPD<br>M. ZITTO | 21JUL05 | NAME<br>PUSHBUTTON SWITCH, TPA SERIES |                    |                        |               |
| 0. PLC ± -<br>1. PLC ± -<br>2. PLC ± -<br>3. PLC ± .010<br>4. PLC ± -<br>ANGLES ± - |  | PRODUCT SPEC     |         | APPLICATION SPEC                      |                    |                        |               |
| MATERIAL  |  | WEIGHT           |         | SIZE<br>A1                            | CAGE CODE<br>00779 | DRAWING NO.<br>1825096 | RESTRICTED TO |
|   |  | CUSTOMER DRAWING |         | SCALE<br>4:1                          | SHEET<br>3 OF 4    | REV<br>A2              |               |



TPA21MGRA

PCB HOLE LAYOUT

|   |        |                             |                    |                        |
|---|--------|-----------------------------|--------------------|------------------------|
| THIS DRAWING IS A CONTROLLED DOCUMENT.  |        | DIN<br>M. BINNER<br>21JUL05 | TE Connectivity    |                        |
| DIMENSIONS: INCHES  |        | CHK<br>M. ZITTO<br>21JUL05  | NAME               |                        |
| TOLERANCES UNLESS OTHERWISE SPECIFIED:  |        | APVD<br>M. ZITTO            | PRODUCT SPEC       |                        |
| 0. PLC ± -<br>1. PLC ± -<br>2. PLC ± -<br>3. PLC ± .010<br>4. PLC ± -<br>ANGLES ± - |        | APPLICATION SPEC            |                    |                        |
| MATERIAL  | FINISH | WEIGHT                      | SIZE<br>A1         | RESTRICTED TO          |
| -   | -      | -                           | CAGE CODE<br>00779 | DRAWING NO.<br>1825096 |
| CUSTOMER DRAWING  |        | SCALE<br>4:1                | SHEET<br>4         | REV<br>A2              |

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