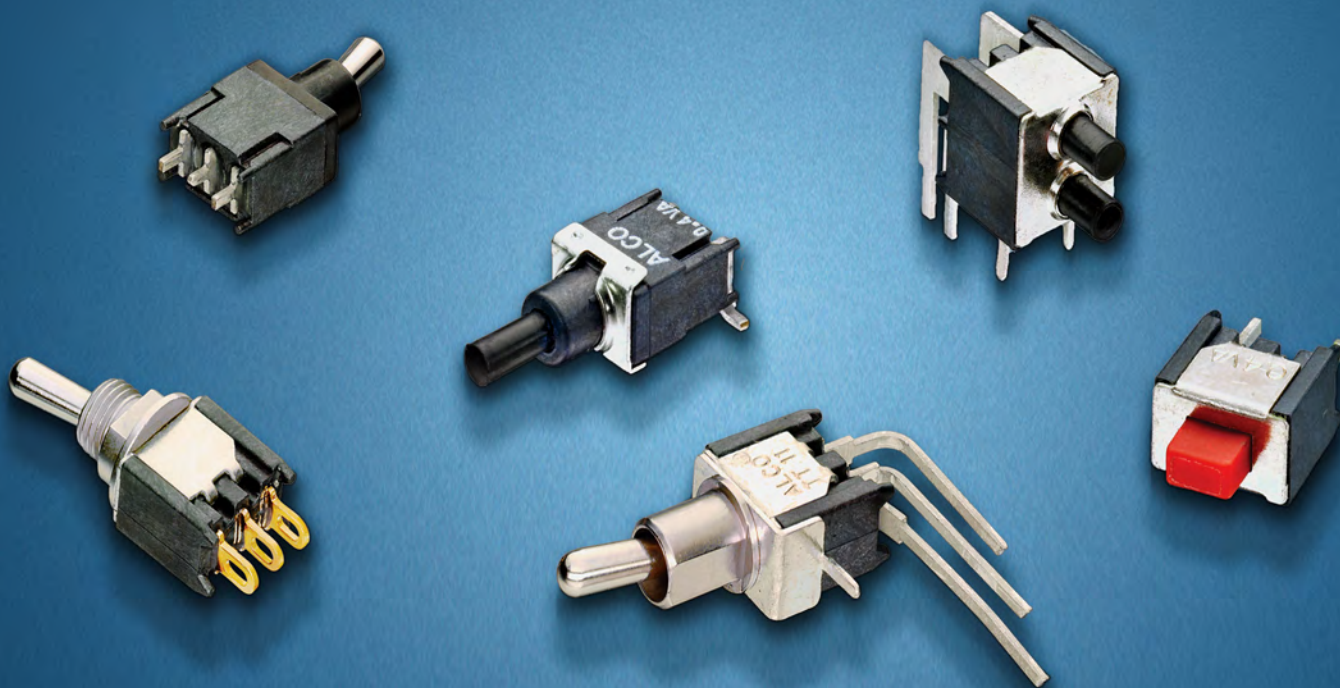




## Quick Reference Guide

### Tiny Pushbutton and Toggle Series Switches

TE Connectivity offers the Tiny line of switches in a range of ratings from 0.4VA up to 3A @125 VAC. The extensive product line includes pushbuttons (sealed and unsealed), toggles (sealed and unsealed) and environmental toggles. The Tiny toggles offer many different toggle bat designs and are available in different mounting and termination options to fit your application need.

#### FEATURES AND BENEFITS

- Washable process sealed construction (internal "O" ring)
- Compact design
- Round or rectangular actuator buttons
- Vertical or right angle versions
- Process and non-process sealed
- Liquid Crystal Polymer (LCP) case

#### PRODUCT APPLICATIONS

- Military/ Aerospace
- Commercial Appliance
- Radio Communication Equipment
- Set Top Boxes
- Industrial Machines
- Instrumentation
- Telecommunications Equipment

| Typical Performance Characteristics | Exclusive to:         |                                                                                                 |
|-------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------|
| Contact configuration               | <b>TSP</b>            | SPST, SPDT                                                                                      |
|                                     | <b>TP, TP_ES</b>      | SPST, SPDT, DPDT                                                                                |
| Contact timing                      |                       | break-before-make                                                                               |
| Contact rating, max                 |                       | gold 0.4 VA @ 20 VAC/DC                                                                         |
|                                     | <b>TP, TP_ES</b>      | silver: 1A @ 125 VAC or 28 VDC resistive                                                        |
|                                     | <b>TT</b>             | silver (2 position): 3 A @ 125 VAC or 28 VDC resistive                                          |
|                                     | <b>TT</b>             | silver (3 position): 2 A @ 125 VAC or 28 VDC resistive                                          |
| Electrical life                     | <b>TSP</b>            | C Function 80k F 60k                                                                            |
|                                     | <b>TP</b>             | 1 Pole 0.4VA 100k 2 Pole 80k                                                                    |
|                                     | <b>TP</b>             | 1 Pole 1 Amp 60k 2 Pole 50k                                                                     |
|                                     | <b>TST</b>            | D Function 80K,E 60k, F,G 30k                                                                   |
|                                     | <b>TT</b>             | 1 Pole 0.4VA 80k (2 Pos.) 60k (3 Pos.)                                                          |
|                                     | <b>TT</b>             | 3 Amp 20k (2 Pos.) 10k (3 Pos.)                                                                 |
|                                     | <b>TT</b>             | For 4 Pole see Catalog                                                                          |
| Contact resistance, initial         |                       | max .20 mOhms                                                                                   |
| Insulation resistance               |                       | 1,000 MOhms @ 500 VDC                                                                           |
| Dielectric strength                 |                       | 1,000 volts RMS @ sea level                                                                     |
| Actuator travel                     | <b>TSP, TP, TP_ES</b> | Approx. .035" (.89mm)                                                                           |
|                                     | <b>TST, TT</b>        | 22° for D and E function                                                                        |
|                                     | <b>TST, TT</b>        | 18° for F and G function                                                                        |
| Environmental Specifications        |                       |                                                                                                 |
| Operating temperature               |                       | -30°C - +85°C                                                                                   |
|                                     | <b>TP</b>             | -30°C - +65°C                                                                                   |
| Storage temperature                 |                       | -55°C - +85°C                                                                                   |
|                                     | <b>TP</b>             | -30°C - +65°C                                                                                   |
| Solder heat resistance              |                       | wave solder capable to 265°C                                                                    |
| Terminal Seal                       | <b>TT</b>             | single pole: epoxy, double pole: epoxy optional                                                 |
| Seal                                | <b>TSP, TST</b>       | process sealed with internal "O" ring                                                           |
|                                     | <b>TP_ES</b>          | versions with process seal, with disposable cap                                                 |
| Material Specifications             |                       |                                                                                                 |
| Contacts                            |                       | copper or brass alloy, gold over nickel finish                                                  |
|                                     | <b>TP, TP_ES</b>      | clad with silver over nickel finish                                                             |
|                                     | <b>TT</b>             | copper or brass alloy, gold over nickel finish or silver clad copper alloy                      |
| Actuator                            | <b>TSP, TP, TP_ES</b> | thermoplastic                                                                                   |
|                                     | <b>TST</b>            | brass alloy, nickel finish                                                                      |
|                                     | <b>TT</b>             | stainless steel or thermoplastic                                                                |
| Terminals                           |                       | brass with gold over nickel in solder area                                                      |
|                                     | <b>TSP, TST</b>       | tin over nickel in solder area                                                                  |
|                                     | <b>TT</b>             | brass alloy, gold over nickel finish or silver clad copper alloy tin over nickel in solder area |
| Case                                |                       | thermoplastic                                                                                   |
| Bushing                             | <b>TT</b>             | brass alloy finish nickel over copper                                                           |
| Internal actuator                   | <b>TST, TT</b>        | thermoplastic or PTFE                                                                           |
| Spring                              | <b>TSP, TST, TT</b>   | music wire zinc plated                                                                          |
| Support bracket                     | <b>TSP, TST, TT</b>   | steel tin plated                                                                                |
| Frame and support bracket           | <b>TP, TP_ES</b>      | steel with tin over copper finish                                                               |
| Seal                                | <b>TSP, TST</b>       | 'O' ring rubber                                                                                 |
| RoHS Directive 2002/95/EC           |                       | compliant                                                                                       |

TSP PUSHBUTTON SWITCHES PRODUCT KEY

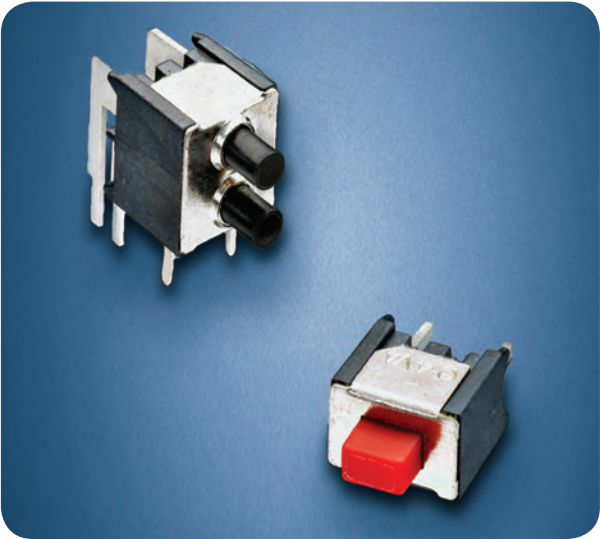
| Typical Product Key                                           |     |   |   |   |   |   |   |    |   |    |
|---------------------------------------------------------------|-----|---|---|---|---|---|---|----|---|----|
| Type                                                          | TSP | D | F | 1 | 1 | C | G | RA | 0 | 04 |
| Tiny pushbutton, process sealed                               |     |   |   |   |   |   |   |    |   |    |
| Bushing                                                       |     |   |   |   |   |   |   |    |   |    |
| D plain, not threaded                                         |     |   |   |   |   |   |   |    |   |    |
| Actuator length                                               |     |   |   |   |   |   |   |    |   |    |
| blank length .200 (5.08)                                      |     |   |   |   |   |   |   |    |   |    |
| F flush                                                       |     |   |   |   |   |   |   |    |   |    |
| Number of poles                                               |     |   |   |   |   |   |   |    |   |    |
| 1 single pole                                                 |     |   |   |   |   |   |   |    |   |    |
| Contact rating                                                |     |   |   |   |   |   |   |    |   |    |
| 1 0.4VA Gold                                                  |     |   |   |   |   |   |   |    |   |    |
| Function                                                      |     |   |   |   |   |   |   |    |   |    |
| C SPST, Off (On) F SPDT, On (On)                              |     |   |   |   |   |   |   |    |   |    |
| Plating                                                       |     |   |   |   |   |   |   |    |   |    |
| G gold                                                        |     |   |   |   |   |   |   |    |   |    |
| Terminals                                                     |     |   |   |   |   |   |   |    |   |    |
| PC printed circuit board RA right angle                       |     |   |   |   |   |   |   |    |   |    |
| PCV printed circuit board w/ bracket VRA vertical right angle |     |   |   |   |   |   |   |    |   |    |
| WW wire wrap                                                  |     |   |   |   |   |   |   |    |   |    |
| Button Color                                                  |     |   |   |   |   |   |   |    |   |    |
| 0 black 2 red                                                 |     |   |   |   |   |   |   |    |   |    |
| Material                                                      |     |   |   |   |   |   |   |    |   |    |
| 04 RoHS compliant                                             |     |   |   |   |   |   |   |    |   |    |



| PART NUMBERS    |                     |                    |       |        |          |       |       |         |                |              |             |
|-----------------|---------------------|--------------------|-------|--------|----------|-------|-------|---------|----------------|--------------|-------------|
| Product key     | Bushing             | Actuator           | Poles | Rating | Function | Conn. | Conn. | Plating | Terminals      | Button Color | Part Number |
| TSPD11CGPC004   | plain, not threaded | length .200 (5.08) | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | pcb            | black        | 1571990-1   |
| TSPD11CGPC204   | plain, not threaded | length .200 (5.08) | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | pcb            | red          | 1571990-2   |
| TSPD11CGPCV004  | plain, not threaded | length .200 (5.08) | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | pcb            | black        | 1571990-3   |
| TSPD11CGRA004   | plain, not threaded | length .200 (5.08) | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | right angle    | black        | 1571990-4   |
| TSPD11CGRA204   | plain, not threaded | length .200 (5.08) | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | right angle    | red          | 1571990-5   |
| TSPD11CGVRA004  | plain, not threaded | length .200 (5.08) | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | vertical r.a.  | black        | 1-1571990-3 |
| TSPD11CGWW004   | plain, not threaded | length .200 (5.08) | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | wire wrap      | black        | 1-1571990-4 |
| TSPD11FGPC004   | plain, not threaded | length .200 (5.08) | 1     | 0.4 VA | On-(On)  | 2-3   | 2-3   | gold    | pcb            | black        | 1-1571990-5 |
| TSPD11FGPCV004  | plain, not threaded | length .200 (5.08) | 1     | 0.4 VA | On-(On)  | 2-3   | 2-3   | gold    | pcb w/ bracket | black        | 1-1571990-6 |
| TSPD11FGRA004   | plain, not threaded | length .200 (5.08) | 1     | 0.4 VA | On-(On)  | 2-3   | 2-3   | gold    | right angle    | black        | 1-1571990-7 |
| TSPD11FGVRA004  | plain, not threaded | length .200 (5.08) | 1     | 0.4 VA | On-(On)  | 2-3   | 2-3   | gold    | vertical r.a.  | black        | 2-1571990-1 |
| TSPDF11CGPC004  | plain, not threaded | flush              | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | pcb            | black        | 2-1571990-2 |
| TSPDF11CGRA004  | plain, not threaded | flush              | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | right angle    | black        | 2-1571990-5 |
| TSPDF11CGVRA004 | plain, not threaded | flush              | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | vertical r.a.  | black        | 2-1571990-7 |
| TSPDF11FGPC004  | plain, not threaded | flush              | 1     | 0.4 VA | On-(On)  | 1-2   | 2-3   | gold    | pcb            | black        | 2-1571990-8 |
| TSPDF11FGRA004  | plain, not threaded | flush              | 1     | 0.4 VA | On-(On)  | 1-2   | 2-3   | gold    | right angle    | black        | 2-1571990-9 |

TP PUSHBUTTON SWITCHES PRODUCT KEY

| Typical Product Key |                                               | TP | B | F | 1     | 1                                                            | C                       | G | PC | 0 | 04 |
|---------------------|-----------------------------------------------|----|---|---|-------|--------------------------------------------------------------|-------------------------|---|----|---|----|
| Type                |                                               |    |   |   |       |                                                              |                         |   |    |   |    |
| TP                  | Tiny pushbutton series                        |    |   |   |       |                                                              |                         |   |    |   |    |
| Bushing             |                                               |    |   |   |       |                                                              |                         |   |    |   |    |
| blank               | square, no bushing                            |    |   |   |       |                                                              |                         |   |    |   |    |
| A                   | round, no bushing                             |    |   |   |       |                                                              |                         |   |    |   |    |
| B                   | round .188 (4.78) dia. bushing not threaded   |    |   |   |       |                                                              |                         |   |    |   |    |
| C                   | round 10/48 UNS 2B thread                     |    |   |   |       |                                                              |                         |   |    |   |    |
| D                   | .250" (6.35) dia. bushing, not threaded       |    |   |   |       |                                                              |                         |   |    |   |    |
| F                   | round 1/4-40 UNS 2B thread                    |    |   |   |       |                                                              |                         |   |    |   |    |
| Actuator length     |                                               |    |   |   |       |                                                              |                         |   |    |   |    |
| blank               | standard                                      |    |   |   |       |                                                              |                         |   |    |   |    |
| F                   | flush (available with B or C bushings only)   |    |   |   |       |                                                              |                         |   |    |   |    |
| Number of poles     |                                               |    |   |   |       |                                                              |                         |   |    |   |    |
| 1                   | single pole                                   |    |   |   | 3     | double pole                                                  |                         |   |    |   |    |
| Contact rating      |                                               |    |   |   |       |                                                              |                         |   |    |   |    |
| 1                   | 0.4VA gold                                    |    |   |   | 2     | 1.0 A silver (available only in wire lug and PC termination) |                         |   |    |   |    |
| Function            |                                               |    |   |   |       |                                                              |                         |   |    |   |    |
| Single pole         |                                               |    |   |   |       | Double pole                                                  |                         |   |    |   |    |
| C                   | single throw, momentary                       |    |   |   |       | M                                                            | single throw, momentary |   |    |   |    |
| F                   | double throw, momentary                       |    |   |   |       | R                                                            | double throw, momentary |   |    |   |    |
| CC                  | dual function C - 2 x single throw, momentary |    |   |   |       |                                                              |                         |   |    |   |    |
| FF                  | dual function F - 2 x double throw, momentary |    |   |   |       |                                                              |                         |   |    |   |    |
| Plating             |                                               |    |   |   |       |                                                              |                         |   |    |   |    |
| G                   | gold                                          |    |   |   | blank | silver (available only in wire lug and PC termination)       |                         |   |    |   |    |
| Terminals           |                                               |    |   |   |       |                                                              |                         |   |    |   |    |
| blank               | printed circuit board                         |    |   |   | RA    | right angle                                                  |                         |   |    |   |    |
| PCV                 | printed circuit board w/ bracket              |    |   |   | VRA   | vertical right angle                                         |                         |   |    |   |    |
| Button Color        |                                               |    |   |   |       |                                                              |                         |   |    |   |    |
| 0                   | black                                         |    |   |   | 2     | red                                                          |                         |   |    |   |    |
| Material            |                                               |    |   |   |       |                                                              |                         |   |    |   |    |
| 04                  | RoHS compliant                                |    |   |   |       |                                                              |                         |   |    |   |    |



| PART NUMBERS  |                             |          |         |        |          |          |          |         |               |              |             |
|---------------|-----------------------------|----------|---------|--------|----------|----------|----------|---------|---------------|--------------|-------------|
| Product key   | Bushing                     | Actuator | Poles   | Rating | Function | Conn.    | Conn.    | Plating | Terminals     | Button Color | Part Number |
| TP11CGPC004   | square                      | n/a      | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | pcb           | black        | 1825095-1   |
| TP11CGPC204   | no bushing                  | n/a      | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | pcb           | red          | 1825095-2   |
| TP11CGRA004   | no bushing                  | n/a      | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | right angle   | black        | 1825095-3   |
| TP11CGRA204   | no bushing                  | n/a      | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | right angle   | red          | 1825095-4   |
| TP11CGRA604   | no bushing                  | n/a      | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | right angle   | blue         | 1825095-5   |
| TP11FGPC004   | no bushing                  | n/a      | 1       | 0.4 VA | On-(On)  | 1-2      | 2-3      | gold    | pcb           | black        | 1825095-6   |
| TP11FGRA004   | no bushing                  | n/a      | 1       | 0.4 VA | On-(On)  | 1-2      | 2-3      | gold    | right angle   | black        | 1825095-8   |
| TPA11CGPC004  | round                       | n/a      | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | pcb           | black        | 1825096-1   |
| TPA11CGRA004  | no bushing                  | n/a      | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | right angle   | black        | 1825096-4   |
| TPA11CGRA204  | no bushing                  | n/a      | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | right angle   | red          | 1825096-5   |
| TPA11CGRA604  | no bushing                  | n/a      | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | right angle   | blue         | 1825096-6   |
| TPA11FGPC004  | no bushing                  | n/a      | 1       | 0.4 VA | On-(On)  | 1-2      | 2-3      | gold    | pcb           | black        | 1825096-7   |
| TPA11FGRA004  | no bushing                  | n/a      | 1       | 0.4 VA | On-(On)  | 1-2      | 2-3      | gold    | right angle   | black        | 1-1825096-0 |
| TPA11FGRA204  | no bushing                  | n/a      | 1       | 0.4 VA | On-(On)  | 1-2      | 2-3      | gold    | right angle   | red          | 1-1825096-1 |
| TPA21CCGRA004 | no bushing                  | n/a      | 2 (1+1) | 0.4 VA | Off-(On) | Off      | 1-3, 4-6 | gold    | right angle   | black        | 1-1825096-4 |
| TPA21FFGRA204 | no bushing                  | n/a      | 3 (1+1) | 0.4 VA | On-(On)  | 1-2, 4-5 | 2-3, 5-6 | gold    | right angle   | red          | 1-1825096-5 |
| TPB11CGPC004  | round .188 (4.78) no thread | standard | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | pcb           | black        | 1825097-1   |
| TPB11CGRA004  | round .188 (4.78) no thread | standard | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | right angle   | black        | 1825097-6   |
| TPB11CGRA204  | round .188 (4.78) no thread | standard | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | right angle   | red          | 1825097-4   |
| TPB11CGVRA004 | round .188 (4.78) no thread | standard | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | vertical r.a. | black        | 1825097-8   |
| TPB11FGPC004  | round .188 (4.78) no thread | standard | 1       | 0.4 VA | On-(On)  | 1-2      | 2-3      | gold    | pcb           | black        | 1825097-9   |
| TPB11FGRA004  | round .188 (4.78) no thread | standard | 1       | 0.4 VA | On-(On)  | 1-2      | 2-3      | gold    | right angle   | black        | 1-1825097-1 |
| TPB11FGRA204  | round .188 (4.78) no thread | standard | 1       | 0.4 VA | On-(On)  | 1-2      | 2-3      | gold    | right angle   | red          | 1-1825097-2 |
| TPB11FGVRA004 | round .188 (4.78) no thread | standard | 1       | 0.4 VA | On-(On)  | 1-2      | 2-3      | gold    | vertical r.a. | black        | 1-1825097-6 |
| TPBF11CGRA004 | round .188 (4.78) no thread | flush    | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | right angle   | black        | 2-1825097-1 |
| TPC11CGPC004  | round 10/48 UNS 2B thread   | standard | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | pcb           | black        | 1825098-1   |
| TPC11CGRA004  | round 10/48 UNS 2B thread   | standard | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | right angle   | black        | 1825098-2   |
| TPC11CGRA204  | round 10/48 UNS 2B thread   | standard | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | right angle   | red          | 1825098-3   |
| TPC11FGPC004  | round 10/48 UNS 2B thread   | standard | 1       | 0.4 VA | On-(On)  | 1-2      | 2-3      | gold    | pcb           | black        | 1825098-5   |
| TPCF13C004    | round 10/48 UNS 2B thread   | flush    | 1       | 1.0 A  | Off-(On) | Off      | 1-3      | silver  | wire lug      | black        | 2-1825098-0 |
| TPD11CGRA004  | .259 dia, no thread         | n/a      | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | right angle   | black        | 1825099-3   |
| TPF11CGPC004  | round 1/4-40 UNS 2B thread  | n/a      | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | pcb           | black        | 1825100-1   |
| TPF11CGRA004  | round 1/4-40 UNS 2B thread  | n/a      | 1       | 0.4 VA | Off-(On) | Off      | 1-3      | gold    | right angle   | black        | 1825100-4   |
| TPF11FGPC004  | round 1/4-40 UNS 2B thread  | n/a      | 1       | 0.4 VA | On-(On)  | 1-2      | 2-3      | gold    | pcb           | black        | 1825100-7   |
| TPF13C004     | round 1/4-40 UNS 2B thread  | n/a      | 1       | 1.0 A  | Off-(On) | Off      | 1-3      | silver  | wire lug      | black        | 1-1825100-2 |

## TP\_ES PUSHBUTTON SWITCHES PRODUCT KEY

| Typical Product Key                                                                   |    |   |   |   |   |   |   |    |    |   |    |
|---------------------------------------------------------------------------------------|----|---|---|---|---|---|---|----|----|---|----|
| Type                                                                                  | TP | B | F | 1 | 1 | C | G | RA | ES | O | 04 |
| <b>TP</b> Tiny pushbutton series                                                      |    |   |   |   |   |   |   |    |    |   |    |
| <b>Bushing</b>                                                                        |    |   |   |   |   |   |   |    |    |   |    |
| <b>B</b> round .188 (4.78) dia. bushing not threaded                                  |    |   |   |   |   |   |   |    |    |   |    |
| <b>F</b> round 1/4-40 UNS 2B thread                                                   |    |   |   |   |   |   |   |    |    |   |    |
| <b>Actuator length</b>                                                                |    |   |   |   |   |   |   |    |    |   |    |
| <b>blank</b> standard                                                                 |    |   |   |   |   |   |   |    |    |   |    |
| <b>F</b> flush (available with B bushings only)                                       |    |   |   |   |   |   |   |    |    |   |    |
| <b>Number of poles</b>                                                                |    |   |   |   |   |   |   |    |    |   |    |
| <b>1</b> single pole                                                                  |    |   |   |   |   |   |   |    |    |   |    |
| <b>Contact rating</b>                                                                 |    |   |   |   |   |   |   |    |    |   |    |
| <b>1</b> 0.4VA gold                                                                   |    |   |   |   |   |   |   |    |    |   |    |
| <b>Function</b>                                                                       |    |   |   |   |   |   |   |    |    |   |    |
| <b>C</b> single throw, momentary                                                      |    |   |   |   |   |   |   |    |    |   |    |
| <b>F</b> double throw, momentary                                                      |    |   |   |   |   |   |   |    |    |   |    |
| <b>Plating</b>                                                                        |    |   |   |   |   |   |   |    |    |   |    |
| <b>G</b> gold                                                                         |    |   |   |   |   |   |   |    |    |   |    |
| <b>Terminals</b>                                                                      |    |   |   |   |   |   |   |    |    |   |    |
| <b>PC</b> printed circuit board <b>RA</b> right angle (available with B bushing only) |    |   |   |   |   |   |   |    |    |   |    |
| <b>Process Seal</b>                                                                   |    |   |   |   |   |   |   |    |    |   |    |
| <b>ES</b> process sealed with disposable boot, epoxied                                |    |   |   |   |   |   |   |    |    |   |    |
| <b>Button Color</b>                                                                   |    |   |   |   |   |   |   |    |    |   |    |
| <b>O</b> black <b>2</b> red                                                           |    |   |   |   |   |   |   |    |    |   |    |
| <b>Material</b>                                                                       |    |   |   |   |   |   |   |    |    |   |    |
| <b>04</b> RoHS compliant                                                              |    |   |   |   |   |   |   |    |    |   |    |

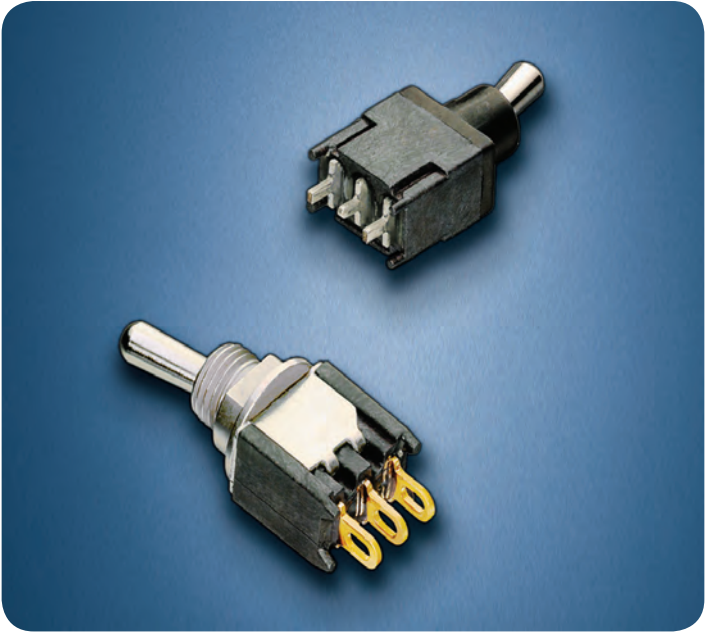
| PART NUMBERS    |                             |          |       |        |          |       |       |         |             |              |             |
|-----------------|-----------------------------|----------|-------|--------|----------|-------|-------|---------|-------------|--------------|-------------|
| Product key     | Bushing                     | Actuator | Poles | Rating | Function | Conn. | Conn. | Plating | Terminals   | Button Color | Part Number |
| TPB11CGPCES004  | round .188 (4.78) no thread | standard | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | pcb         | black        | 1825097-3   |
| TPB11CGRAES004  | round .188 (4.78) no thread | standard | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | right angle | black        | 1825097-5   |
| TPB11CGRAES204  | round .188 (4.78) no thread | standard | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | right angle | red          | 1825097-7   |
| TPB11FGPCES204  | round .188 (4.78) no thread | standard | 1     | 0.4 VA | On-(On)  | 1-2   | 2-3   | gold    | pcb         | red          | 1-1825097-0 |
| TPB11FGRAES004  | round .188 (4.78) no thread | standard | 1     | 0.4 VA | On-(On)  | 1-2   | 2-3   | gold    | right angle | black        | 1-1825097-4 |
| TPB11FGRAES604  | round .188 (4.78) no thread | standard | 1     | 0.4 VA | On-(On)  | 1-2   | 2-3   | gold    | right angle | blue         | 1-1825097-5 |
| TPBF11CGPCES004 | round .188 (4.78) no thread | flush    | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | pcb         | black        | 2-1825097-0 |
| TPBF11CGRAES004 | round .188 (4.78) no thread | flush    | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | right angle | black        | 2-1825097-2 |
| TPBF11FGPCES004 | round .188 (4.78) no thread | flush    | 1     | 0.4 VA | On-(On)  | 1-2   | 2-3   | gold    | pcb         | black        | 2-1825097-3 |
| TPBF11FGRAES004 | round .188 (4.78) no thread | flush    | 1     | 0.4 VA | On-(On)  | 1-2   | 2-3   | gold    | right angle | black        | 2-1825097-6 |
| TPF11CGPCES004  | round 1/4-40 UNS 2B thread  | standard | 1     | 0.4 VA | Off-(On) | Off   | 1-3   | gold    | pcb         | black        | 1825100-3   |
| TPF11FGPCES004  | round 1/4-40 UNS 2B thread  | standard | 1     | 0.4 VA | On-(On)  | 1-2   | 2-3   | gold    | pcb         | black        | 1-1825100-0 |



TST TOGGLE SWITCHES PRODUCT KEY

|                     |  |                                                 |   |   |     |   |                      |   |   |    |
|---------------------|--|-------------------------------------------------|---|---|-----|---|----------------------|---|---|----|
| Typical Product Key |  | TST                                             | 1 | 1 | D   | G | RA                   | 1 | D | 04 |
| Type                |  |                                                 |   |   |     |   |                      |   |   |    |
| TST                 |  | Tiny toggle, process sealed, through hole mount |   |   |     |   |                      |   |   |    |
| Number of poles     |  |                                                 |   |   |     |   |                      |   |   |    |
| 1                   |  | single pole                                     |   |   |     |   |                      |   |   |    |
| Contact rating      |  |                                                 |   |   |     |   |                      |   |   |    |
| 1                   |  | 0.4VA gold                                      |   |   |     |   |                      |   |   |    |
| Function            |  |                                                 |   |   |     |   |                      |   |   |    |
| D                   |  | On-None-On                                      |   |   | F   |   | On-None-(On)         |   |   |    |
| E                   |  | On-Off-On                                       |   |   | G   |   | (On)-Off-(On)        |   |   |    |
| Plating             |  |                                                 |   |   |     |   |                      |   |   |    |
| G                   |  | gold                                            |   |   |     |   |                      |   |   |    |
| Terminals           |  |                                                 |   |   |     |   |                      |   |   |    |
| PC                  |  | printed circuit board                           |   |   | RA  |   | right angle          |   |   |    |
| PCV                 |  | printed circuit board w/ bracket                |   |   | VRA |   | vertical right angle |   |   |    |
| Actuator length     |  |                                                 |   |   |     |   |                      |   |   |    |
| 1                   |  | .206 (5.23)                                     |   |   | 4   |   | .400 (10.16)         |   |   |    |
| 2                   |  | .250 (6.35)                                     |   |   |     |   |                      |   |   |    |
| Bushing             |  |                                                 |   |   |     |   |                      |   |   |    |
| D                   |  | plain, not threaded                             |   |   |     |   |                      |   |   |    |
| Material            |  |                                                 |   |   |     |   |                      |   |   |    |
| 04                  |  | RoHS compliant                                  |   |   |     |   |                      |   |   |    |

| PART NUMBERS   |        |        |            |         |               |             |                     |             |
|----------------|--------|--------|------------|---------|---------------|-------------|---------------------|-------------|
| Product key    | Poles  | Rating | Function   | Plating | Terminals     | Actuator    | Bushing             | Part Number |
| TST11DGPC1D04  | 1 pole | 0.4 VA | On-None-On | gold    | pcb           | .206 (5.23) | plain, not threaded | 1825455-1   |
| TST11DGPCV1D04 | 1 pole | 0.4 VA | On None On | gold    | pcb w/ brack  | .206 (5.23) | plain, not threaded | 1825455-2   |
| TST11DGRA1D04  | 1 pole | 0.4 VA | On None On | gold    | right angle   | .206 (5.23) | plain, not threaded | 1825455-3   |
| TST11DGVRA1D04 | 1 pole | 0.4 VA | On None On | gold    | vertical r.a. | .206 (5.23) | plain, not threaded | 1825455-4   |

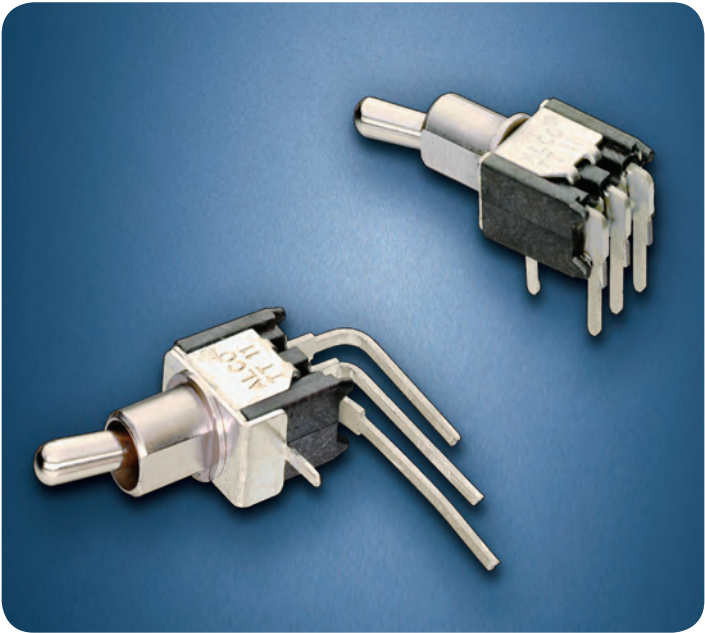


TT TOGGLE SWITCHES PRODUCT KEY

| Typical Product Key                                         |                                                                                  | TT | E           | 1                                                                | 1 | D     | G              | PC | 9 | T1/4 | 2 | 04 |
|-------------------------------------------------------------|----------------------------------------------------------------------------------|----|-------------|------------------------------------------------------------------|---|-------|----------------|----|---|------|---|----|
| Type                                                        |                                                                                  |    |             |                                                                  |   |       |                |    |   |      |   |    |
| TT                                                          | Tiny toggle switch                                                               |    |             |                                                                  |   |       |                |    |   |      |   |    |
| Environmental seal                                          |                                                                                  |    |             |                                                                  |   |       |                |    |   |      |   |    |
| blank                                                       | no seal                                                                          |    |             |                                                                  |   |       |                |    |   |      |   |    |
| E                                                           | environmental seal (splash proof) not available with actuator 7 or VRA terminals |    |             |                                                                  |   |       |                |    |   |      |   |    |
| Number of poles                                             |                                                                                  |    |             |                                                                  |   |       |                |    |   |      |   |    |
| 1                                                           | single pole                                                                      |    | 4           | 4 pole                                                           |   |       |                |    |   |      |   |    |
| 2                                                           | double pole                                                                      |    |             |                                                                  |   |       |                |    |   |      |   |    |
| Contact rating                                              |                                                                                  |    |             |                                                                  |   |       |                |    |   |      |   |    |
| 1                                                           | 0.4VA gold                                                                       |    | 3           | 1 Amp, silver<br>(available only in wire lug and PC termination) |   |       |                |    |   |      |   |    |
| Function                                                    |                                                                                  |    |             |                                                                  |   |       |                |    |   |      |   |    |
| Single pole                                                 |                                                                                  |    | 2 & 4 pole  |                                                                  |   |       |                |    |   |      |   |    |
| A                                                           | On-Off*                                                                          |    | K           | On-Off*                                                          |   |       |                |    |   |      |   |    |
| D                                                           | On-On                                                                            |    | N           | On-On                                                            |   |       |                |    |   |      |   |    |
| E                                                           | On-Off-On                                                                        |    | P           | On-Off-On                                                        |   |       |                |    |   |      |   |    |
| F                                                           | On-(On)                                                                          |    | R           | On-(On)                                                          |   |       |                |    |   |      |   |    |
| *Versions A & K available with wire lug & pc terminals only |                                                                                  |    |             |                                                                  |   |       |                |    |   |      |   |    |
| Plating                                                     |                                                                                  |    |             |                                                                  |   |       |                |    |   |      |   |    |
| G                                                           | gold                                                                             |    | blank       | silver                                                           |   |       |                |    |   |      |   |    |
| Terminals                                                   |                                                                                  |    |             |                                                                  |   |       |                |    |   |      |   |    |
| blank                                                       | wire lug                                                                         |    | RA          | right angle                                                      |   |       |                |    |   |      |   |    |
| PC                                                          | printed circuit board                                                            |    | VRA         | vertical right angle                                             |   |       |                |    |   |      |   |    |
| PCV                                                         | printed circuit board w/ bracket                                                 |    | WW          | wire wrap                                                        |   |       |                |    |   |      |   |    |
| Actuator length                                             |                                                                                  |    |             |                                                                  |   |       |                |    |   |      |   |    |
| #10 or Unthreaded bushing                                   |                                                                                  |    | 1/4 Bushing |                                                                  |   |       |                |    |   |      |   |    |
| 1                                                           | .221 (5.61), bat                                                                 |    | 1           | .125 (3.18), bat                                                 |   |       |                |    |   |      |   |    |
| 2                                                           | .296 (7.52), bat                                                                 |    | 2           | .200 (5.1), bat                                                  |   |       |                |    |   |      |   |    |
| 3                                                           | .381 (9.68), bat                                                                 |    | 3           | .286 (7.26), bat                                                 |   |       |                |    |   |      |   |    |
| 5                                                           | na                                                                               |    | 5           | paddle                                                           |   |       |                |    |   |      |   |    |
| 6                                                           | .401 (10.19), round, colored                                                     |    | 6           | .306 (7.77), round, colored                                      |   |       |                |    |   |      |   |    |
| 7                                                           | na                                                                               |    | 7           | .457 (11.61), flat                                               |   |       |                |    |   |      |   |    |
| 8                                                           | na                                                                               |    | 8           | .567 (14.40), locking                                            |   |       |                |    |   |      |   |    |
| 9                                                           | .561 (13.11), bat                                                                |    | 9           | .421 (10.693), bat                                               |   |       |                |    |   |      |   |    |
| Bushing                                                     |                                                                                  |    |             |                                                                  |   |       |                |    |   |      |   |    |
| blank                                                       | unthreaded                                                                       |    | T           | #10-48                                                           |   | T1/4  | 1/4-40         |    |   |      |   |    |
| Actuator Color                                              |                                                                                  |    |             |                                                                  |   |       |                |    |   |      |   |    |
| 0                                                           | black                                                                            |    | 2           | red                                                              |   | blank | not applicable |    |   |      |   |    |
| 6                                                           | blue                                                                             |    | 9           | white                                                            |   |       |                |    |   |      |   |    |
| Material                                                    |                                                                                  |    |             |                                                                  |   |       |                |    |   |      |   |    |
| 04                                                          | RoHS compliant                                                                   |    |             |                                                                  |   |       |                |    |   |      |   |    |



| PART NUMBERS     |                    |       |                     |           |               |                       |            |             |
|------------------|--------------------|-------|---------------------|-----------|---------------|-----------------------|------------|-------------|
| Product key      | Environmental Seal | Poles | Contacts            | Function  | Terminals     | Act. Length           | Bushing    | Part Number |
| TT11AGPC104      | no                 | 1     | 0.4 VA gold plated  | On-Off    | pc            | .221 (5.61), bat      | unthreaded | 1825219-2   |
| TT11DGPC104      | no                 | 1     | 0.4 VA gold plated  | On-On     | pc            | .221 (5.61), bat      | unthreaded | 1825219-3   |
| TT11DGPC9T1/404  | no                 | 1     | 0.4 VA gold plated  | On-On     | pc            | .457 (11.61), flat    | 1/4-40     | 1825192-2   |
| TT11DGRA104      | no                 | 1     | 0.4 VA gold plated  | On-On     | right angle   | .125 (3.18), bat      | unthreaded | 1825219-4   |
| TT11DGVRA104     | no                 | 1     | 0.4 VA gold plated  | On-On     | vertical r.a. | .125 (3.18), bat      | unthreaded | 1825219-5   |
| TT11EGPC104      | no                 | 1     | 0.4 VA gold plated  | On-Off-On | pc            | .125 (3.18), bat      | unthreaded | 1825219-6   |
| TT11EGPC5T1/4004 | no                 | 1     | 0.4 VA gold plated  | On-Off-On | pc            | .490 (12.45)          | 1/4-40     | 1825224-1   |
| TT11EGRA104      | no                 | 1     | 0.4 VA gold plated  | On-Off-On | right angle   | .125 (3.18), bat      | unthreaded | 1825219-8   |
| TT11EGVRA104     | no                 | 1     | 0.4 VA gold plated  | On-Off-On | vertical r.a. | .125 (3.18), bat      | unthreaded | 1825219-9   |
| TT13A2T04        | no                 | 1     | 1 amp silver plated | On-Off    | wire lug      | .200 (5.1), bat       | #10-48     | 1825222-2   |
| TT13A3T04        | no                 | 1     | 2 amp silver plated | On-Off    | wire lug      | .286 (7.26), bat      | #10-49     | 1825223-3   |
| TT13D2T04        | no                 | 1     | 3 amp silver plated | On-On     | wire lug      | .200 (5.1), bat       | #10-50     | 1825222-3   |
| TT13D3T04        | no                 | 1     | 4 amp silver plated | On-On     | wire lug      | .286 (7.26), bat      | #10-51     | 1825223-4   |
| TT13E2T04        | no                 | 1     | 5 amp silver plated | On-Off-On | wire lug      | .200 (5.1), bat       | #10-52     | 1825222-4   |
| TT21NGPC104      | no                 | 1     | 0.4 VA gold plated  | On-Off    | pc            | .125 (3.18), bat      | unthreaded | 1-1825219-1 |
| TT21NGPC9T1/404  | no                 | 1     | 0.4 VA gold plated  | On-On     | pc            | .421 (10.69), bat     | 1/4-40     | 1825192-8   |
| TT21NGRA104      | no                 | 1     | 0.4 VA gold plated  | On-On     | right angle   | .125 (3.18), bat      | unthreaded | 1-1825219-2 |
| TT21NGRA7T1/404  | no                 | 1     | 0.4 VA gold plated  | On-On     | right angle   | .457 (11.61), flat    | 1/4-40     | 1825226-4   |
| TT21NGRA9T1/404  | no                 | 1     | 0.4 VA gold plated  | On-On     | right angle   | .421 (10.69), bat     | 1/4-41     | 1825192-9   |
| TT23N2T04        | no                 | 1     | 1 amp silver plated | On-On     | wire lug      | .200 (5.1), bat       |            | 1825222-7   |
| TTE13D2T04       | yes                | 1     | 2 amp silver plated | On-On     | wire lug      | .200 (5.1), bat       | #10-48     | 1-1825222-0 |
| TTE13E8T1/404    | yes                | 1     | 3 amp silver plated | On-Off-On | wire lug      | .567 (14.40), locking | 1/4-40     | 1825227-3   |



# How to Specify in a Switch

## Electrical Considerations

Voltage of Applications: \_\_\_\_\_ Current of Application: \_\_\_\_\_

Circuitry Configuration: Number of Poles: \_\_\_\_\_ Number of Throws: \_\_\_\_\_

Number of Operations anticipated: \_\_\_\_\_

Agency Approvals or Listings Desired: \_\_\_\_\_

## Mechanical Considerations

Type of Switch (Actuator Type): \_\_\_\_\_ Toggle \_\_\_\_\_ Pushbutton \_\_\_\_\_ Rotary \_\_\_\_\_ Rocker \_\_\_\_\_ Other

Switch Function (On/Off/On): \_\_\_\_\_ On/Off: \_\_\_\_\_ Momentary: \_\_\_\_\_

Termination: \_\_\_\_\_ Thru-Hole (PC) \_\_\_\_\_ Surface Mount \_\_\_\_\_ Wire Lug \_\_\_\_\_ Quick Connect \_\_\_\_\_ Other

Sealing Contamination Requirements: \_\_\_\_\_

## Product Processing Considerations

Anticipated Soldering Process: \_\_\_\_\_ Hand \_\_\_\_\_ Wave \_\_\_\_\_ SMT \_\_\_\_\_ Other

## FOR MORE INFORMATION

### TE Technical Support Center

|                   |                       |
|-------------------|-----------------------|
| USA:              | +1 (800) 522-6752     |
| Canada:           | +1 (905) 475-6222     |
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\*as defined [www.te.com/leadfree](http://www.te.com/leadfree)

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