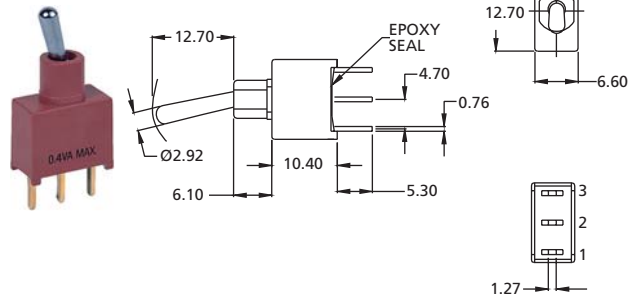


Toggle Switches


Sealed Miniature SPDT Toggle Switches

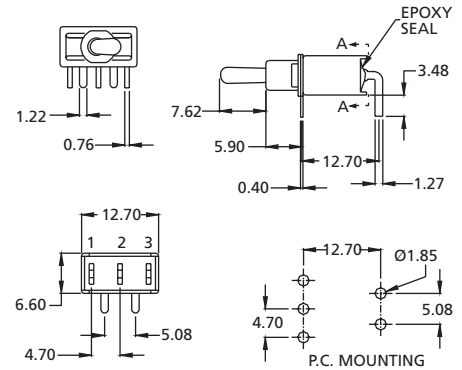
TK21 Series

 UL version available by request




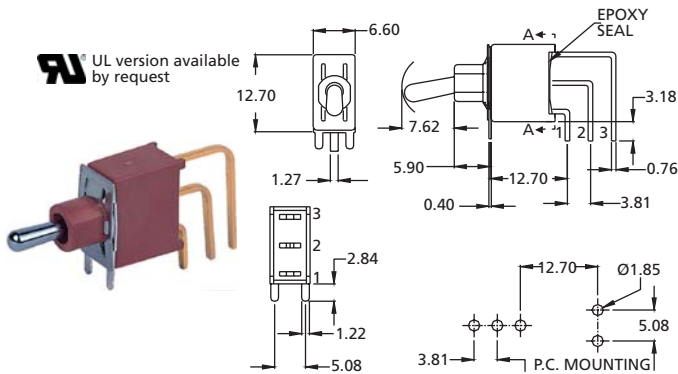
TK21S1A1B4T2_E THT Straight

 UL version available by request




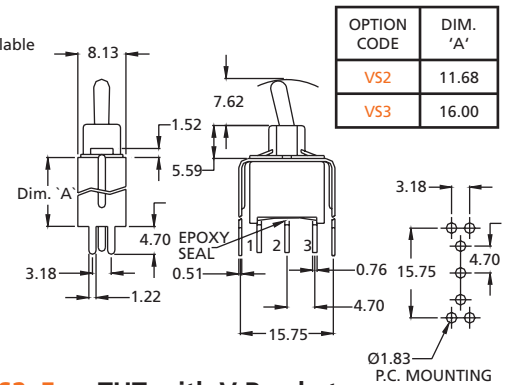
TK21S1A2B4T6_E THT Right Angle

 UL version available by request



TK21S1A2B4T7_E THT Vertical Right Angle

 UL version available by request



TK21S1A2B4VS2_E THT with V-Bracket

| No. Poles | Model No. | Switch Function | | | Connected Terminals / Schematic | | |
|-----------|-----------|-----------------|------------|------------|---------------------------------|------------|----------------|
| | | Position 1 | Position 2 | Position 3 | Position 1 | Position 2 | Position 3 |
| SP | TK21S1 | ON | NONE | ON | 2-3 | N/A | 2-1 |
| SP | TK21S2 | ON | NONE | MOM | 2(COMM) 1 3 | OPEN | 2(COMM) 1 3 |
| SP | TK21S3 | ON | OFF | ON | | | |
| SP | TK21S4 | MOM | OFF | MOM | | | |
| SP | TK21S5 | ON | OFF | MOM | | | |

How to order:

TK21 1 2 3 4 5 6 7

1 POLES & SWITCH FUNCTION:

- S1 SP ON-NONE-ON
- S2 SP ON-NONE-MOM
- S3 SP ON-OFF-ON
- S4 SP MOM-OFF-MOM
- S5 SP ON-OFF-MOM

2 ACTUATOR (Details see page A08):

- A1 Height=12.70 mm
- A2 Height=7.62 mm
- AA Height=12.70 mm, plastic, anti-static, black
- AB Height=7.62 mm, plastic, anti-static, black
- AC Height=12.70 mm, plastic, anti-static, silver

3 BUSHING (Details see page A08):

- B1 Height = 8.80 mm
- B4 Height = 6.10 mm

4 TERMINALS (Details see page A08):

- T1 Solder Lug
- T2 PC Thru Hole
- T51 Wire Wrap, Height = 18.70 mm
- T52 Wire Wrap, Height = 24.20 mm

T53

- Wire Wrap, Height = 10.55 mm
- T54 Wire Wrap, Height = 26.97 mm
- T6 PC Thru Hole, Right Angle
- T6N PC Thru Hole, Right Angle, Snap-in
- T7 PC Thru Hole, Vertical Right Angle
- VS2 V-Bracket, Height = 11.68 mm
- V2N Snap-in V-Bracket, Height = 11.68 mm
- VS3 V-Bracket, Height = 16.00 mm

5 CONTACT MATERIAL:

- AG Silver
- AU Gold
- UT Gold, Tin-lead
- GT Silver, Tin-lead
- UG Gold over Silver
- UGT Gold over Silver, Tin-lead

6 EPOXY:

- E Epoxy (Standard)

7 ROHS & LEADFREE:

- blank RoHS compliant (Standard)
- V RoHS compliant & Leadfree

General Specifications:

MATERIALS

- » Movable Contact & Fixed Terminals:
- AG, GT, UG & UGT: Silver plated over copper alloy
- AU & UT: Gold over nickel plated over copper alloy

MECHANICAL

- » Operating Temperature: -30°C to +85°C
- » Mechanical Life: 30,000 cycles
- » Degree of Protection: IP67

CONTACT RATING

- » AG, GT, UG & UGT: 5A120VAC/28VDC
2A250VAC
- » AU & UT: 0.4VA max. 20V max. (AC/DC)

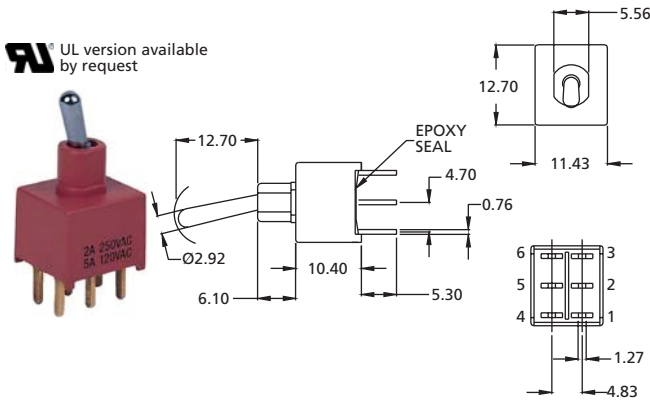
ELECTRICAL

- » Contact Resistance: 10mΩ max. initial @ 2-4VDC
100mA for silver & gold plated contacts
- » Insulation Resistance: 1,000MΩ min.

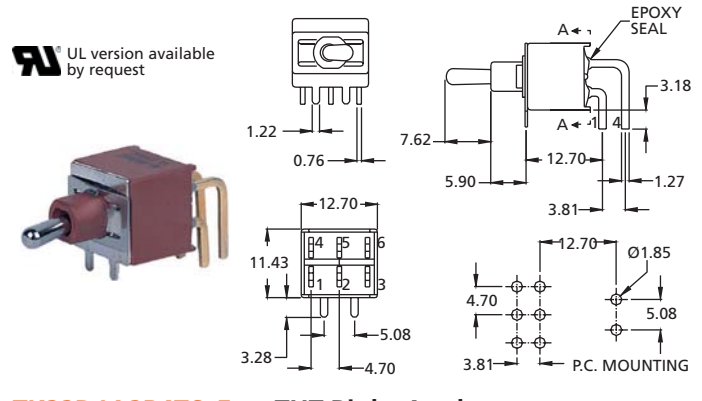
Toggle Switches

Sealed Miniature DPDT Toggle Switches

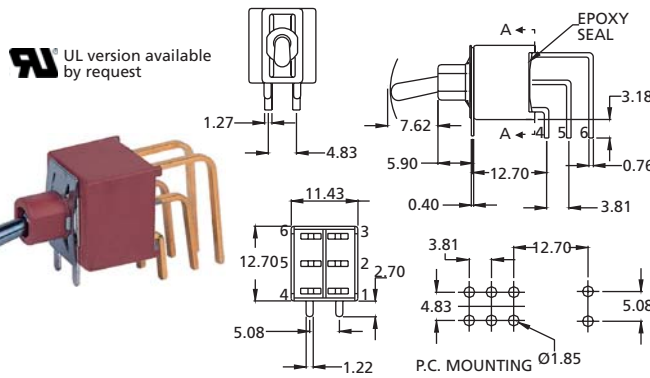
TK22 Series



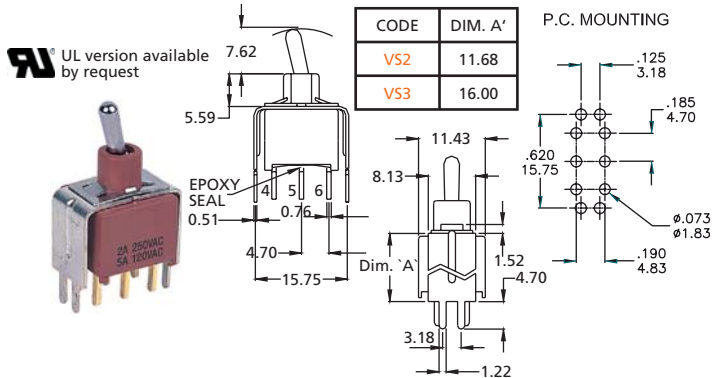
TK22D1A1B4T2_E THT Straight



TK22D1A2B4T6_E THT Right Angle



TK22D1A2B4T7_E THT Vertical Right Angle



TK22D1A2B4VS2_E THT with V-Bracket

| No. Poles | Model No. | Switch Function | | | Connected Terminals / Schematic | | |
|-----------|-----------|-----------------|------------|------------|---------------------------------|------------|------------|
| | | Position 1 | Position 2 | Position 3 | Position 1 | Position 2 | Position 3 |
| DP | TK22D1 | ON | NONE | ON | 2-3, 5-6 | N/A | 2-1, 5-4 |
| DP | TK22D2 | ON | NONE | MOM | | N/A | |
| DP | TK22D3 | ON | OFF | ON | | | |
| DP | TK22D4 | MOM | OFF | MOM | OPEN | N/A | |
| DP | TK22D5 | ON | OFF | MOM | | | |

| No. Poles | Model No. | Switch Function | | | Connected Terminals / Schematic | | |
|-----------|-----------|-----------------|------------|------------|---------------------------------|------------|------------|
| | | Position 1 | Position 2 | Position 3 | Position 1 | Position 2 | Position 3 |
| DP | TK22D6 | ON | ON | ON | 2-3, 5-6 | 2-3, 5-4 | 2-1, 5-4 |
| DP | TK22D7 | MOM | ON | MOM | | | |
| DP | TK22D8 | ON | ON | MOM | | | |

How to order:

TK22

1 POLES & SWITCH FUNCTION:

- D1 DP ON-NONE-ON
- D2 DP ON-NONE-MOM
- D3 DP ON-OFF-ON
- D4 DP MOM-OFF-MOM
- D5 DP ON-OFF-MOM
- D6 DP ON-ON-ON
- D7 DP MOM-ON-MOM
- D8 DP ON-ON-MOM

2 ACTUATOR (Details see page A08):

- A1 Height=12.70 mm
- A2 Height=7.62 mm
- AA Height=12.70 mm, plastic, anti-static, black
- AB Height=7.62 mm, plastic, anti-static, black
- AC Height=12.70 mm, plastic, anti-static, silver

3 BUSHING (Details see page A08):

- B1 Height = 8.80 mm
- B4 Height = 6.10 mm

4 TERMINALS (Details see page A08):

- T1 Solder Lug
- T2 PC Thru Hole

T51 Wire Wrap, Height = 18.70 mm

- T52 Wire Wrap, Height = 24.20 mm
- T53 Wire Wrap, Height = 10.55 mm
- T54 Wire Wrap, Height = 26.97 mm
- T6 PC Thru Hole, Right Angle
- T6N PC Thru Hole, Right Angle, Snap-in
- T7 PC Thru Hole, Vertical Right Angle
- VS2 V-Bracket, Height = 11.68 mm
- V2N Snap-in V-Bracket, Height = 11.68 mm
- VS3 V-Bracket, Height = 16.00 mm

5 CONTACT MATERIAL:

- AG Silver
- AU Gold
- UT Gold, Tin-lead
- GT Silver, Tin-lead
- UG Gold over Silver
- UGT Gold over Silver, Tin-lead

6 EPOXY:

- E Epoxy (Standard)

7 ROHS & LEADFREE:

- blank RoHS compliant (Standard)
- V RoHS compliant & Leadfree

General Specifications:

MATERIALS

» Movable Contact & Fixed Terminals:

AG, GT, UG & UGT: Silver plated over copper alloy

AU & UT: Gold over nickel plated over copper alloy

MECHANICAL

» Operating Temperature: -30°C to +85°C

» Mechanical Life: 30,000 cycles

» Degree of Protection: IP67

CONTACT RATING

» AG, GT, UG & UGT: 5A120VAC/28VDC

2A250VAC

» AU & UT: 0.4VA max. 20V max. (AC/DC)

ELECTRICAL

» Contact Resistance: 10mΩ max. initial @ 2-4VDC

100mA for silver & gold plated contacts

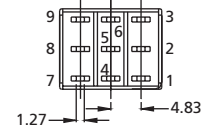
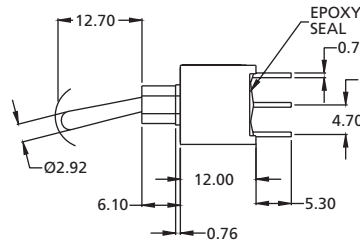
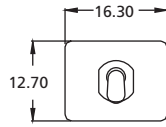
» Insulation Resistance: 1,000MΩ min.

Toggle Switches

Sealed Miniature 3PDT Toggle Switches

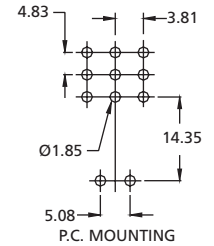
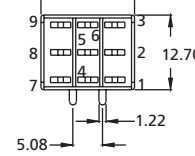
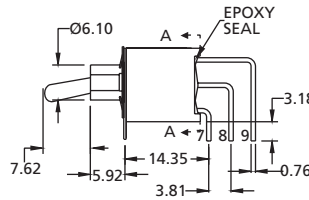
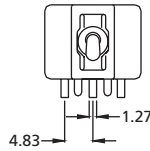
TK23 Series

UL version available by request



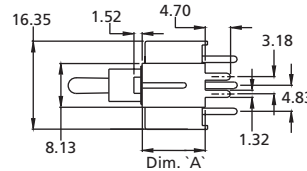
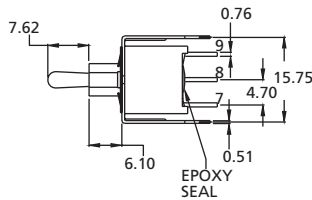
TK23T1A1B4T2_E THT Straight

UL version available by request

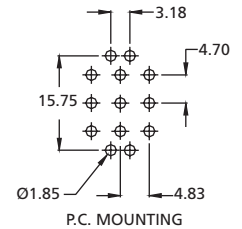


TK23T1A2B4T7_E THT Vertical Right Angle

UL version available by request



| CODE | DIM. A' |
|------|---------|
| VS2 | 11.68 |
| VS3 | 16.00 |



TK23T1A2B4VS2_E THT with V-Bracket

| No. Poles | Model No. | Switch Function | | | Connected Terminals / Schematic | | |
|-----------|-----------|-----------------|------------|------------|---------------------------------|------------|------------|
| | | Position 1 | Position 2 | Position 3 | Position 1 | Position 2 | Position 3 |
| 3P | TK23T1 | ON | NONE | ON | 2-3 | N/A | 2-1 |
| 3P | TK23T2 | ON | NONE | MOM | | | |
| 3P | TK23T3 | ON | OFF | ON | | OPEN | |
| 3P | TK23T4 | MOM | OFF | MOM | | | |
| 3P | TK23T5 | ON | OFF | MOM | | | |

How to order:

TK23 1 2 3 4 5 6 7

- 1 POLES & SWITCH FUNCTION:**
T1 3P ON-NONE-ON
T2 3P ON-NONE-MOM
T3 3P ON-OFF-ON
T4 3P MOM-OFF-MOM
T5 3P ON-OFF-MOM

- 2 ACTUATOR (Details see page A08):**
A1 Height=12.70 mm
A2 Height=7.62 mm
AA Height=12.70 mm, plastic, anti-static, black
AB Height=7.62 mm, plastic, anti-static, black
AC Height=12.70 mm, plastic, anti-static, silver

- 3 BUSHING (Details see page A08):**
B1 Height = 8.80 mm
B4 Height = 6.10 mm

- 4 TERMINALS (Details see page A08):**
T1 Solder Lug
T2 PC Thru Hole
T51 Wire Wrap, Height = 18.70 mm
T52 Wire Wrap, Height = 24.20 mm

- T53** Wire Wrap, Height = 10.55 mm
T54 Wire Wrap, Height = 26.97 mm
T6 PC Thru Hole, Right Angle
T6N PC Thru Hole, Right Angle, Snap-in
T7 PC Thru Hole, Vertical Right Angle
VS2 V-Bracket, Height = 11.68 mm
V2N Snap-in V-Bracket, Height = 11.68 mm
VS3 V-Bracket, Height = 16.00 mm

- 5 CONTACT MATERIAL:**
AG Silver
AU Gold
UT Gold, Tin-lead
GT Silver, Tin-lead
UG Gold over Silver
UGT Gold over Silver, Tin-lead

- 6 EPOXY:**
E Epoxy (Standard)

- 7 ROHS & LEADFREE:**
blank RoHS compliant (Standard)
V RoHS compliant & Leadfree

General Specifications:

MATERIALS

» Movable Contact & Fixed Terminals:

AG, GT, UG & UGT: Silver plated over copper alloy

AU & UT: Gold over nickel plated over copper alloy

MECHANICAL

» Operating Temperature: -30°C to +85°C

» Mechanical Life: 30,000 cycles

» Degree of Protection: IP67

CONTACT RATING

» **AG, GT, UG & UGT:** 5A120VAC/28VDC
2A250VAC

» **AU & UT:** 0.4VA max. 20V max. (AC/DC)

ELECTRICAL

» Contact Resistance: 10mΩ max. initial @ 2-4VDC

100mA for silver & gold plated contacts

» Insulation Resistance: 1,000MΩ min.

Toggle Switches

Additional Informations for TK21, 22 & 23 Series

ACTUATOR OPTIONS

| | | | |
|--|---|-----------------------------------|-----------------------------------|
| | | | |
| A1 Standard when order with T1 & T2 Terminations | A2 Standard with T6, T7, VS2 & VS3 Terminations | AA ESD Plastic Actuator | AB ESD Plastic Actuator |

BUSHING OPTIONS

| | |
|--|--|
| | |
| B1 Standard for T1 termination | B4 Standard for T2, T6, T7 & VS Terminations |

TERMINAL OPTIONS

| | | | | <table border="1"> <thead> <tr> <th>CODE</th> <th>DIM. 'A'</th> </tr> </thead> <tbody> <tr> <td>T51</td> <td>18.70</td> </tr> <tr> <td>T52</td> <td>24.20</td> </tr> <tr> <td>T53</td> <td>10.55</td> </tr> <tr> <td>T54</td> <td>26.97</td> </tr> </tbody> </table> | CODE | DIM. 'A' | T51 | 18.70 | T52 | 24.20 | T53 | 10.55 | T54 | 26.97 |
|----------------------|---------------|-------------------------|---------------------|--|------|----------|-----|-------|-----|-------|-----|-------|-----|-------|
| CODE | DIM. 'A' | | | | | | | | | | | | | |
| T51 | 18.70 | | | | | | | | | | | | | |
| T52 | 24.20 | | | | | | | | | | | | | |
| T53 | 10.55 | | | | | | | | | | | | | |
| T54 | 26.97 | | | | | | | | | | | | | |
| T1 Solder Lug | T2 THT | T3 Quick Connect | T5 Wire Wrap | | | | | | | | | | | |

| | | |
|------------|------------|------------|
| | | |
| T6N | T7N | V2N |

HARDWARE

| | | |
|------------|---------------------|--------------------|
| | | |
| NUT | LOCKING RING | LOCK WASHER |