



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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TF2 Series Miniature Snap-acting Switches



Features/Benefits

- Broad range of operating forces
- Ratings up to 10 AMPS
- Wide variety of actuator styles
- Quick connect terminations

Typical Applications

- Motor controls
- Thermostatics
- Portable tools
- Air Conditioner

Specifications

CONTACT RATING: From low level* to 10 AMPS @125/250 V AC.
ELECTRICAL LIFE: 10,000 cycles
MECHANICAL LIFE: 1,000,000 cycles at 0.1A and 6A
400,000 cycles at 10A
INSULATION RESISTANCE: 1,000 M ohm min.
DIELECTRIC STRENGTH: 1,500 Vrms min. @ sea level.
OPERATING TEMPERATURE: -40°C to 125°C (-40°C to 85°C).
OPERATING FORCE: From 18 to 330 grams at actuator button available.
MOUNTING: Torque screws 2-5 in/lbs.

* Low Level=conditions where no arcing occurs during switching, i.e., 0.4 VA max. @ 20 V AC or DC max. Standard electrical life per UL 1054, rated for 6,000 operations.

Materials

SWITCH HOUSING: Nylon 6/6
ACTUATOR BUTTON: Nylon 6/6
SPRING: Stainless Steel
PIVOT: Brass Alloy
MOVABLE CONTACTS: See electric rating page J-21
MOVABLE BLADE: BeCu
STATIONARY CONTACTS: See electric rating page J-21
TERMINALS: Brass Alloy

NOTE: Specifications and materials listed above are switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages J-21 through J-25. For additional options not shown in catalog, consult Customer Service Center.

Series

TF2 SP, Mom.

Operating Force

CC 18 grams
CF 45 grams
CG 75 grams
CH 110 grams
CJ 170 grams
EC 230 grams
EE 330 grams

Electrical Rating Chart

| OPTION CODE | 61058-1 | |
|-------------|---|-----------------------------------|
| F5 | 0.1A 125/250 V AC (T85) Min. 10,000 operations | 0.1A 125/250 V AC μT125, 1E4 |
| H8 | 6A 125/250 V AC (T85) Min. 10,000 operations | 6A 125/250 V AC μT125, 1E4 |
| K6 | 10A 125/250 V AC (T85) Min. 10,000 operations | 10(4)A 125/250 V AC μT125, 1E4 |

Mounting Style

S Standard
V Metric

Circuitry

C SPDT
W SPST N.C.
Y SPST N.O.

Actuator

P00 Pin plunger
A10 Lever roller 12.5 mm
A15 Lever roller 25.9 mm
A20 Lever roller 12.5 mm
A25 Lever roller 25.9 mm
T10 Lever 14 mm
T14 Simulated roller 24.5 mm
T15 Lever 27.5 mm
T16 Lever 31.7 mm
T17 Lever 35 mm
T20 Lever 14 mm
T24 Simulated lever 24.5 mm
T25 Lever 27.5 mm
T26 Lever 31.7 mm
T27 Lever 35 mm

Terminations

40 .187" quick connect
4A .250" quick connect
5A .250" off set quick connect
5B .187" off set quick connect
60 Screw style *
10 Solder

* Note: No UL & ENEC 15 safety for Termination option "60"

see chart on following pages for detailed information



Dimensions are shown: mm
Specifications and dimensions subject to change

SERIES

[illegible]

OPERATING FORCE

| OPTION CODE | BASIC SWITCH OPERATING FORCE (grams) |
|-------------|---|
| CC | 18 |
| CF | 45 |
| CG | 75 |
| CH | 110 |
| CJ | 170 |
| EC | 230 |
| EE* | 330 |



J

Snap-acting

ELECTRICAL RATING

| | | | | |
|-------------|---------------------|----------------------|--|---|
| | CONTACT MATERIAL | | | |
| OPTION CODE | RoHS COMPLIANT * | RoHS COMPATIBLE * | MOVABLE CONTACT Silver alloy | STATIONARY CONTACT Silver alloy |
| F5 | Yes | Yes | | |
| H8 | Yes | Yes | | |
| K6 | Yes | Yes | | |

All models



Third Angle
Projection

Dimensions are shown: inches (mm)
Specifications and dimensions subject to change

TF2 Series

Miniature Snap-acting Switches

ELECTRICAL RATING

| INTERNATIONAL RATING SYMBOLS | |
|------------------------------|--|
| μ | Microgap construction (less than 3 mm). |
| ~ | Alternating current. |
| T__ | Maximum rated use temperature. |
| 50E3 | Cycles over 50,000 at rated current. |
| 10E3 | Cycles over 10,000 at rated current. |
| 10(3) | Current Rating: First number represents resistive rating; second number represents inductive (motor) rating. |

| ELECTRICAL RATING | AMPS (REF.) | OPERATING FORCE | | | | | | |
|-------------------|-------------|-----------------|---------|---------|----------|----------|----------|----------|
| | | CC (18) | CF (45) | CG (75) | CH (110) | CJ (170) | EC (230) | EE (330) |
| F5 | 0.1 | • | • | • | • | • | • | X |
| H8 | 6 | X | • | • | • | • | • | • |
| K6 | 10 | X | X | X | • | • | • | • |

• AVAILABLE
 x NOT AVAILABLE



Snap-acting

All models  

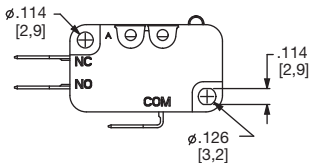
Consult Customer Service center for availability and delivery of nonstandard ratings.

* Low Level=conditions where no arcing occurs during switching, i.e., 0.4 VA max. @ 20 V AC or DC max.

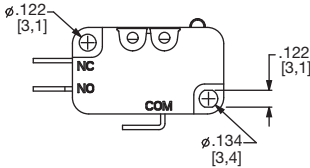
MOUNTING STYLE

S STANDARD
 For 4-40 screw size

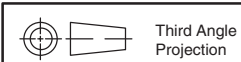
V Metric
 For 3 mm screw size



TF2 SWITCH WITH TYPE 40 (.187 QC) TERMINALS AND P00 ACTUATOR SHOWN
 NOTE: TORQUE MOUNTING SCREWS 2-5 IN/LBS.



TF2 SWITCH WITH TYPE 10 (SOLDER) TERMINALS AND P00 ACTUATOR SHOWN
 NOTE: TORQUE MOUNTING SCREWS 2-5 IN/LBS.



Dimensions are shown: inches (mm)
 Specifications and dimensions subject to change

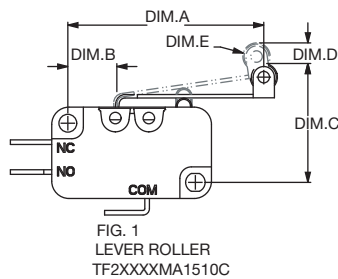
TF2 Series Miniature Snap-acting Switches

ACTUATOR 

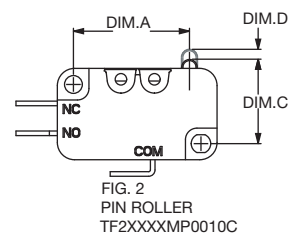
| OPTION CODE | FIG | DIM. A | DIM. B | DIM. C | DIM. D | DIM. E |
|-------------|-----|------------------|---------------|-------------------------------|-----------------|------------------|
| P00 | 2 | .795 (20,2) | - | .578 ± .019 (14,70 ± 0,05) | 0.068 (1,72) | - |
| A10 | 1 | .822 (20,9) | .33 (8,4) | .816 ± .050 (20,73 ± 1,27) | .106 (2,70) | Ø.19 (Ø 4,8) |
| A15 | 1 | 1.35 (34,3) | .33 (8,4) | .816 ± .059 (20,73 ± 1,5) | .165 (4,20) | Ø.19 (Ø 4,8) |
| A20 | 1 | 1.05 (26,8) | .56 (14,3) | .816 ± .050 (20,73 ± 1,27) | .183 (4,65) | Ø.19 (Ø 4,8) |
| A25 | 1 | 1.58 (40,2) | .56 (14,3) | .816 ± .086 (20,73 ± 2,2) | .366 (9,30) | Ø.19 (Ø 4,8) |
| T10 | 3 | .882 (22,39) | .33 (8,4) | .602 ± .020 (15,3 ± 0,50) | .110 (2,80) | - |
| T14 | 4 | 1.295 (32,9) | .33 (8,4) | .737 ± .059 (18,72 ± 1,5) | .216 (5,50) | Ø.275 (Ø 7,0) |
| T15 | 3 | 1.405 (35,69) | .33 (8,4) | .600 ± .059 (15,24 ± 1,5) | .232 (5,90) | - |
| T16 | 3 | 1.58 (40,01) | .33 (8,4) | .604 ± .068 (15,35 ± 1,75) | .196 (5,0) | - |
| T17 | 3 | 1.708 (43,39) | .33 (8,4) | .603 ± .062 (15,33 ± 1,57) | .216 (5,50) | - |
| T20 | 3 | 1.11 (28,3) | .56 (14,3) | .604 ± .045 (15,34 ± 1,14) | .204 (5,20) | - |
| T24 | 4 | 1.527 (38,8) | .56 (14,3) | .742 ± .090 (18,84 ± 2,29) | .342 (8,70) | Ø.275 (Ø 7,0) |
| T25 | 3 | 1.631 (41,43) | .56 (14,3) | .609 ± .090 (15,47 ± 2,3) | .381 (9,70) | - |
| T26 | 3 | 1.811 (46,00) | .56 (14,3) | .616 ± .125 (15,65 ± 3,18) | .389 (9,90) | - |
| T27 | 3 | 1.94 (49,3) | .56 (14,3) | .598 ± .150 (15,2 ± 3,8) | .433 (11,0) | - |

NOTE: Switch characteristics chart on following page.

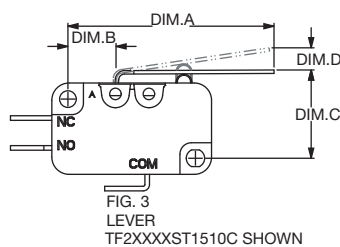
Lever Roller



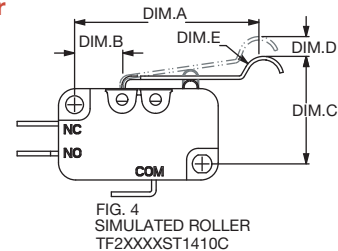
Pin Roller



Lever



Simulated Roller



Dimensions are shown: inches (mm)
Specifications and dimensions subject to change

C&K

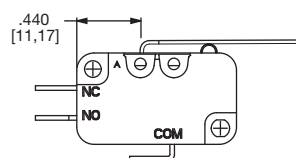


TF2 Series Miniature Snap-acting Switches

ACTUATOR

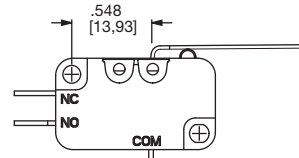
| Lever Type | | CC | CF | CG | CH Grams | CJ | EC | EE | Pre-Travel max. mm | Max Differential max. mm | Over Travel Min. mm |
|------------|----|----|----|----|-------------|-----|-----|-----|-----------------------|--------------------------------|------------------------|
| P00 | OF | 18 | 45 | 75 | 110 | 170 | 230 | 330 | 1.72 | 0.4 | 0.8 |
| | RF | 3 | 7 | 14 | 20 | 34 | 42 | 60 | | | |
| T10 | OF | 18 | 45 | 75 | 110 | 170 | 230 | 330 | 2.8 | 0.5 | 0.6 |
| | RF | - | 6 | 11 | 17 | 25 | 35 | 50 | | | |
| T20 | OF | 8 | 27 | 43 | 50 | 85 | 120 | 175 | 5.2 | 0.9 | 1.55 |
| | RF | - | 3 | 5 | 7 | 13 | 17 | 25 | | | |
| T14 | OF | 10 | 28 | 43 | 65 | 110 | 140 | 205 | 5.5 | 1.1 | 1.4 |
| | RF | - | 3 | 5 | 8 | 14 | 17 | 31 | | | |
| T24 | OF | 7 | 16 | 24 | 35 | 56 | 70 | 100 | 8.7 | 1.7 | 3.2 |
| | RF | - | - | - | 4 | 5 | 9 | 12 | | | |
| A10 | OF | 20 | 55 | 80 | 110 | 170 | 230 | 330 | 2.7 | 0.45 | 0.6 |
| | RF | - | 5 | 11 | 16 | 28 | 31 | 45 | | | |
| A20 | OF | 8 | 35 | 55 | 70 | 100 | 120 | 175 | 4.65 | 0.8 | 1.4 |
| | RF | - | 3 | 5 | 7 | 14 | 18 | 28 | | | |
| A15 | OF | 8 | 30 | 45 | 65 | 100 | 125 | 180 | 4.2 | 1.25 | 1.6 |
| | RF | - | - | 5 | 7 | 12 | 16 | 25 | | | |
| A25 | OF | 7 | 20 | 30 | 40 | 51 | 65 | 90 | 9.3 | 1.8 | 2.8 |
| | RF | - | - | - | - | 6 | 8 | 9 | | | |
| T17 | OF | 16 | 25 | 35 | 50 | 80 | 100 | 140 | 5.5 | 1.2 | 0.55 |
| | RF | - | 2 | 4 | 6 | 11 | 14 | 20 | | | |
| T27 | OF | 13 | 18 | 24 | 32 | 45 | 55 | 90 | 11 | 2.3 | 3.6 |
| | RF | - | - | 2 | 3 | 5 | 7 | 10 | | | |
| T16 | OF | 15 | 17 | 32 | 55 | 85 | 110 | 150 | 5 | 1.05 | 1.8 |
| | RF | - | - | 4 | 6 | 12 | 15 | 22 | | | |
| T26 | OF | 10 | 12 | 18 | 35 | 45 | 65 | 90 | 9.9 | 2.05 | 3.6 |
| | RF | - | - | 2 | 4 | 6 | 8 | 11 | | | |
| T15 | OF | 18 | 22 | 37 | 50 | 86 | 125 | 180 | 5.9 | 1 | 1.6 |
| | RF | - | 3 | 5 | 9 | 14 | 17 | 24 | | | |
| T25 | OF | 5 | 16 | 25 | 30 | 51 | 65 | 90 | 9.7 | 2.2 | 3.1 |
| | RF | - | - | 3 | 4 | 6 | 8 | 11 | | | |

HIGH FORCE, LOW MOTION PIVOT POSITION



Available with actuators A10, A15, T10, T13, T14, T15, T16 and T18.

LOW FORCE, HIGH MOTION PIVOT POSITION



Available with actuators A20, A25, T20, T23, T24, T25, T26, and T28.

NOTE: Lever actuator options are available in either of two pivot positions.
Levers located in the forward pivot position have lower forces and higher motions.
Levers located in the rear pivot position have higher forces and lower motions.



Third Angle
Projection

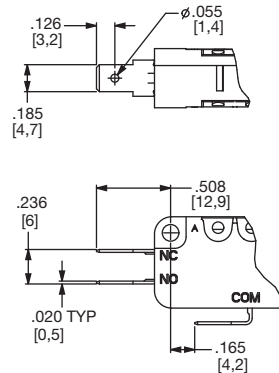
Dimensions are shown: mm
Specifications and dimensions subject to change

C&K

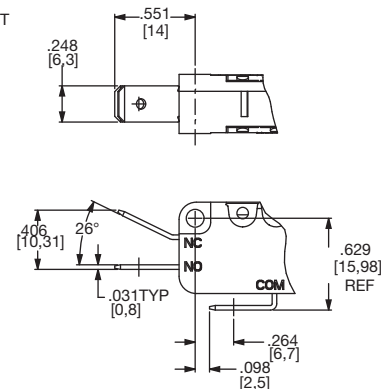
TF2 Series Miniature Snap-acting Switches

TERMINATIONS

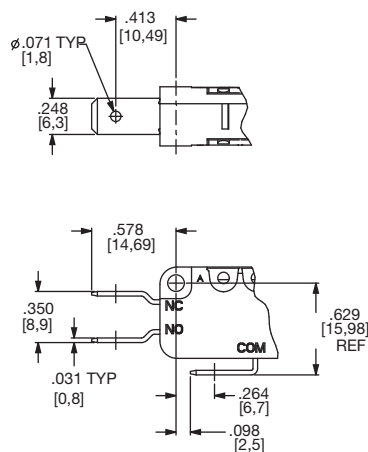
40 .187" QUICK CONNECT



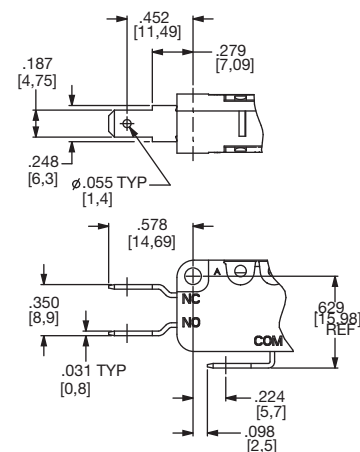
4A .250" QUICK CONNECT



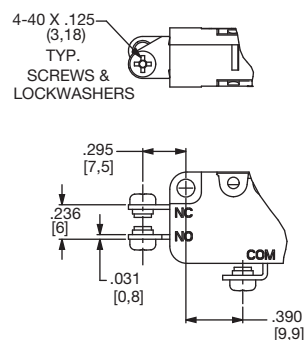
5A .250" OFF SET QUICK CONNECT



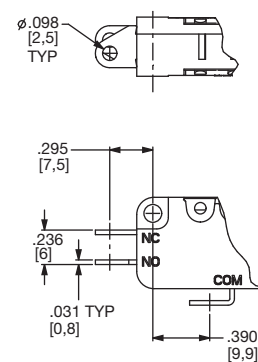
5B .187" OFF SET QUICK CONNECT



60 SCREW STYLE



10 SOLDER



CIRCUITRY

- C** SPDT (Single Pole, Double Throw)
- W** SPST N.C. (Single Pole, Single Throw, Normally Closed)
- Y** SPST N.O. (Single Pole, Single Throw, Normally Open)



Third Angle
Projection

Dimensions are shown: inches (mm)
Specifications and dimensions subject to change

C&K

Snap-acting