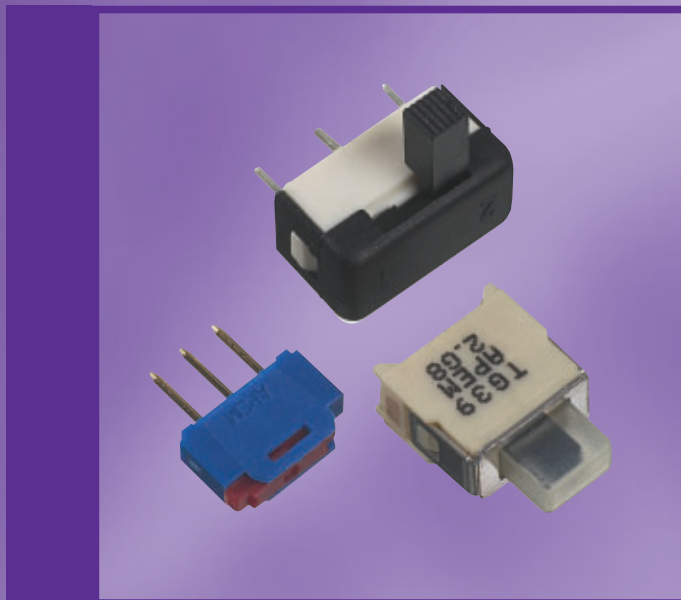


Slide switches



Section E

NK	Subminiature	E 3
SMT TG	Tiny, SMT, washable	E 4
TG	Tiny, washable	E 6
G	Telecom grade	E 9
25000N	Professional	E 15

Selection guide

Slide switches



Series	NK	SMT TG	TG	G	25000N
Page	E-3	E-4	E-6	E-9	E-15
Poles	1	1	1	1,2	1,2
Maximum ratings	500mA 12VDC	0,4VA 20V AC/DC	0,5A 48V AC/DC	2A 250VAC 3A 30VDC	2A 250VAC 1A 30VDC
Mounting options					
Horizontal SMT		X			
Vertical Through hole	X		X	X	X
Horizontal Through hole	X		X	X	X
Vert. right angle Through hole				X	
Panel				X	
Terminal options					
PCB	X	X	X	X	X
Solder lugs				X	
Sealing	No	Process sealed	Process sealed	No	No

NK series

Subminiature slide switches

The smallest changeover

Flush and raised actuators

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load : 0,5A 12V
- Minimum load : 1mA 10mV
- Initial contact resistance : 20 mΩ max.
- Insulation resistance : 10.000 MΩ min. at 500VDC
- Dielectric strength : 250 Vrms. 50 Hz min. between terminals
- 2.000 Vrms 50 Hz min. between adjacent poles of switches placed side by side
- Electrical life with nominal load : 2.000 cycles
- Capacitance : < 1,5 pF

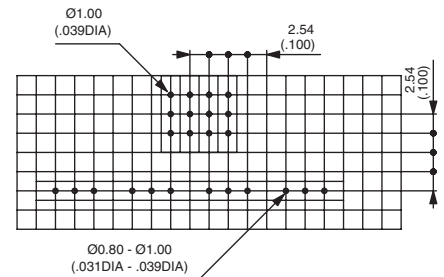
MATERIALS

- Case : PA6/6, glass filled, UL94-V0
- Actuator : PA6/6, glass filled, UL94-V0
- Contacts : gold over nickel

GENERAL SPECIFICATIONS

- Wave solderable : flux sealed
- End stackable, 2,54 (.100) terminal to terminal pitch - 4 switches max., hole dia. 1 mm (.039)
- Travel : 1,6 mm (.062)
- Operating temperature : -40°C to +85°C
- Soldering temperature : 250°C for 5 sec. max.
- Moisture test : 21 days at 95 % RH (IEC 68-2-3)

EXAMPLES OF LAYOUT



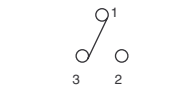
Straight PC terminals



Flush actuator
NK236

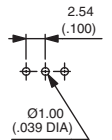
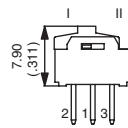
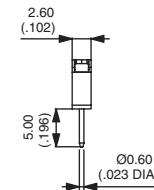
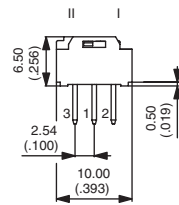
Raised actuator
NK236H

I 1-3 II 1-2



ON - ON

ON - ON



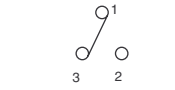
Right angle terminals



Flush actuator
NK236W

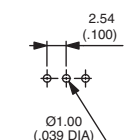
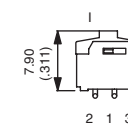
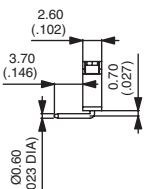
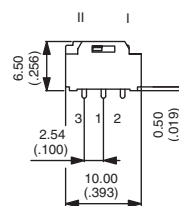
Raised actuator
NK236WH

I 1-3 II 1-2



ON - ON

ON - ON



Dimensions : first dimensions are in mm while inches are shown as bracketted numbers.



Packaging unit : 100 pieces.

SMT TG series

Surface mount tiny washable slide switches

Distinctive features and specifications

- ❑ Entirely designed for surface mount
- ❑ Tape and reel packaging
- ❑ Reflow solderable
 - High temperature plastic materials
 - Tin plated ground plate
 - Terminal coating : tin-lead alloy over nickel plating
 - Terminals turned to the outside, preventing the shadow effect in infrared soldering and permitting visual inspection of solder joints
 - Distance between case and circuit : 0,55 mm (.021)
 - End stackable with 10,16 mm (.40) pitch
 - Available with positioning pins to ensure switch orientation during the reflow process and increasing switch mechanical resistance
- ❑ Washable

Construction withstands cleaning processes, including hot water under pressure

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load : 0,4VA 20V max. AC or DC
- Minimum load : 10mA 50mV or 10µA 5VDC
- Initial contact resistance : 20 mΩ max
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 1.000 Vrms. 50 Hz min. between terminals and frame 500 Vrms. 50 Hz min. between terminals
- Electrical life at full load :
 - 2 position switches : 60.000 cycles
 - 3 position switches : 30.000 cycles

GENERAL SPECIFICATIONS

- Actuator travel : 2,60 mm (.102)
- Operating temperature : -40°C to +85°C
- Moisture resistance : 21 days per IEC 512-6 test 11c
- Vibration resistance : 10-500 Hz / 10 g per IEC 512-4 test 6d
- Shock resistance : 50 g per IEC 512-4 test 6c

MATERIALS

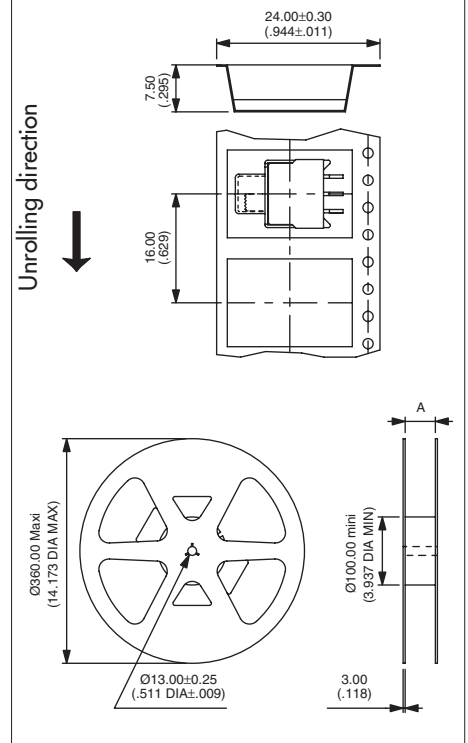
- Case : high temperature plastic material UL94-V0
- Actuator : high temperature plastic material UL94-V0
- Ground plate and positioning pins : steel, tin plated
- Contacts : brass, gold plated
- Terminals : brass, with pure tin plating over nickel barrier
- Rubber seal : silicone, transparent

SOLDERING AND CLEANING

- Reflow soldering : infrared, vapor phase or infrared convection
- Washable per IEA-RS448-2 :
 - water + detergent - preferred
 - solvents
- Further information on reflow soldering : see end of catalogue.

Dimensions : First dimensions are in mm while inches are shown as bracketted numbers.

PACKAGING



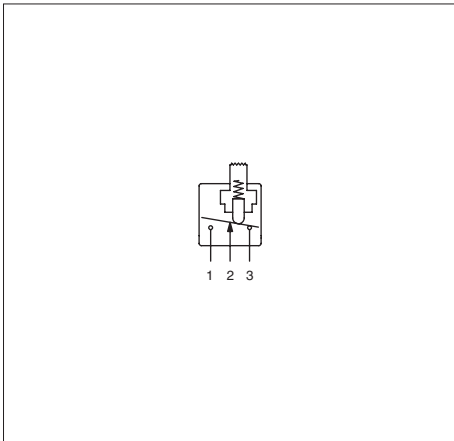
Tape width	24.00 (.944)	44.00 (1.732)
Reel (dimension A)	24.40+2.00/0.00 (.960+.078/.000)	44.40+2.00/0.00 (1.748+.078/.000)

Standard packaging unit : 500 pieces
 Tape meeting international standard IEC - Publication 286-3 (EIA481A)
 Start leader : 400 mm min.

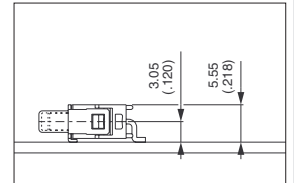
E

SMT TG series

Surface mount tiny washable slide switches



- With or without positioning pins
- Rubber seal removable after cleaning
- Single pole

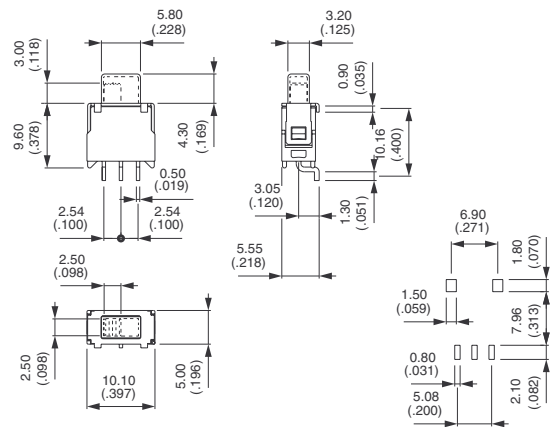


Slide switches



TG36WS80050
TG39WS80050

ON - ON
ON OFF ON

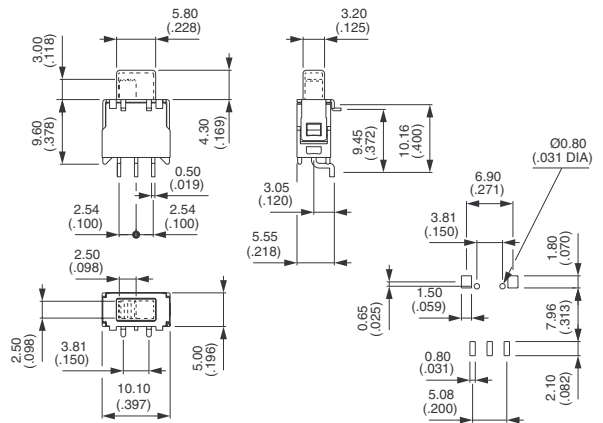


Slide switches - with positioning pins



TG36WS80065
TG39WS80065

ON - ON
ON OFF ON



Slide switches with flush actuator

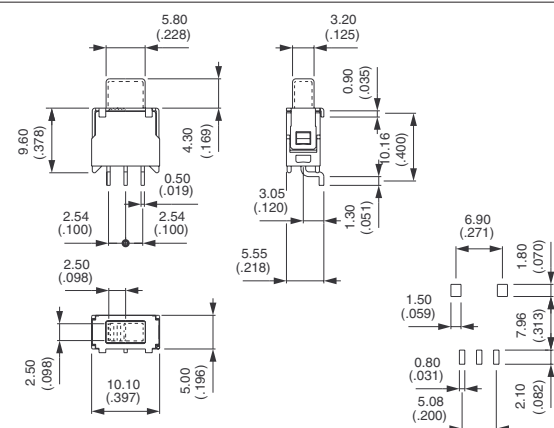


Without positioning pins
TG36WS81050
TG39WS81050

ON - ON
ON OFF ON

With positioning pins
TG36WS81065
TG39WS81065

ON - ON
ON OFF ON



Shown without positioning pins
(positioning pins same as above)

TG series

Tiny slide switches

Overview and specifications

- Sealed**
 - Single piece case
 - Epoxy sealed terminals
- Wide variety of contact materials**
- Same PCB layout as TL, TP and TR tiny series**

SPECIFICATIONS

- Current/voltage rating with resistive load :
 - Gold plated contacts : 0,4VA 20V max. AC or DC.
 - Silver plated contacts : 0,5A 48V max. AC or DC
- Contact resistance : 20 mΩ max.
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 1.000 Vrms 50 Hz min. between terminals and frame
500 Vrms 50 Hz min. between terminals
- Electrical life at full load : 2 position switches : 60.000 cycles
3 position switches : 30.000 cycles
- Travel : 2,60 mm (.102)
- Operating temperature : -30°C to +85°C
- Cleaning : solvents or water + detergent
- Wave soldering : 260°C - 5 sec. max.

MATERIALS

- Case : flame retardant thermoplastic
- Actuator : thermoplastic
- Ground plate and bracket : brass, tin plated
- Contacts and terminals : see above
- Rubber seal : silicone, transparent
- Terminal seal : epoxy

MODEL
STRUCTURE

TG

SERIES

Number of poles

3 Single pole

Electrical functions

6	ON	-	ON
9	ON	OFF	ON

Terminals

P0	Straight PC
Y0	Straight PC, bracket mounting
W0	Right angle, horizontal mounting
MW	Wire-wrap

OPTIONS

Contact and terminal materials

- 0 Brass, gold plated (std)
- 1 Brass, silver plated
- 3 Brass, gold plated (1,27 μ gold)
- 8 Contact brass, gold plated + tin plated terminals
- 9 Contact brass, gold plated (1,27 μ gold) + tin plated term.

Actuators

00	High (standard)
10	Flush

Model

00	Standard
50	Washable

Dimensions : First dimensions are in mm while inches are shown as bracketted numbers.

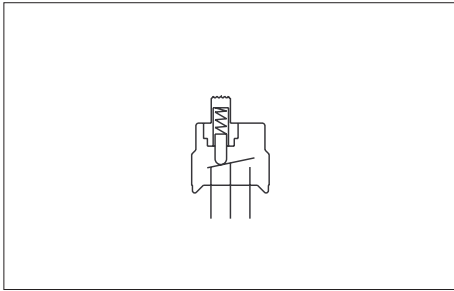


Packaging unit : 100 pieces, except for models with right angle terminals (50 pieces)

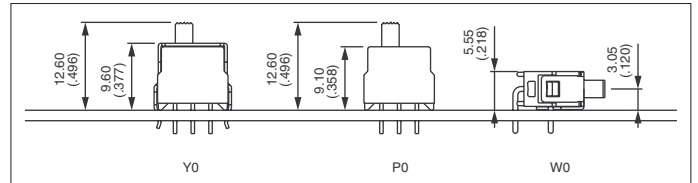
TG series

Tiny slide switches

Standard or washable



- Straight PC, right angle or wire-wrap terminals
- Single pole
- The silicone rubber seal can be removed after cleaning.



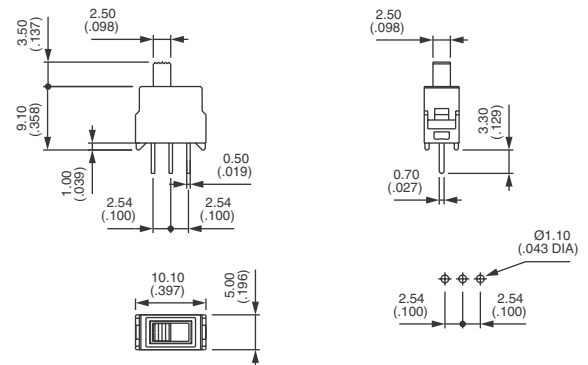
To complete the following part numbers, refer to "Overview" and replace the • symbol with one of the options proposed under "Contact and terminal materials".

Straight PC terminals - standard model



TG36P0•0000
TG39P0•0000

ON - ON
ON OFF ON

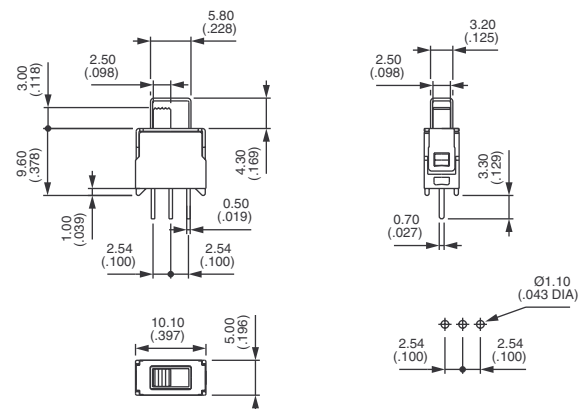


Straight PC terminals - washable model



TG36P0•0050
TG39P0•0050

ON - ON
ON OFF ON

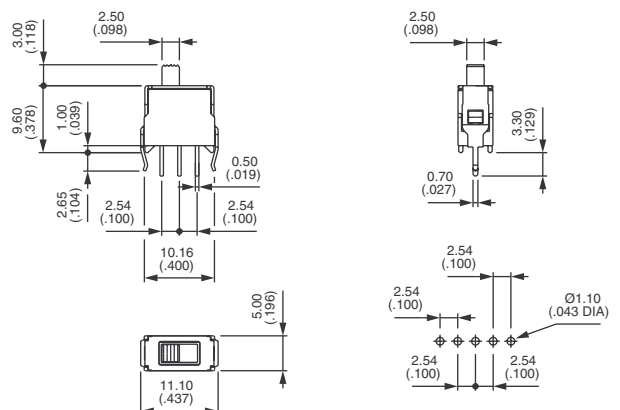


Straight terminals - bracket mounting - standard model



TG36Y0•0000
TG39Y0•0000

ON - ON
ON OFF ON



TG series

Tiny slide switches

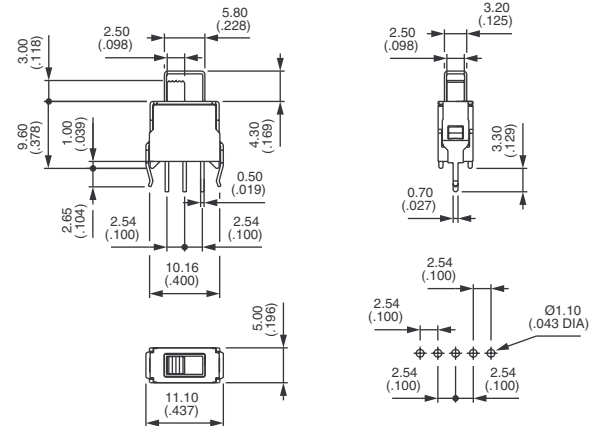
Standard or washable

Straight terminals - bracket mounting - washable model



TG36Y0-0050
TG39Y0-0050

ON - ON
ON OFF ON

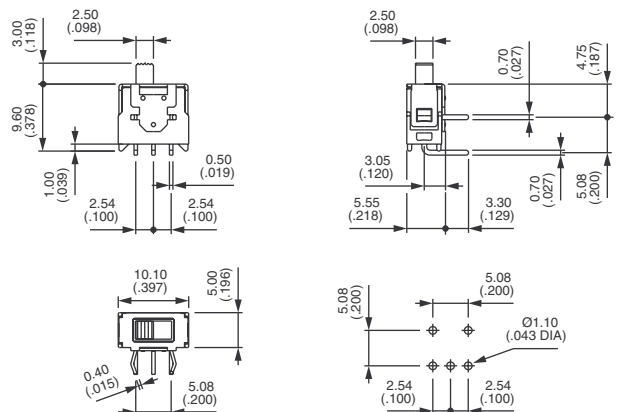


Right angle terminals - horizontal mounting - standard model



TG36W0-0000
TG39W0-0000

ON - ON
ON OFF ON

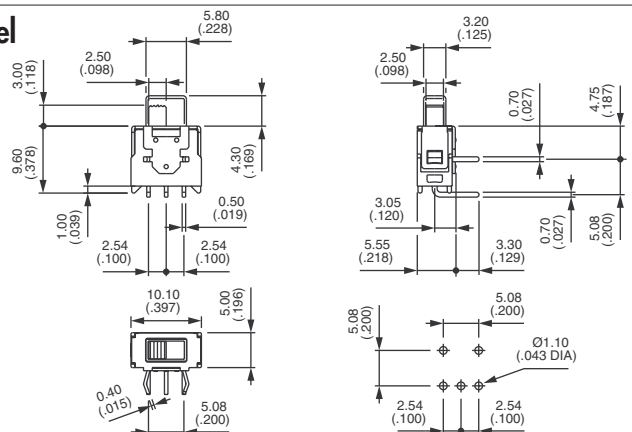


Right angle terminals - horizontal mounting - washable model



TG36W0-0050
TG39W0-0050

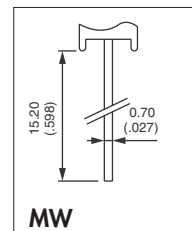
ON - ON
ON OFF ON



OTHER CONFIGURATIONS

MW Wire-wrap terminals

10 Flush actuator



G series

Slide switches - telecom grade

Distinctive features and specifications



- Panel and PC mount models
- 6 actuator lengths
- Wide variety of contact materials

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
 - silver contacts (codes 1 or 2) : 2A 250VAC - 4A 125VAC - 3A 30VDC
 - gold plated brass contacts (code 0) : 0,4VA 20VAC or DC max.
- Initial contact resistance : 10 m Ω
- Insulation resistance : 1.000 M Ω min.
- Dielectric strength : 1.000 Vrms 50 Hz min.
- Electrical life with resistive load :
 - silver contacts (codes 1 or 2) : 2 positions : 40.000 cycles
 - 3 positions : 20.000 cycles
 - gold plated brass contacts (code 0) : 60.000 cycles (0,4VA max.)

MATERIALS

- Case : PES
- Actuator : polyamide, glass filled
- Cover : stainless steel
- Contacts
 - 0 : brass, gold plated
 - 1 : silver
 - 2 : silver, gold plated
 - 5 : special contact, lower rating, minimum quantity : consult factory
- Terminal seal : epoxy

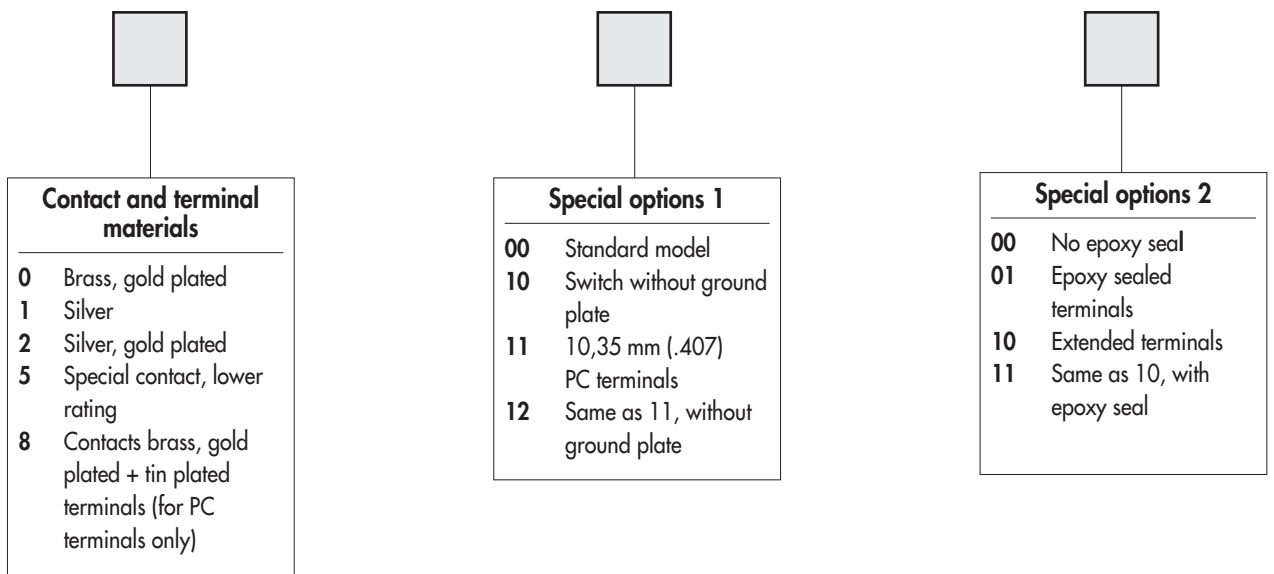
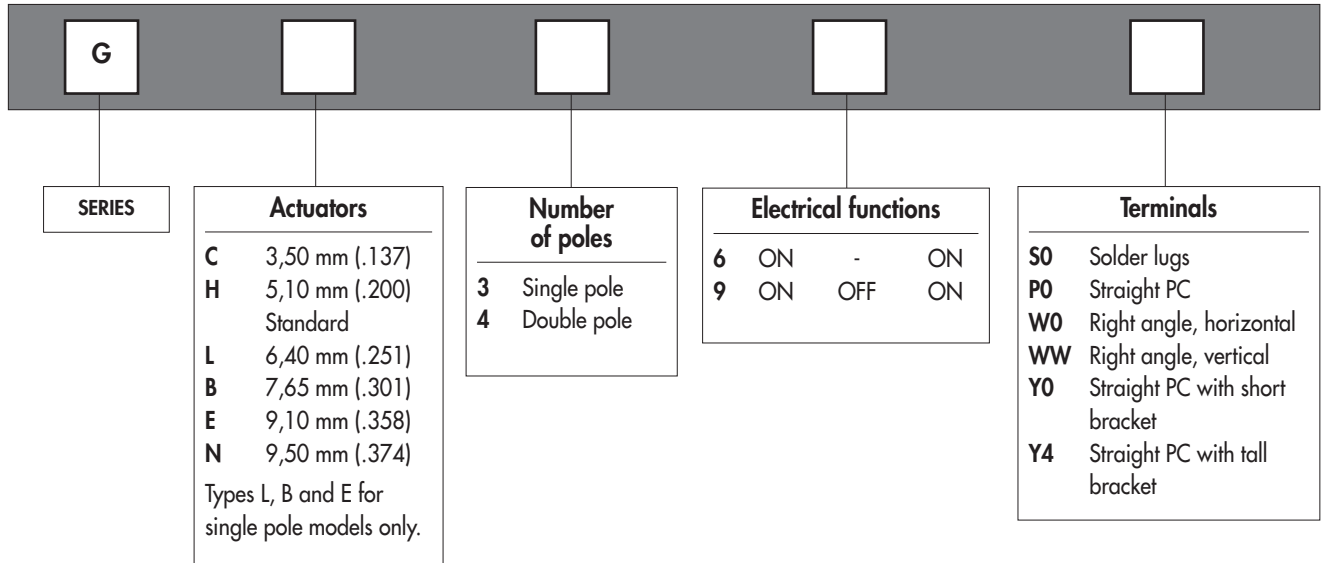
GENERAL SPECIFICATIONS

- Travel : 2,20 mm (.086)
- Operating temperature : -30°C to +85°C
- Recommended soldering : 300°C 5 sec. max.

G SERIES

Slide switches - telecom grade

Overview



ABOUT THIS SERIES

On the following pages, you will find successively :

- model structure of switches
- options in the same order as in above chart

Dimensions : first dimensions are in mm while inches are shown as bracketted numbers.



NOTICE : please note that not all combinations of above numbers are available. Refer to the following pages for further information.

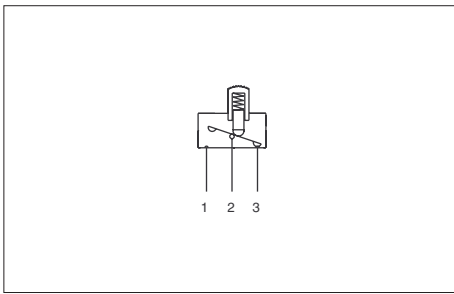


Packaging unit : 100 pieces for SP solder lug (S0) and straight terminal (P0) models. 50 pieces for other models.

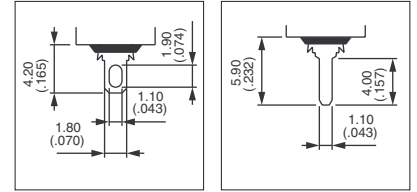


G series

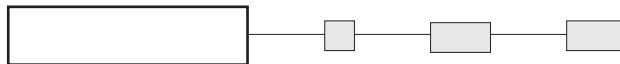
Slide switches - telecom grade



- Solder lug, straight PC or right angle terminals
- Single and double pole configurations



MODEL
STRUCTURE

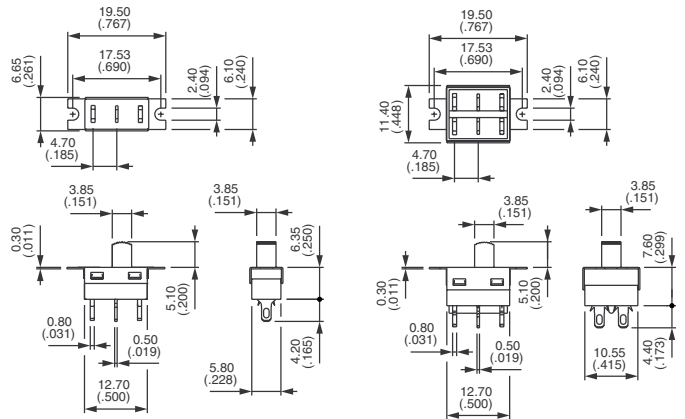


Shown with standard actuator (type H)

Solder lug terminals



Single pole	Double pole	ON	-	ON
GH36S0	GH46S0	ON	-	ON
GH39S0	GH49S0	ON	OFF	ON

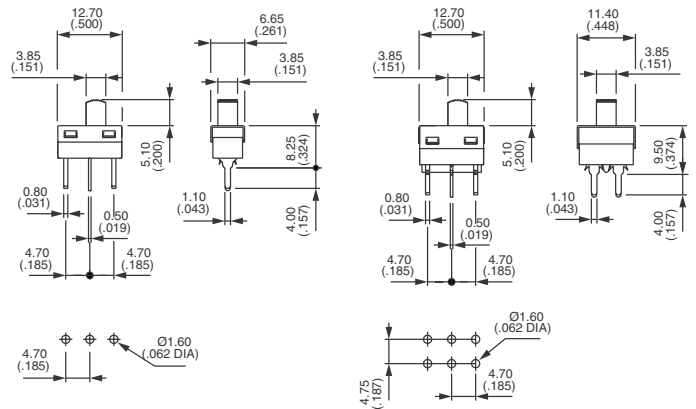


Order with epoxy sealed terminals (option 01).

Straight PC terminals



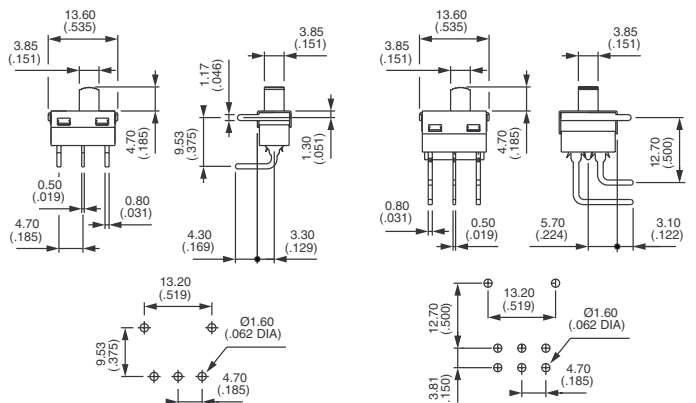
Single pole	Double pole	ON	-	ON
GH36P0	GH46P0	ON	-	ON
GH39P0	GH49P0	ON	OFF	ON



Right angle terminals - horizontal



Single pole	Double pole	ON	-	ON
GH36W0	GH46W0	ON	-	ON
GH39W0	GH49W0	ON	OFF	ON



G series

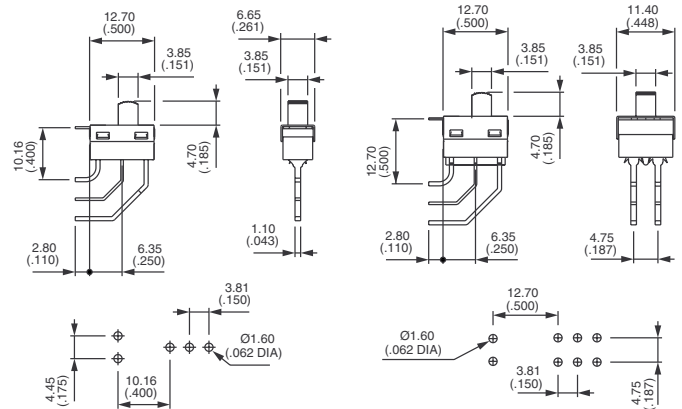
Slide switches - telecom grade

MODEL
STRUCTURE

Right angle terminals - vertical



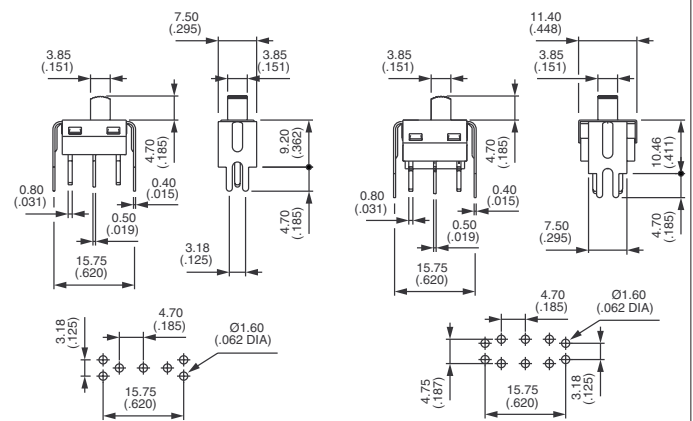
Single pole	Double pole	ON	-	ON
GH36WW	GH46WW	ON	-	ON
GH39WW	GH49WW	ON	OFF	ON



Straight PC terminals - short bracket : Y0



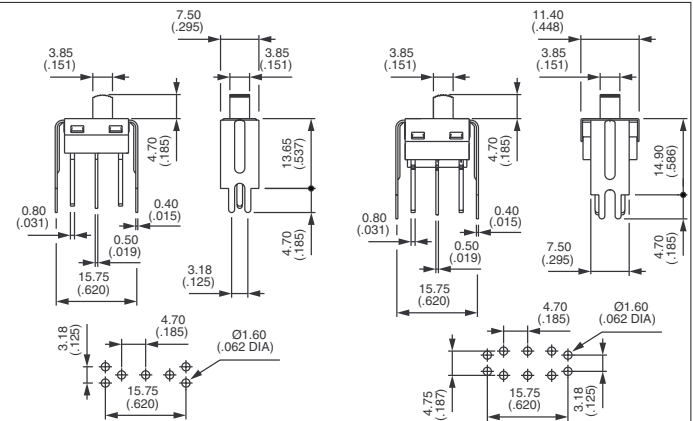
Single pole	Double pole	ON	-	ON
GH36Y0	GH46Y0	ON	-	ON
GH39Y0	GH49Y0	ON	OFF	ON



Straight PC terminals - tall bracket : Y4

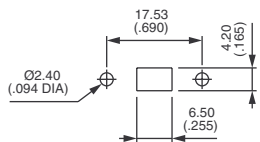


Single pole	Double pole	ON	-	ON
GH36Y4	GH46Y4	ON	-	ON
GH39Y4	GH49Y4	ON	OFF	ON

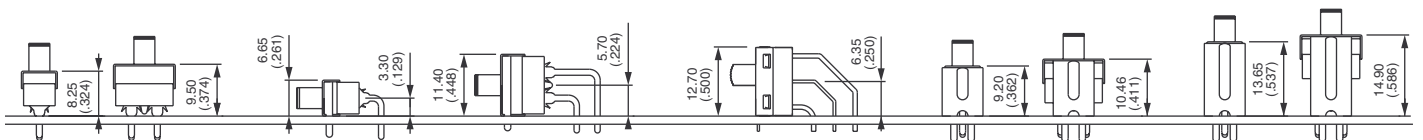


PANEL CUT-OUT

Solder lug model



PCB MOUNTING

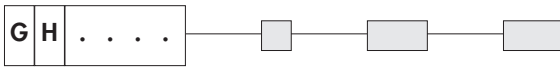




G series

Slide switches - telecom grade

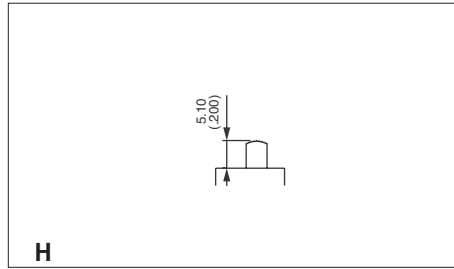
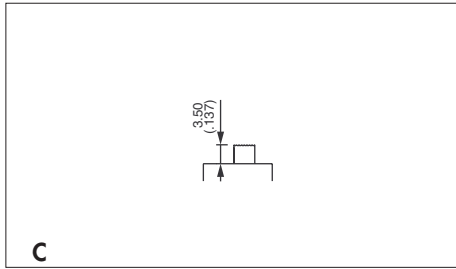
ACTUATORS



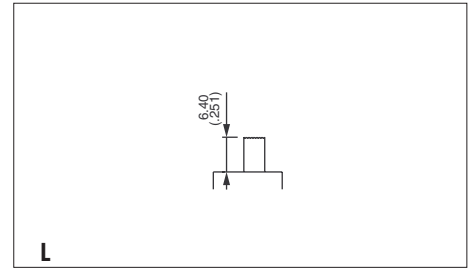
Replace second digit (H) of basic model number with one of the codes below.



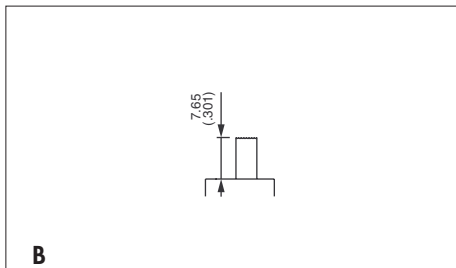
Dimensions below are for solder lug (SO) and straight terminals (PO) models.
For other models (WO - WW - Y0 - Y4), height is less 0,4 mm (.015).



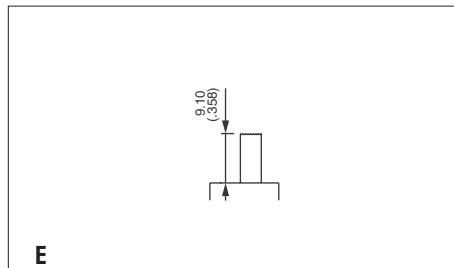
Standard



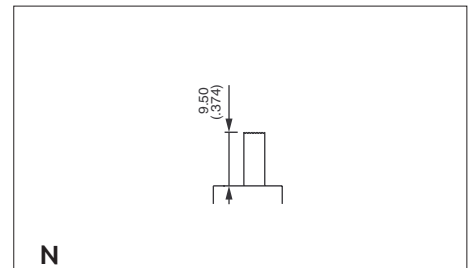
For single pole only



For single pole only



For single pole only



CONTACT AND TERMINAL MATERIALS



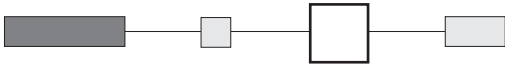
- 0** Brass, gold plated
- 1** Silver
- 2** Silver, gold plated
- 5** Special contact, lower rating, minimum quantity : consult factory
- 8** Contacts brass, gold plated + tin plated terminals (for PC terminals only)

G series

Slide switches - telecom grade

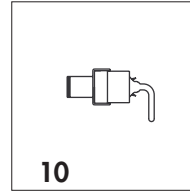


SPECIAL OPTIONS 1



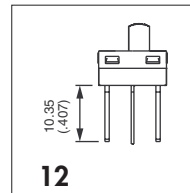
00 Standard switch as presented under "Model Structure"

10 Switch **without ground plate**
For right angle only (W0 and WW models)



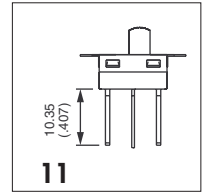
10

11 **10,35 mm (.407) long PC terminals**



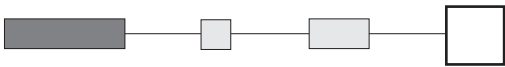
12

12 **10,35 mm (.407) long PC terminals without ground plate**



11

SPECIAL OPTIONS 2

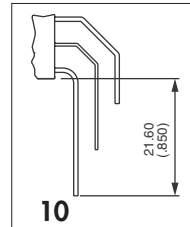


00 No epoxy seal

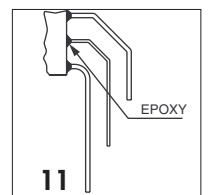
01 **Epoxy sealed terminals**
(compulsory on solder lug models)

10 **Extended terminals**
For vertical right angle (WW models)

11 **Extended terminals as above, with epoxy seal**



10



11

E

25000N series

Professional slide switches

Distinctive features and specifications



- Professional grade slide switches for PC boards
- Approved according to UL 1054
- Wave solderable
Not washable in aqueous process
- Available with flush, high and side actuator
- Various actuator lengths

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
 - silver contacts (A) : 2A 250VAC - 4A 125VAC - 1A 30VDC
 - gold plated brass contacts (LD) : 100mA 30VDC
- Minimum load :
 - silver contacts (A) : 100mA 10V
 - gold plated brass contacts (LD) : 10 μ A 5VDC - 10mA 50mV
- Initial contact resistance :
 - silver contacts (A) : 10m Ω max.
 - gold plated brass contacts (LD) : 50m Ω max.
- Insulation resistance : 1.000 M Ω min. at 500VDC
- Dielectric strength :
 - 1.000 Vrms 50 Hz min. between terminals
 - 2.000 Vrms 50 Hz min. between poles
 - 2.000 Vrms 50 Hz min. between terminals and frame
- Electrical life : 10.000 cycles at full load
- Low level or mechanical life : 20.000 cycles

MATERIALS

- Case : PBT
- Actuator : polyamide, glass filled
- Cover : polyamide, glass filled
- Contacts
 - A : silver
 - LD : brass, gold plated
- Terminal seal : epoxy

APPROVALS



Availability : consult factory for details of approved models.

Marking : To order switches marked UL, complete the "Options and Approvals" box of ordering format.

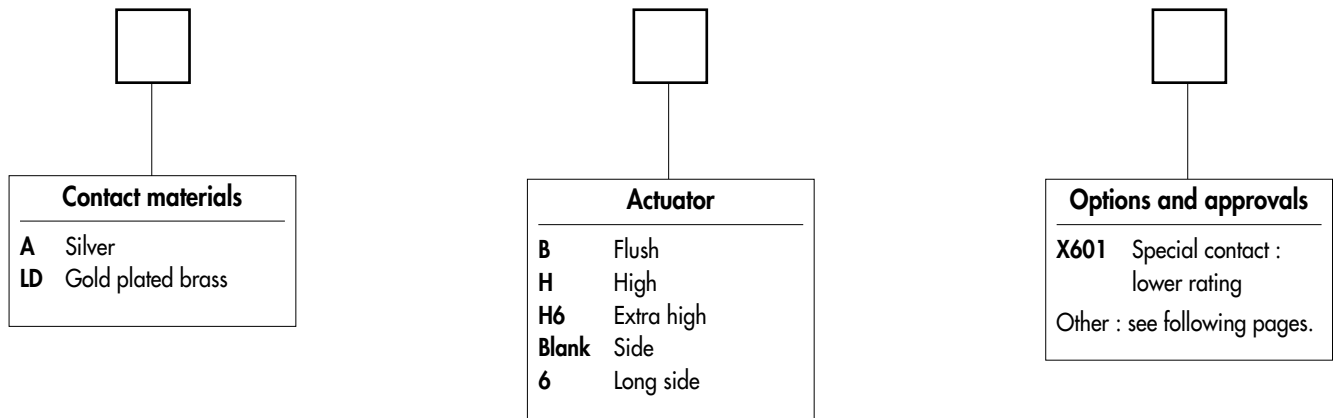
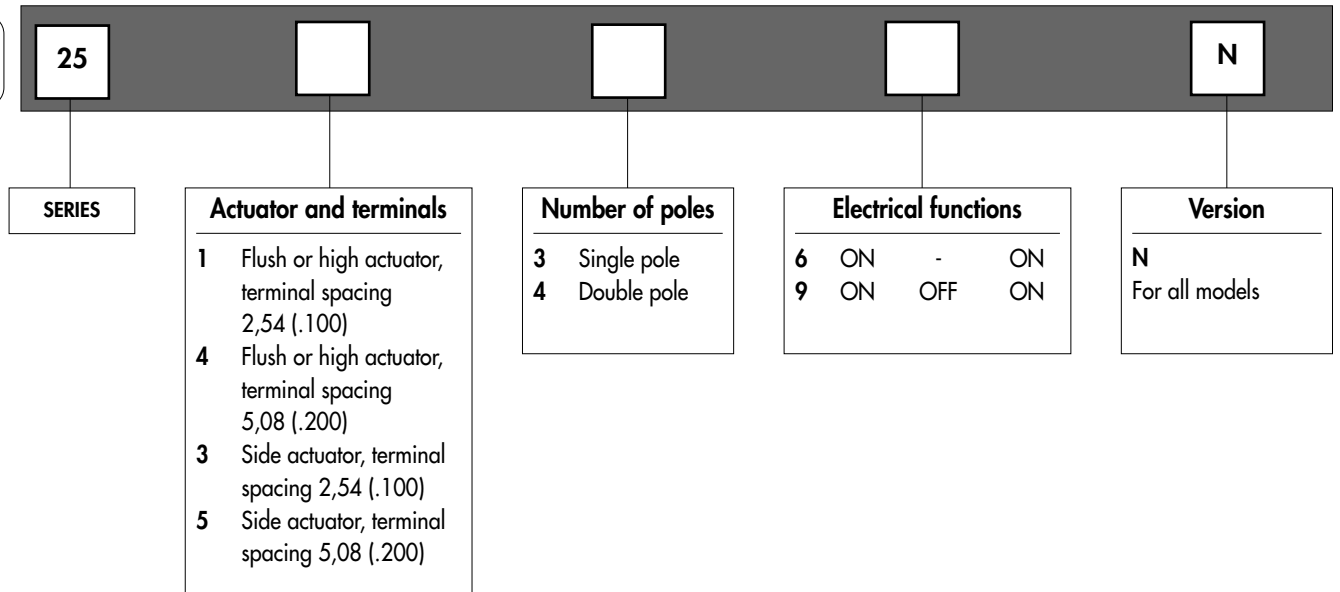
GENERAL SPECIFICATIONS

- Operating temperature :
 - 40°C to +85°C
- Overall length : 14 mm (.551)
- Actuator height (outside case) :
 - high : 2,80 mm (.110)
 - extra high : 6 mm (.236)
 - side : 2,3 mm (.090)
 - long side : 6 mm (.236)
- Travel : 4 mm (.157)

25000N series

Professional slide switches

Overview



ABOUT THIS SERIES

On the following pages, you will find successively :

- model structure of switches (including actuator options)
- contact options

Dimensions : first dimensions are in mm while inches are shown as bracketed numbers.



NOTICE : please note that not all combinations of above numbers are available. Refer to the following pages for further information.

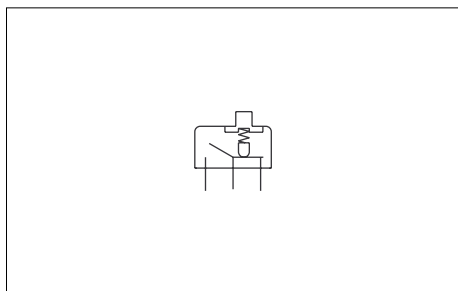


Packaging unit : single pole : 100 pieces - double pole : 50 pieces



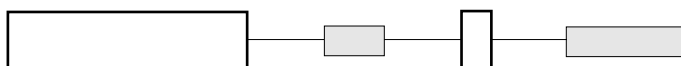
25000N series

Professional slide switches



- Epoxy sealed terminals standard
- 1 and 2 pole configurations
- **UL approved models** : see next page.

MODEL
STRUCTURE



Flush actuator : 25000NB



Terminal spacing
2,54 (.100)

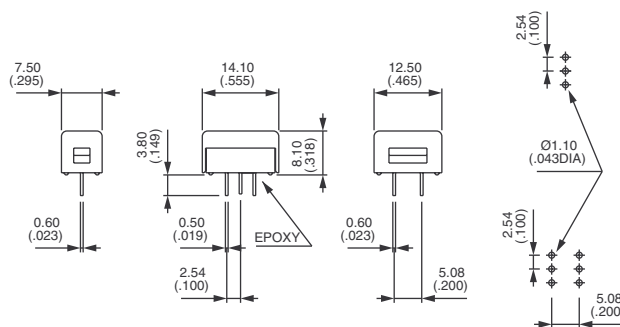
Single pole
25136N B
25139N B

Double pole
25146N B
25149N B

Terminal spacing
5,08 (.200)

Single pole
25436N B
25439N B

Double pole
25446N B
25449N B



High actuator : 25000NH



Terminal spacing
2,54 (.100)

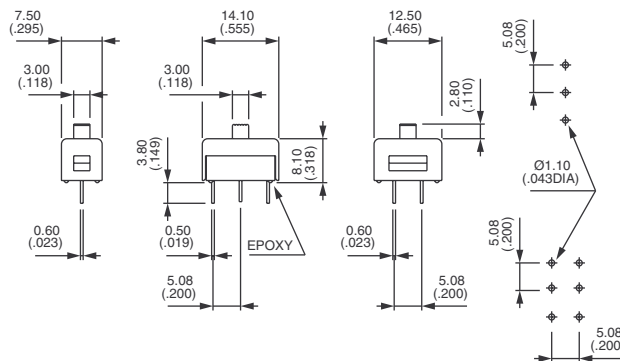
Single pole
25136N H
25139N H

Double pole
25146N H
25149N H

Terminal spacing
5,08 (.200)

Single pole
25436N H
25439N H

Double pole
25446N H
25449N H



Extra high actuator : 25000NH6



Terminal spacing
2,54 (.100)

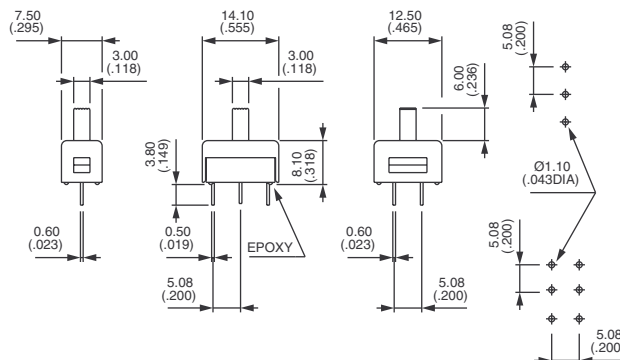
Single pole
25136N H6
25139N H6

Double pole
25146N H6
25149N H6

Terminal spacing
5,08 (.200)

Single pole
25436N H6
25439N H6

Double pole
25446N H6
25449N H6



25000N series

Professional slide switches



Side actuator : 25000N



Terminal spacing
2,54 (.100)

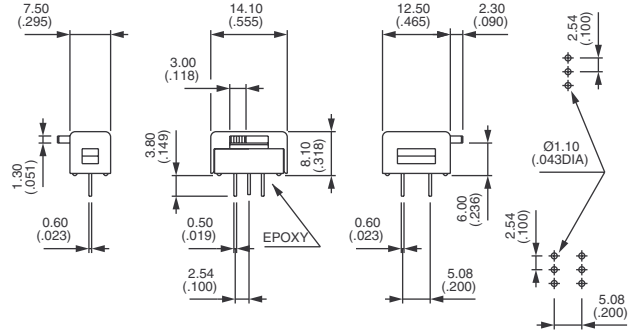
Single pole
25336N
25339N

Double pole
25346N
25349N

Terminal spacing
5,08 (.200)

Single pole
25536N
25539N

Double pole
25546N
25549N



Long side actuator : 25000N6



Terminal spacing
2,54 (.100)

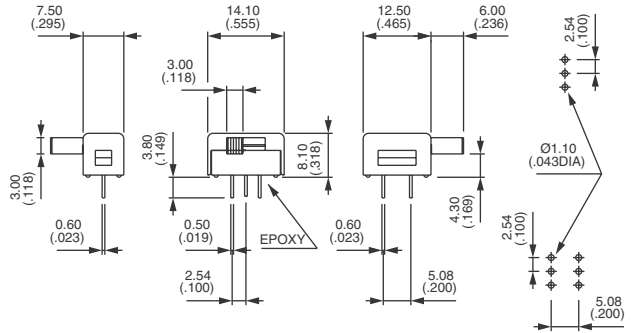
Single pole
25336N 6
25339N 6

Double pole
25346N 6
25349N 6

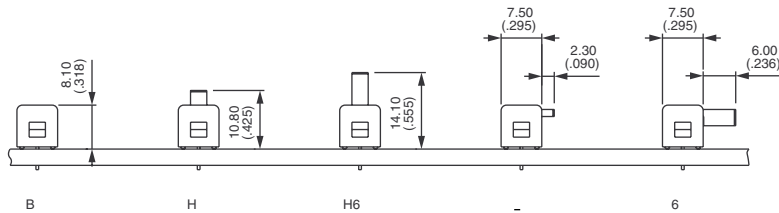
Terminal spacing
5,08 (.200)

Single pole
25536N 6
25539N 6

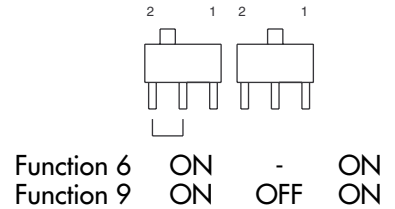
Double pole
25546N 6
25549N 6



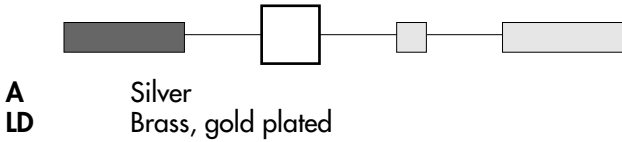
PCB MOUNTING



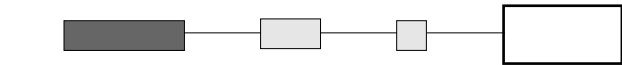
POSITIONS AND CONNECTIONS



CONTACT MATERIALS



OPTIONS AND APPROVALS



- X601** Silver plated brass contacts - Lower rating 3VA 30VDC. Min quantity : 5.000 pieces per model and shipment.
- X693** Flame retardant plastic materials
- X693UL** Switches approved and marked UL (silver contacts only)