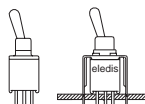
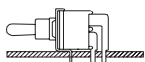




TOGGLE SWITCHES

SERIES 2B

- Sealed Sub-miniature toggle switches



AGENCY APPROVALS

IP67

- In conformity with:
- EN 60529: 1991
 - IEC 529: 1989

CHARACTERISTICS

- Tiny and sealed switch suitable for environmentally hard usage.
- Carries up to 3 Amps @ 120 VAC or 28 VDC.

SPECIFICATIONS

Contact Rating: **S** (silver) - 3A with resistive load @ 120 VAC or 28 VDC - 1 A with resistive load @ 250 VAC - **A** (gold) or **K*** (gold/tin-lead) - 0.4 VA max @ 20 VAC or DC max

Electrical life: 30,000 make and break cycles at full load

Contact Resistance: 20 mΩ max. initial @ 2-4 VDC - 100 mA, for both silver and gold plated contacts

Insulation Resistance: 1000 MΩ min.

Dielectric Strength: 1500 VRMS @ sea level

Operating Temperature: -30°C to 85°C

MATERIALS

Case & bushing: Glass filled nylon 6/6, flame retardant, heat stabilized (UL94V-0)

Actuator: Brass chrome plated with internal o-ring seal

Switch support: Brass, tin plated

Contacts & terminals: Copper alloy with gold over nickel plated

Terminal seal: Epoxy

HOW TO ORDER

2 B - - - - - E

N° OF POLES

- 1 SPDT
- 2 DPDT
- 5 SPST

BUSHING

- F4 Unthreaded
- E1 ESD conductive

CONTACT MATERIAL

- S Silver
- A Gold
- G Gold on Silver
- K(Δ) Tinned Gold

ACTUATORS

- N Round
- N2 Short round
- N3 Long 8.13 mm
- N4 Long 13.97 mm
- ES ESD plastic toggle 6.70 mm
- ES4 ESD plastic toggle 10.70 mm

ELECTRICAL FUNCTIONS

1	on	none	on
2	on	none	(on)
3	on	off	on
4	(on)	off	(on)
5	on	off	(on)
6 (*)	on	on	on
7 (*) (on)	(on)	on	(on)
8 (*)	on	on	(on)
9 (◇)	off	none	on

TERMINATIONS

- PC PCB
- H9 90° horizontal
- H9S 90° horiz. snap-in
- V9 90° vertical
- V9S 90° vertical snap-in
- U2 U bracket 11.68 mm
- U2S U bracket snap-in 11.68 mm

SEALING

- E Seal

(*) 3-way external wiring required, please enquire

(Δ) Min qty required

(◇) Please enquire



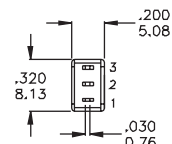
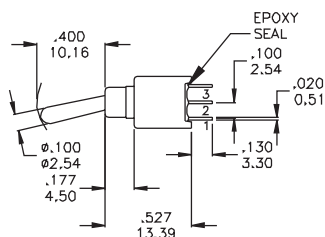
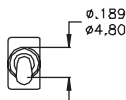
SERIES 2B

ELECTRICAL FUNCTIONS

SPDT			
1	on	none	on
2	on	none	(on)
3	on	off	on
4	(on)	off	(on)
5	on	off	(on)
2 - 3	open	2 - 1	

2 Comm.
1 3 •

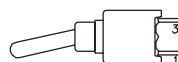
DIMENSIONS



Part N° shown: 2B11-NF4PCAE

SPST			
59	off	none	on

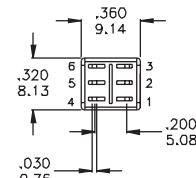
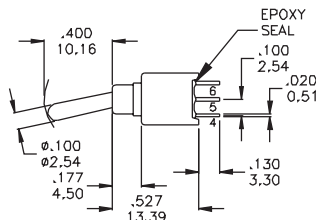
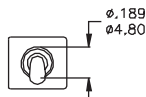
1 3



Part N° shown: 2B59-NF4PCAE

DPDT			
1	on	none	on
2	on	none	(on)
3	on	off	on
4	(on)	off	(on)
5	on	off	(on)
2-3, 5-6	open	2-1, 5-4	

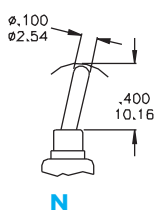
2 Comm. 5 Comm.
1 3 • 4 6 •



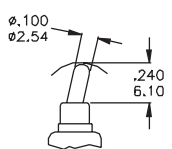
Part N° shown: 2B21-NF4PCAE

ACTUATORS

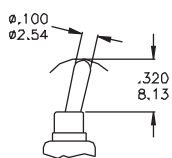
Metal Toggles



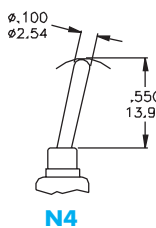
N



N2



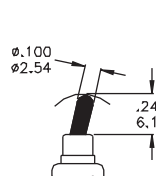
N3



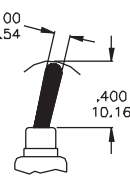
N4

Actuator Shown **F4** SPDT
Add. 0.15 mm for DPDT

Antistatic Plastic Black Toggle



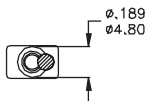
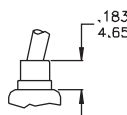
ES



ES4

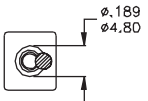
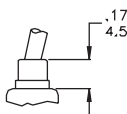
Note: Static resistance 9000 VDC,
between actuator and terminals.
Not available with E1 conductive bushing

BUSHING



For SPDT

F4 Standard



For DPDT

ESD conductive option

Same dimensions as F4, but made of conductive carbon fiber.
It allows antistatic protection with metal actuators N, N2.

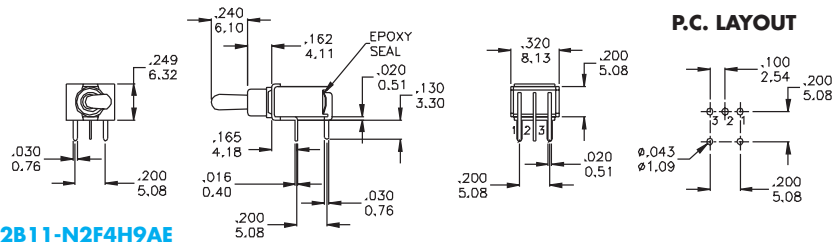
E1

SERIES 2B

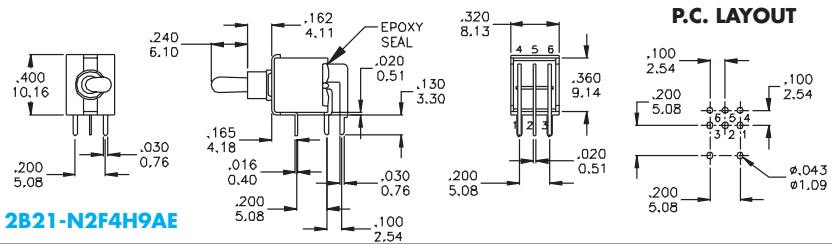
TERMINATIONS

**H9
SPDT**

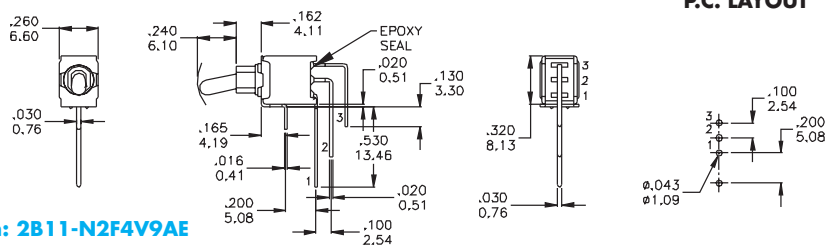
Part N° shown: 2B11-N2F4H9AE

**H9
DPDT**

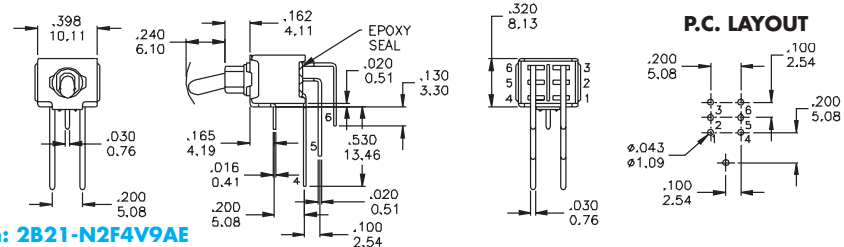
Part N° shown: 2B21-N2F4H9AE

**V9
SPDT**

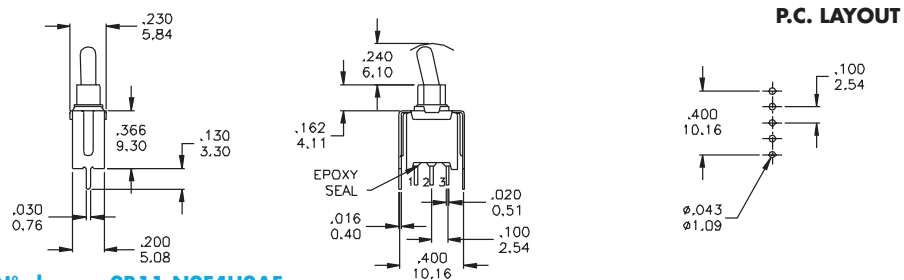
Part N° shown: 2B11-N2F4V9AE

**V9
DPDT**

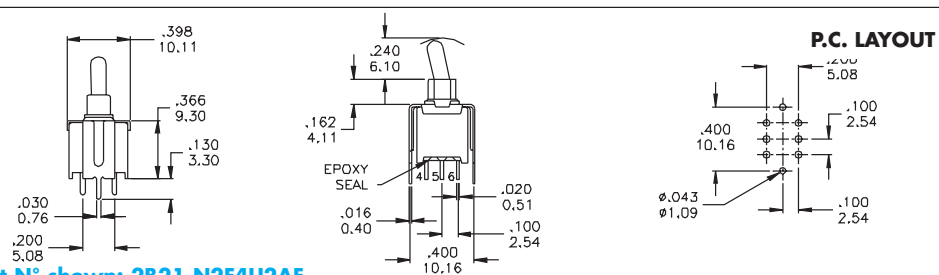
Part N° shown: 2B21-N2F4V9AE

**U2
SPDT**

Part N° shown: 2B11-N2F4U2AE

**U2
DPDT**

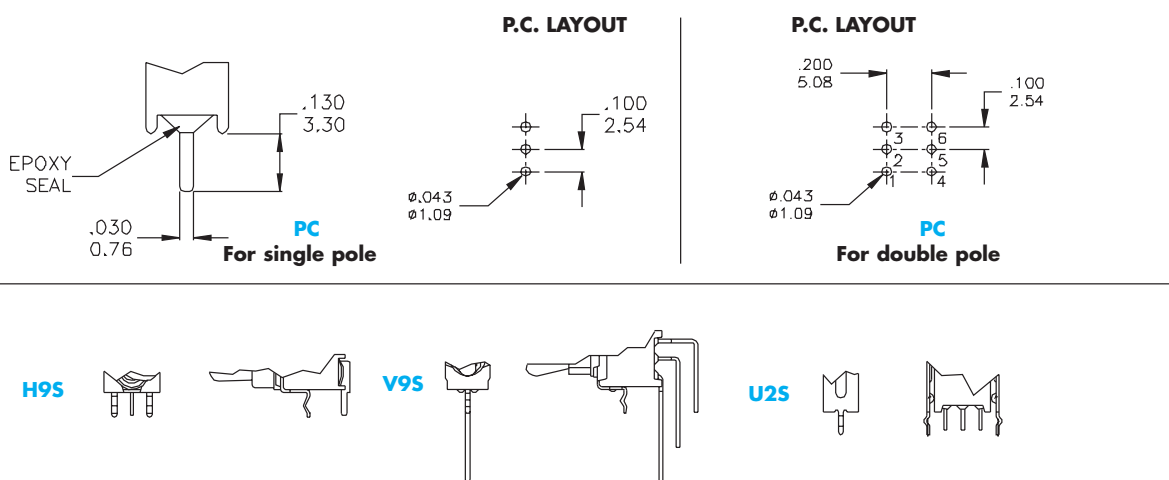
Part N° shown: 2B21-N2F4U2AE





SERIES 2B

TERMINATIONS



H9S, V9S, U2S have the same P.C mounting but with snap-in bracket for retention on PC board.

CONTACT MATERIALS

CONTACT RATINGS

- S** **Moving Contacts:** coin silver
Terminals: copper alloy, silver plated
Rating: 3 Amps @ 125 VAC or 28 VDC
 1 Amps @ 250 VAC
- A** **Moving Contacts:** copper alloy with gold plating over nickel
Terminals: copper alloy with gold plating over nickel
Rating: 0.4 Volts/Amps max @ 20 Volts max (AC or DC)
- G** **Moving Contacts:** coin silver gold plated
Terminals: copper alloy with gold plating over nickel
Note: G option used for either "high" (2 Amps @ 250 VAC) or "low" (0.4 Volts/Amps max) contact rating (one exclude the other)

PACKAGING

Transparent Trays 15x21x4 cm



Qty per tray: (ST, PC Terminals)
 Series 2B1x 500 pcs
 2B2x 200 pcs

MARKING (on products)



The switches are individually marked with the following information:

- Side 1** TRADE MARK
 SERIES AND MODEL
 DATE CODE
- Side 2** RATING
 CONTACTS

Note: Not all information may be available on some products.

LABELLING (on packaging)

The label on each tray gives full information on the products contained.

P/N: EL.FNC.: Q.TY: DATE CODE:  Made in Taiwan	
Remarks	

A Bar code indicating Model, Quantity, Date Code enables easy traceability.