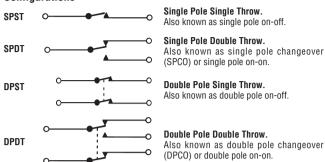
# Switch Selection

#### Ratings

All voltage, current and power ratings quoted are for switching resistive loads unless otherwise stated or bracketed.

16(4)A @ 250V ac = 16A resistive, 4A inductive at 250V ac.

# **Configurations**



3P, 4P Multi-pole switches, 3 pole, 4 pole etc.

NO. NC 'Normally Open' contacts are operated to 'make' (turn on), 'Normally Closed' contacts are operated to 'break' (turn off).

#### **Characteristics**

**Momentary Action** The state of the switch will change only whilst the operating force is applied. When released the switch will return to its origi-

The state of the switch changes when an operating force is Latching Action applied. It will change back to its original state when an addition-

al force is applied. Also known as maintained action.

## **Examples of Alternative Descriptions:**

SPDT Single pole on-on (2 position) SPDT - centre off Single pole on-off-on (3 position) SPDT - biased Single pole on-mom (2 position) SPDT - centre off, two way bias Single pole mom-off-mom (3 position) SPDT - centre off, one way bias Single pole on-off-mom (3 position)	•	•	
SPDT – biased Single pole on-mom (2 position) SPDT – centre off, two way bias SPDT – centre off, one way bias Single pole on-off-mom (3 position)	SPDT	Single pole on-on	(2 position)
SPDT – centre off, two way bias Single pole mom-off-mom (3 position) SPDT – centre off, one way bias Single pole on-off-mom (3 position)	SPDT – centre off	Single pole on-off-on	(3 position)
SPDT – centre off, one way bias Single pole on-off-mom (3 position)	SPDT – biased	Single pole on-mom	(2 position)
, , ,	SPDT – centre off, two way bias	Single pole mom-off-mom	(3 position)
S	SPDT – centre off, one way bias	Single pole on-off-mom	(3 position)
			SW174

# **Subminiature Toggle Switches**

### **Sealed PCB Mounting** 50mA @ 48V ac



DPDT Body H = 8, W = 9.5, D = 5

1uA @ 20mV ac Minimum load <50mΩ Contact resistance Insulation resistance  $10000m\Omega$  @ 250V dc

# **KNITTER-SWITCH**

- Gold plated contacts allow low level switching
- Case material meets UL94V-0



PCB drilling plan

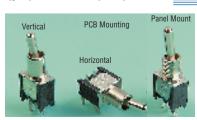
Proof voltage 500V for 1 min Mechanical life 60000 ops. Operating temperature -20°C to +80°C

Mftrs. List No. ATE1D = 219-435, ATE2D = 219-447

						SW19	Jt
				Price Each			
	Order Code	1+	25+	100+	250+	1000+	
SPDT	219-435						
DPDT	219-447						

PCB Mount, Panel Mount, Sealed - TT Series 0.4VA @ 20V dc (gold), 3A @ 125V ac (silver)

**ALCOSWITCH** Thomas@Betts



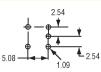
PCB drilling plans



SPDT H = 8.60, W = 5.23, D = 8.6 Bush L = 5.6. Dia = 4.72



Panel cut-out Panel mounting H = 8.6. W = 5.3. D = 8.1 Bush L = 5.6. (10-48 UNS-2A)



Horizontal mounting SPDT H = 7.1, W = 8.1, D = 9.4 Bush L = 5.6, Dia = 4.72

SW334

- Gold contacts allow low level switching
- Threaded bush types suitable for panel mounting
- Vertical and Horizontal mounting

0.4VA @ 20V dc/ac gold contacts Contact rating 3A @ 125V ac/28V dc silver contacts Contact material Gold over nickel or Silver plate

Contact resistance

≤20mΩ 1000MΩ @ 500V dc Insulation resistance

Electrical life 2 position (gold) 80,000 ops 3 position (gold) 60,000 ops 2 position (silver) 20,000 ops

Mftrs List No.

TT11DGPC-1FN = 958-839 TT11EGPC-1FN = 958-840

TT11DGRA-1FN = 958-864, TT13A-2TFN = 958-890, TT13D-2TFN = 958-906.

> Order Price Fach Code 10+ 50+ 100+ 250+ 25+

PCB Mount - Vertical (Gold Contacts) 958-839 SPDT - on-on SPDT - on-off-on 958-840

PCB Mount - Horizontal (Gold Contacts)

SPDT - on-on 958-864

Panel Mount - Vertical, (Silver Contacts)

SPDT - on-off 958-890 SPDT - on-on 958-906

### **PCB** Mounting 0.4VA @ 20V ac/dc

Vertical

Body H = 8.64

W = 5 (SPDT), 9.1

(DPDT) D = 8.13

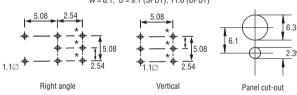


Vertical Threaded Bush Body H = 8.64W = 5 (SPDT), 9.1 (DPDT)  $\hat{D} = 8.13$ 

\_& /\_

SW335

Horizontal Body H = 5 (SPDT), 9.1 (DPDT) W = 8.1, D = 9.1 (SPDT), 11.6 (DPDT)



PCB drilling plans

- \*This row needed only for double pole switches
- Gold plated contacts allow low level switching
- Epoxy sealed terminations
- Threaded bush types for panel mounting

Electrical life 60,000 2 position, 30,000 3 position Contact resistance ≤20mΩ @ 4V dc

-30°C to +85°C Operating temperature

Mftrs List No.

SPDT - on-off-on

SPDT - on-mom

T103MH9CBE = 986-021, T203MH9BCE = 968-057, T101MH9CBF = 986-010T108MH9CBE = 986-033. T201MH9CBE = 986-045 T203STDCBE = 986-161, T101MH9ARF - 986-070 T103MH9ARF - 968-082 T201STDCBE = 986-150 T201MH9ABE = 968-100 T101STDCBE = 986-124, T103STDCRF = 986-136 T108STDCBF = 986-148

Price Each **Vertical Mounting** Order Code 25+ 250-1000+ 100+ SPDT - on-on 986-010

DPDT - on-on	986-045
DPDT - on-off-on	986-057
Horizontal Mounting	
SPDT - on-on	986-070
SPDT - on-off-on	986-082
DPDT - on-on	986-100
Vertical Mounting - Th	readed Bush
<b>Vertical Mounting - Th</b> SPDT - on-on	readed Bush 986-124
SPDT - on-on	986-124
SPDT - on-on SPDT - on-off-on	986-124 986-136
SPDT - on-on SPDT - on-off-on SPDT - on-mom	986-124 986-136 986-148

986-021

986-033