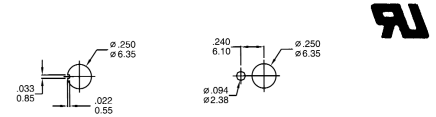


# Printed circuit miniature toggle switches

## Printed Circuit-vertical mounting Miniature TOGGLE SWITCH-ES single pole UL E 187490

Vertical mounting PC board switches with either a plain (smooth) bushing or with a threaded bushing and assembled hardware. Integral mounting brackets provide strength and prevent switching action from stressing PC board pads

Part No.	Circuit	Bushing
30-20038	SPDT ON-ON	1/4"-20 threaded
30-20037	SPDT ON-ON	Smooth
30-20048	DPDT ON-ON	1/4"-20 threaded
30-20047	DPDT ON-ON	Smooth



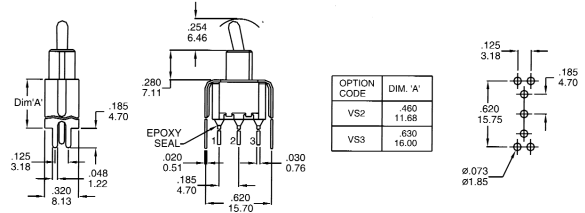
Panel mounting dimensions for PC board miniature switches

### Electrical Rating:

Contact rating: 5 amps @ 120 VAC or 28 VDC  
 2 amps @ 250 VAC resistive load  
 Life expectancy: 40,000 make-break cycles @ full load.  
 Contact Resist.: 10 m ohm Max, initial @ 2-4 volts @100 mA  
 Insulation resistance: 1,000 Megohms minimum  
 Dielectric Strength: 1,000 V RMS @ sea level.  
 Operating temperature range: -30 to +85 degrees Celsius



SPDT

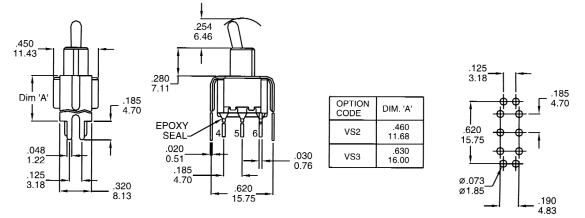


### Mechanical:

Case: Dially phthalate (DAP) (UL94V-0), epoxy sealed terms.  
 Actuator: Brass, Chrome plated.  
 Bushing: Brass, nickel plated  
 Housing: Stainless steel.  
 Switch support: Brass, tin plated  
 Terminals: Gold plated  
 Contact materials: coin silver.



DPDT

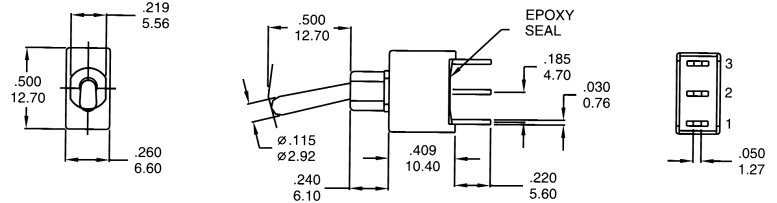


## Printed Circuit Sealed Miniature Toggle Switches Vertical Mounting

Vertical mounting PC board switches with a (smooth) bushing. This series is SEALED with special "O" rings in the actuator neck and EPOXY is applied around terminals where they enter the switch case. Switches sealed with epoxy around the terminals are impervious to solder fluxes and cleaners. The "O" rings provide very good, long term resistance to environmental contamination.



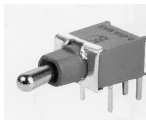
Part No.	Circuit
30-20150	SPDT ON-ON
30-20153	SPDT ON-(ON)
30-20156	SPDT ON-OFF-ON
30-20160	SPDT ON-OFF-(ON)



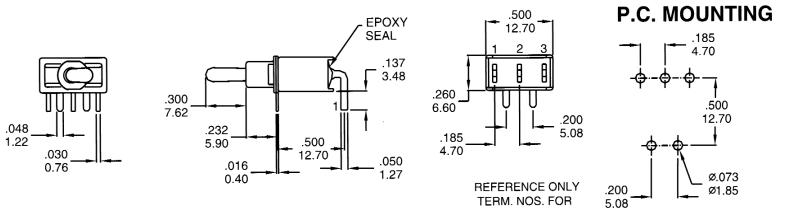
### Electrical Rating:

Contact rating: 5 amps @ 120 VAC or 28 VDC  
 2 amps @ 250 VAC resistive load  
 Life expectancy: 30,000 make-break cycles @ full load.  
 Contact Resistance: 10 m ohms Max, @ 2-4 volts. @100 mA  
 Insulation resistance: 1,000 Megohms minimum  
 Dielectric Strength: 1,000 V RMS @ sea level.  
 Operating temperature range: -30 to +85 degrees Celsius

## HORIZONTAL RIGHT ANGLE MOUNTING - SEALED



Part No.	Circuit
30-20170	SPDT ON-ON
30-20172	SPDT ON-(ON)



### Mechanical:

Case: Glass-filled Nylon 66 (UL94V-0)  
 Actuator: Brass, Chrome plated w/internal "O" ring seal.  
 Switch support retainer: Stainless steel.  
 Terminals: Gold Plated.  
 Contact materials: coin silver.  
 Special: Epoxy seal at contacts (against solder, flux remover)