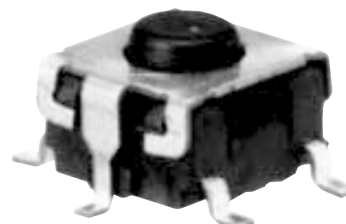


Surface Mount Tactile Switch for High-Density Packaging

- Sealed construction allows immersion-cleaning of the PC board with the tactile switches mounted and soldered
- Ground terminal available to protect against static electricity
- Ideal for applications such as audio, office, and communications equipment, measuring instruments, industrial robots, VCRs, TVs, and vending machines
- Tape packaging style also available: contact OMRON for details



Ordering Information

Switch height x pitch	Operating force	Part number			
		Without ground terminal		With ground terminal	
		Bags	Embossed Tape	Bags	Embossed Tape
4.3 x 9.0 mm	General-purpose: 160 g	B3S-1000	B3S-1000P	B3S-1100	B3S-1100P
	High-force: 230 g	B3S-1002	B3S-1002P	B3S-1102	B3S-1102P

Important note: Switches cannot be water-washed.

Specifications

■ CHARACTERISTICS

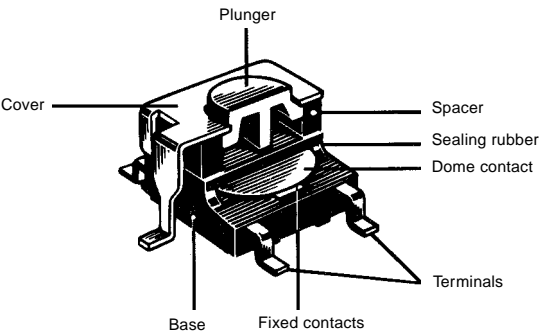
Switching capacity		50 mA 24 VDC (resistive load)
Contact form		SPST-NO
Permissible load		1 mA 5 VDC min. (resistive load)
Contact resistance		100 MΩ max.
Insulation resistance		100 MΩ min. (at 250 VDC)
Dielectric strength		500 VAC, 50/60 Hz for 1 minute
Bounce time		5 ms max.
Vibration	Malfunction durability	10 to 55 Hz, 1.5 mm double amplitude
Shock	Mechanical durability	1,000 m/s ² (approx. 100 G)
	Malfunction durability	100 m/s ² (approx. 10 G)
Ambient temperature		-25° to 70°C (with no icing)
Humidity		35% to 85% RH
Service life [Mechanical/electrical]	General-purpose type	500,000 operations min.
	High-force type	300,000 operations min.
Weight		Approx. 0.30 g

Note: Data shown are of initial value.

■ OPERATING CHARACTERISTICS — B3S-1□□□ SERIES

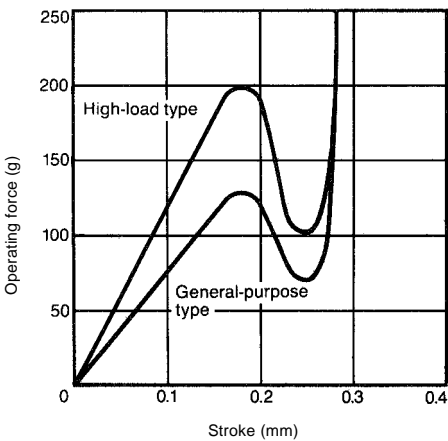
Characteristics	General-purpose	High-force
Operating force (OF) max.	160 g	230 g
Release force (RF) min.	20 g	50 g
Pretravel (PT)	$0.25 + \begin{smallmatrix} 0.2 \\ -0.1 \end{smallmatrix}$ mm	$0.25 + \begin{smallmatrix} 0.2 \\ -0.1 \end{smallmatrix}$ mm

■ CONSTRUCTION



Engineering Data

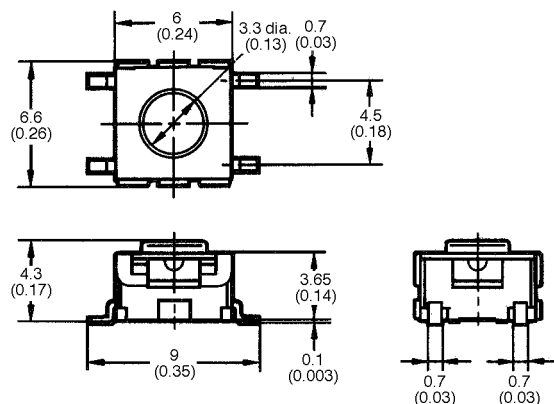
■ OPERATING FORCE VS STROKE (TYPICAL EXAMPLE)



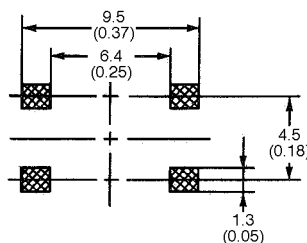
Dimensions

Unit: mm (inch)

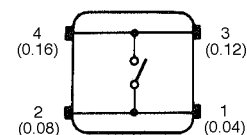
■ B3S-1000, B3S-1002



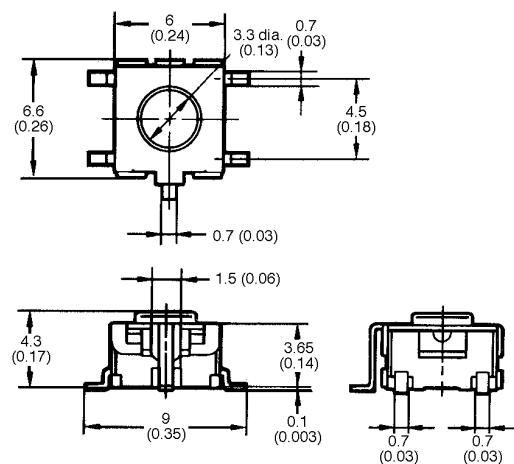
Footprint (top view)



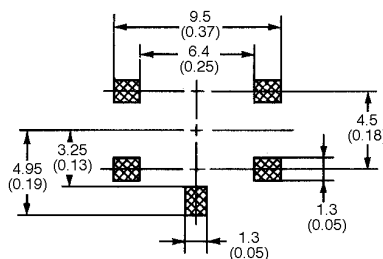
Terminal arrangement/Internal connection (top view)



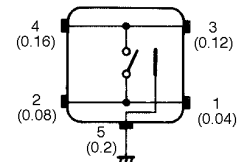
■ B3S-1100, B3S-1102



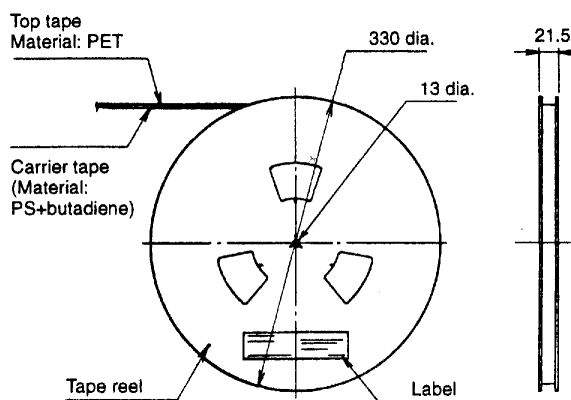
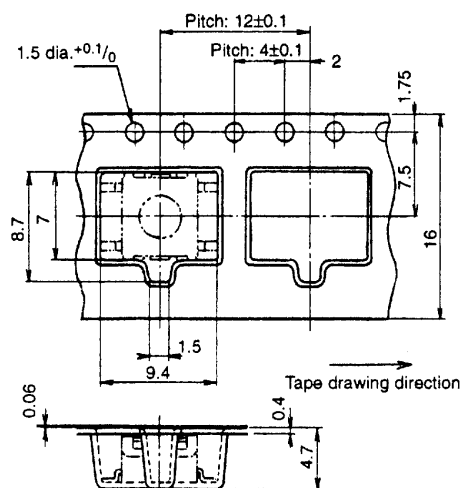
Footprint (top view)



Terminal arrangement/Internal connection (top view)



■ TAPE PACKAGING DIMENSIONS



Hints on Correct Use

■ INFRARED REFLOW SOLDERING

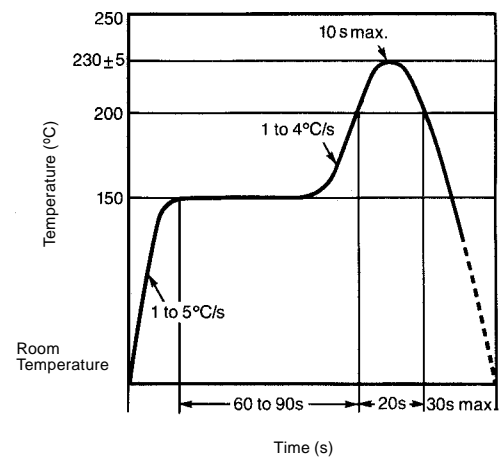
Secure the thermocouple to the side of each switch terminal with solder having a high melting point. Then set the reflowing furnace so that the peak value of the terminal temperature becomes $230^{\circ} \pm 5^{\circ}\text{C}$. Take care that the peak value does not exceed 240°C . The temperature and the time conditions for the reflow soldering process are as shown in the chart at right.

■ WAVE SOLDERING

Dip the bottom of the PC board as follows:

- Solder temperature: $250^{\circ}\text{C} \pm 5^{\circ}$ max.
- Exposure to molten solder: 5 s max.

Do not dip solder the keyswitches more than twice.



NOTE: DIMENSIONS ARE SHOWN IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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