# General Specifications

For high frequency (DC through 1GHz): Isolation 40dB minimum at 1GHz. Insertion loss 0.5dB maximum at 1GHz.

Impedance 75 ohms

Innovative alternative to relay products

Highly reliable, self-cleaning twin contact mechanism with gold plating

Long total travel of .138" (3.5mm) for highly visible actuator position

Distinct audible and tactile feedback during actuation

Suited to high frequency applications (90MHz to 1GHz) such as CATV and communication equipment

Actual Size with Tall Actuator



## Distinctive Characteristics

### **Electrical Capacity (Resistive Load)**

Logic Level: 0.4VA maximum @ 28V AC/DC maximum

(Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)

Note: Find additional explanation of operating range in Supplement section.

**RF Ratings** 

Impedance: 75 ohms

**Insertion Loss:** 0.5dB maximum @ 1GHz **Isolation:** 40dB minimum @ 1GHz

Other Ratings

**Contact Resistance:** 200 milliohms maximum

250 megohms minimum @ 500V DC Insulation Resistance: **Dielectric Strength:** 500V AC minimum for 1 minute minimum

Mechanical Life: 1,000 operations minimum **Electrical Life:** 1,000 operations minimum **Contact Timing:** Nonshorting (break-before-make)

**Total Travel:** .138" (3.5mm)

**Environmental Data** 

**Operating Temp Range:** -30°C through +85°C (-22°F through +185°F)

90 ~ 95% humidity for 240 hours @ 40°C (104°F) **Humidity:** 

Vibration:  $10 \sim 55$ Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range

& returning in 5 minutes; 3 right angled directions for 2 hours

50G (490m/s<sup>2</sup>) acceleration (tested in 6 right angled directions, with 5 shocks in each direction) Shock:

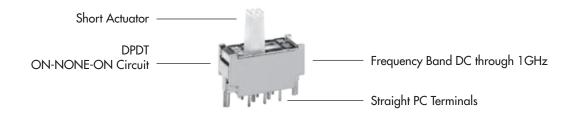
Installation

**Soldering Time & Temp:** Wave Soldering: See Profile A in Supplement section.

Manual Soldering: See Profile A in Supplement section.

Cleaning: These devices are not process sealed. Hand clean locally using alcohol based solution.

### DESCRIPTION FOR TYPICAL ORDERING EXAMPLE FS22AAP



		POLE & CIRCUIT  Slide Position Connected Terminals Throw & Schematics							
		Slide Position			Connected Terminals			Throw & Schematics	
Pole	Model	Left	Center	Right	Left	Center	Right	Note: Terminal numbers are not actually on the switch.	
DP	F\$22	ON	NONE	ON	2-1 5-4	NA	2-3 5-6	DPDT 2 (COM) 5 • 6	

Rockers

Keylocks Programmable Illuminated PB Pushbuttons



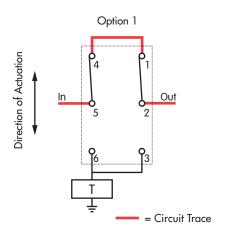
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Touch

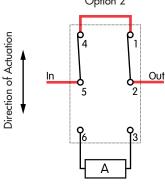
Indicators

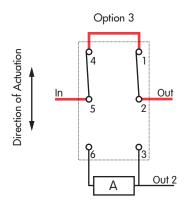
Supplement Accessories

### HIGH FREQUENCY PERFORMANCE



## **RF Connection Options** Option 2





### Isolation

>40dB @ 1GHz (higher value is better)

**Insertion Loss** 

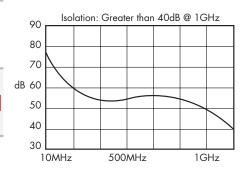
T = Terminator

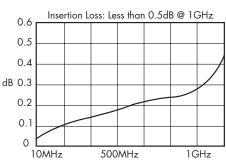
<0.5dB @ 1GHz (lower value is better)

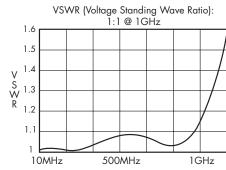
A = Amplifier or other device

### **Standing Wave Ration** or Impedance Matching

Standing Wave = ratio between highest voltage & lowest voltage (must always be more than 1)



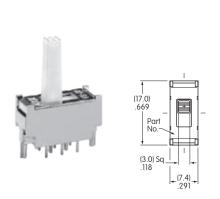


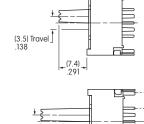


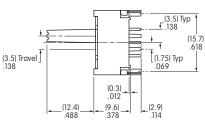
Note: The data above reflects the conditions using the FS switch on a test PCB with two coaxial connectors. High frequency applications require external connection on the PCB. Contact factory for details.

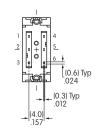
### TYPICAL SWITCH DIMENSIONS

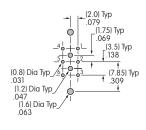
### **Short & Tall Actuators**











Actuator in LEFT position.



FS22ABP

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