SP6T Electro-Mechanical Switch DC-18GHz

Features

- SP6T configuration
- Magnetic latching
- Operating life of 1 million cycles
- Guaranteed repeatability of 0.05dB up to 1 million cycles
- Excellent isolation, typically >80 dB to 20GHz
- Terminated ports
- TTL/5V CMOS compatible (optional)

Description

RF-Lambda multiport switch improves insertion loss repeatability and isolation, which is necessary for higher performance test systems. The repeatability and reliability of this switch is vital to ATS measurement accuracy and can cut the cost of ownership by reducing calibration cycles and increasing test system up time. The RF-Lambda terminated multiport switch provides the long life and reliability required for automated test and measurement, signal monitoring, and routing applications. Highly repeatable switching capability is made possible through RF-Lambda's rigorous design and tight manufacturing specifications. Low insertion loss repeatability reduces sources of random errors in the measurement path, which improves measurement accuracy.

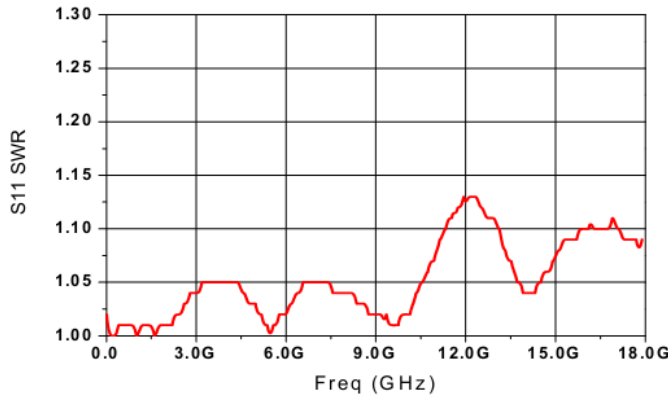
Part Number	description	Type	Low Freq (GHz)	High Freq (GHz)	Avg. Power (Watts)
RFSP6T18EMA	Electromechanical Switches	SP6T	DC	18	2 (hot switching)
Insert. Loss (dB)	**VSWR (Max:1)**	**Isolation (dB)**	**Actuator Type**	**Swtiching Speed (ms)**	**Contact**
0.2(DC~4GHz) 0.3 (4~12.4GHz) 0.5(12.4~18GHz)	1.1(DC~4GHz) 1.2 (4~12.4GHz) 1.5(12.4~18GHz)	90(DC~4GHz) 80(4~12.4GHz) 60 (12.4~18GHz)	Latching	20	Break Before Make
Repeatability (dB) max.	**Life Cycles (Tims)**	**Connector**	**Biasing (VDC)**	**Current (A)**	**Control**
0.05	1,000,000	SMA mm	24	0.2	TTL 5V

* Result taken at 25°C +15VDC

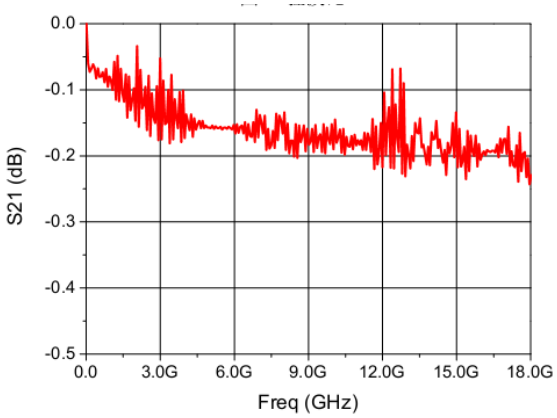
Environmental Specification

Operating temperature:	–25 to 75° C
Storage temperature:	–55 to 85° C
Thermal Shocking:	–25 to 70° C (1.5 hours holding, 10 times.)
Sine Vibration:	25 grams rms
Life Cycles:	1,000,000 times
Vibration:	20 grams rms.
Moisture resistance:	65° C, 95% RH, 10 days per MIL-STD-202F, Method 106E
Altitude storage:	30,000 feet (per MIL-STD-202F, Method 105C, Condition B)
RFI:	Per MIL-STD-461C, RE02, Part 4
Magnetic field:	<5 gauss 1/4 inch from surface
Hot switching:	2W CW 100W peak, 10us max pulse width

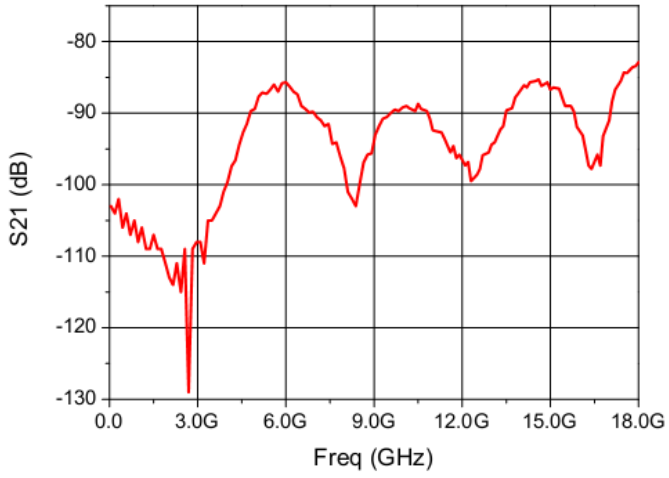
Typical test curve



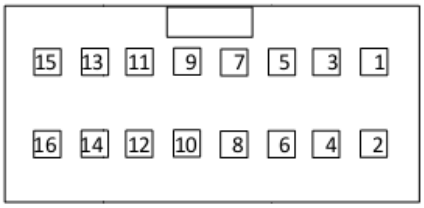
VSWR



Insert. Loss



Isolation



drive / Switch state	Standard drive Pin 3	Pin 5	Pin 7	Pin 9	Pin 11	Pin 13	Pin 16	TTL drive Pin 3	Pin 5	Pin 7	Pin 9	Pin 11	Pin 13	Pin 16
RFto1	GND	Open	Open	Open	Open	Open	Open	High	Low	Low	Low	Low	Low	Low
RFto2	Open	GND	Open	Open	Open	Open	Open	Low	High	Low	Low	Low	Low	Low
RFto3	Open	Open	GND	Open	Open	Open	Open	Low	Low	High	Low	Low	Low	Low
RFto4	Open	Open	Open	GND	Open	Open	Open	Low	Low	Low	High	Low	Low	Low
RFto5	Open	Open	Open	Open	GND	Open	Open	Low	Low	Low	Low	High	Low	Low
RFto6	Open	Open	Open	Open	Open	GND	Open	Low	Low	Low	Low	Low	High	Low
Reset	Open	Open	Open	Open	Open	Open	GND	Low	Low	Low	Low	Low	Low	High