SPDT Reflective Electro-Mechanical Switch
DC - 18GHz

Features

- SPDT 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's multiport switch offers low insertion loss and high isolation, which is necessary for high 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.

Our electro-mechanical switches are made through RF-Lambda's rigorous design and tight manufacturing specifications.

Part Number	Description	Typ	Low Freq (GHz)	High Freq (GHz)	Max Power Input(Watts)
RFSPDT18EMF-T Or RFSPDT18EMF-S	Reflective	SPDT	DC	18	1
Insert. Loss (dB)	VSWR (Max)	Isolation (dB)	Actuator Type	Switching Speed (ms Max)	Contact
0.3(DC~12.4 GHz) 0.6(12.4~18GHz)	1.3(DC~12.4 GHz) 1.5(12.4~18GHz)	60(DC~18GHz)	Latching	20	Break Before Make
Repeatability (dB) max.	Life Cycle	Connector	Biasing (VDC)	Current (A)	Control
0.05	1 million	SMA	12	0.4	-T for TTL type -S for Ground type

* Result taken at 25°C

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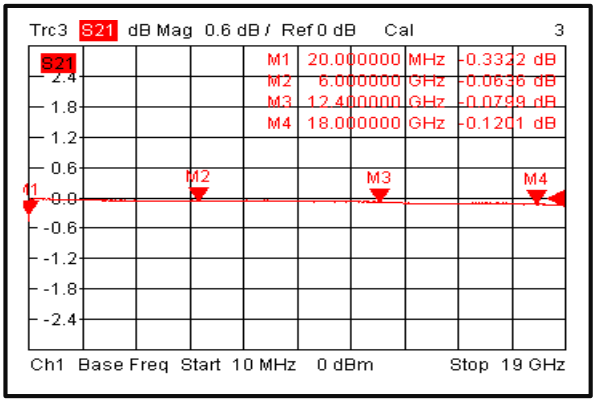
Environmental Specifications and Test Standards

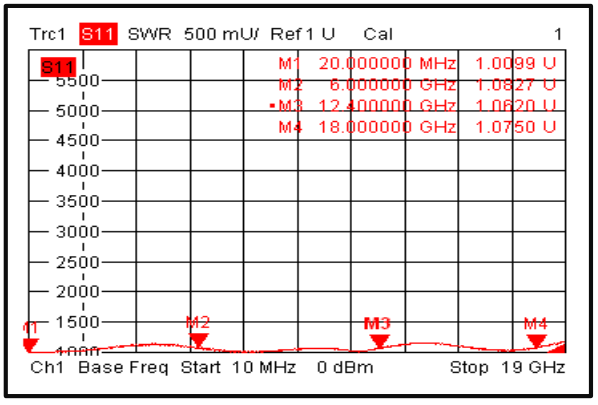
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45℃~+85℃ (Case Temperature)
Storage Temperature		-50℃~+125℃
Thermal Shock		1 Hour@ -45℃ → 1 Hour @ +85℃ (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85℃ for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude		Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883	MIL-STD-883 (For Hermetically Sealed Units)

Typical Performance Plots

Insertion Loss



Input VSWR



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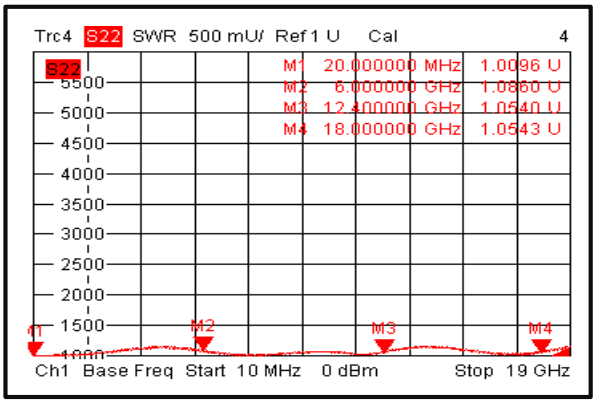
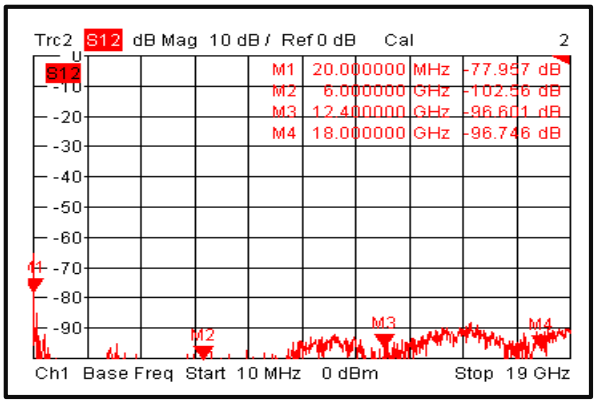
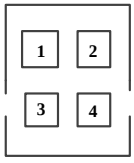
Output VSWR

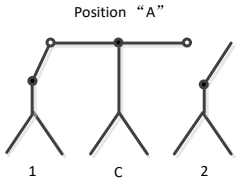


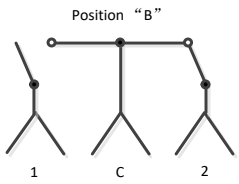
Isolation



+5V TTL Control Type -- (Standard)







Control Table

State	TTL Drive				Standard drive			
	PIN1	PIN2	PIN3	PIN4	PIN1	PIN2	PIN3	PIN4
RF to 1	GND	+24V	High	Low	GND	+24V	GND	Open
RF to 2	GND	+24V	Low	High	GND	+24V	Open	GND

Note:

- **TTL is the default control type for the switch series, please specify in case you need standard drives.**

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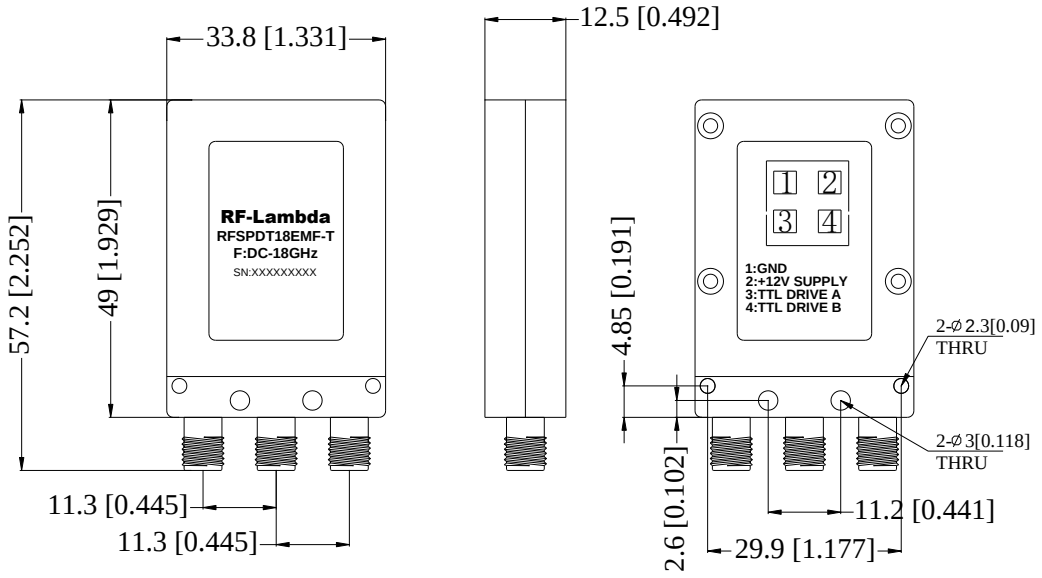
Outline Drawing:

All Dimensions in mm [inches]



Important Notice