

RFS Series

30 – 530MHz 5W SPDT RF Switch

Features

- Frequency Range: 30 - 530MHz
- Insertion Loss: 1dB
- Isolation: 50dB
- Maximum Input P_{in} : +37dBm
- Switching Time: 0.15 μ s
- DC Power: 5V/<1mA
- SMA Connector

Picture



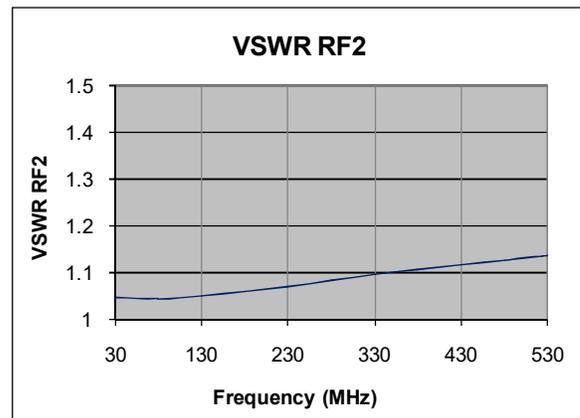
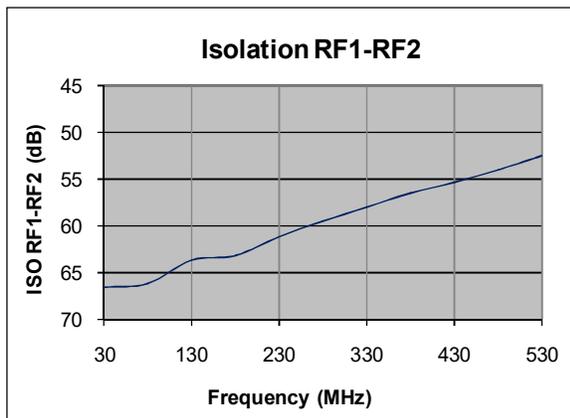
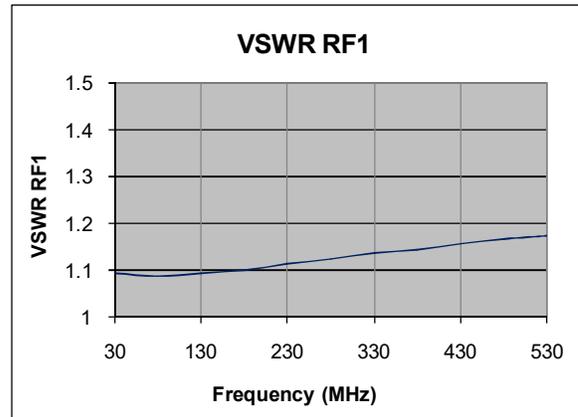
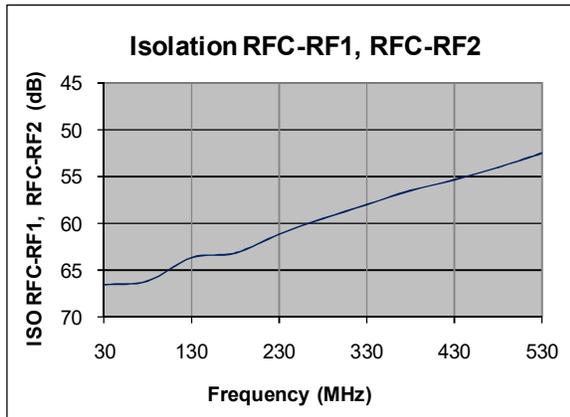
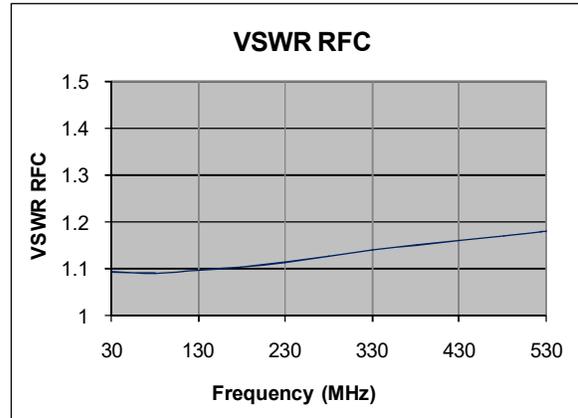
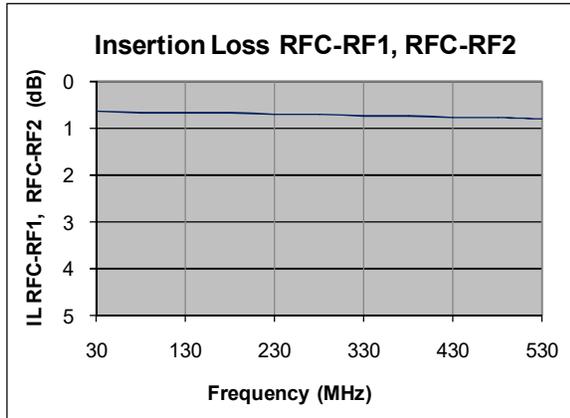
Description

RFS-1 is a 5W Single Pole Double Throw (SPDT) RF Switch operates in frequency range from 30MHz to 530MHz.

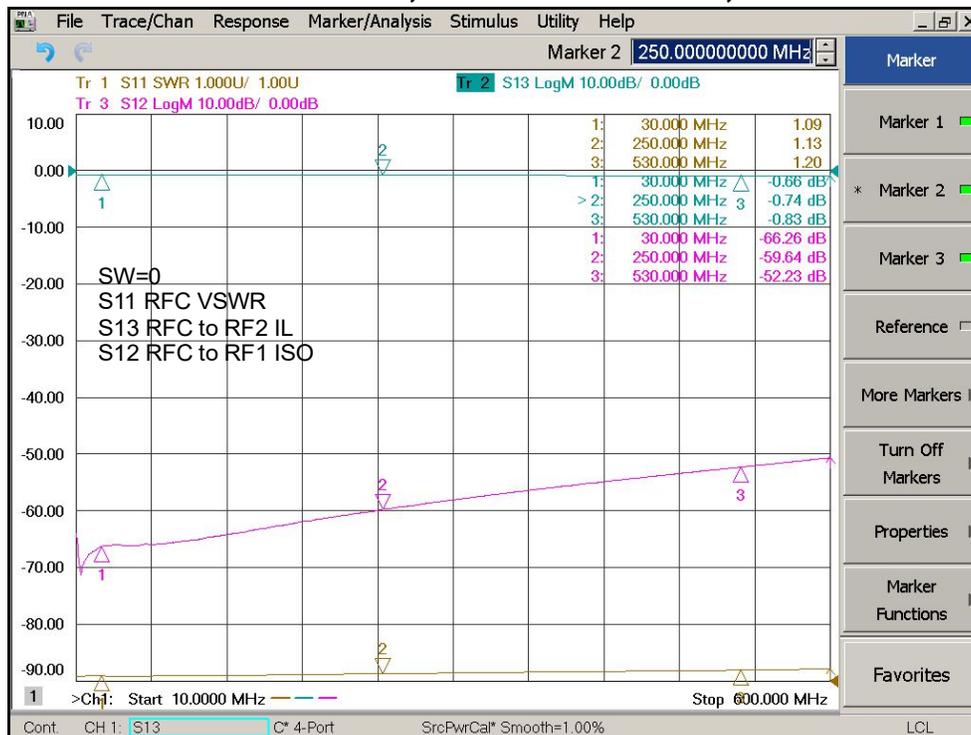
Electrical Specifications @ +25 °C, 50 Ω System, DC Supply = +5V

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	30		530
Insertion Loss (RFC to RF1, RF2)	30MHz		0.65	0.8
	250MHz		0.70	0.9
	530MHz		0.80	1.0
Isolation (RFC to RF1, RF2)	30MHz	60	66	
	250MHz	55	60	
	530MHz	50	53	
Isolation (RF1 to RF2)	30MHz	60	67	
	250MHz	55	59	
	530MHz	50	53	
VSWR (30 – 530MHz)			1.2:1	1.5:1
Maximum Input P_{in}	dBm	+37		
Switching Time	μ s		0.15	0.2
Control Voltage V_{sw} (HCMOS)	V	0		5
DC Power Supply	V	4.5	5	5.5
Supply Current	mA			1

Typical Performance at 25°C



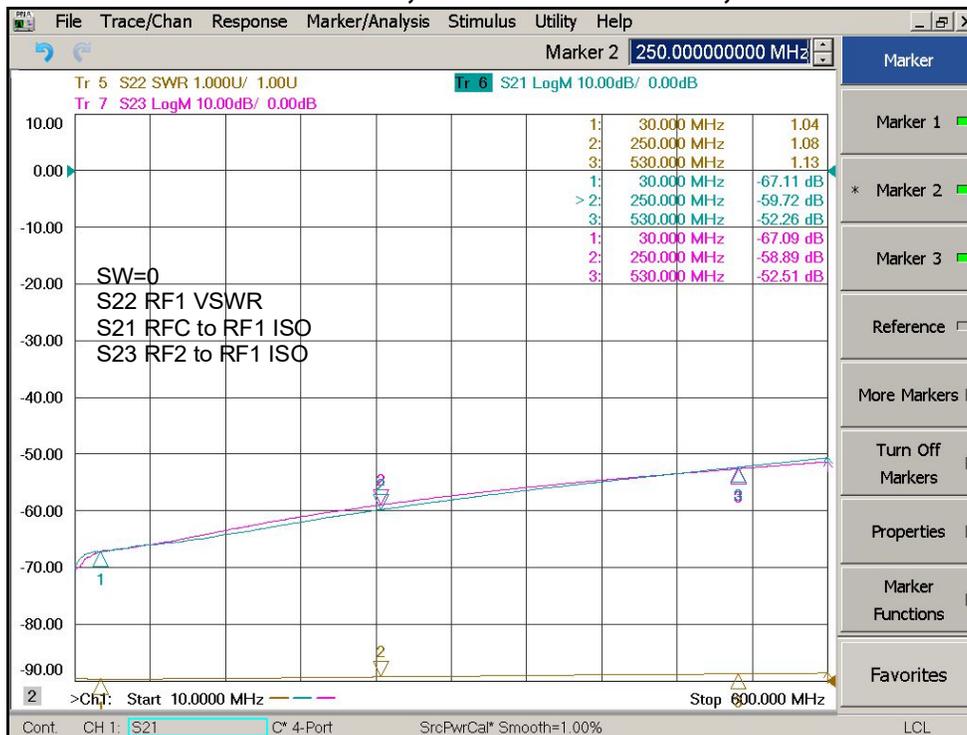
Low Loss Path RFC-RF2, Isolation RFC-RF1, SW=0



Low Loss Path RFC-RF2, Isolation RFC-RF1, SW=0



Low Loss Path RFC-RF2, Isolation RFC-RF1, SW=0



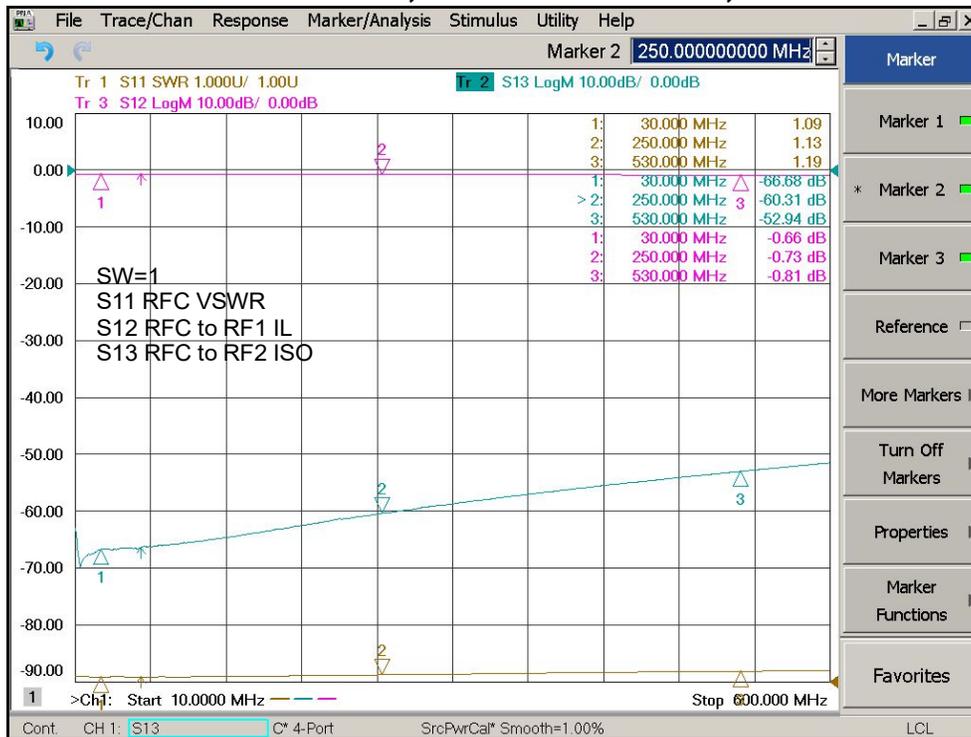
Low Loss Path RFC-RF1, Isolation RFC-RF2, SW=1



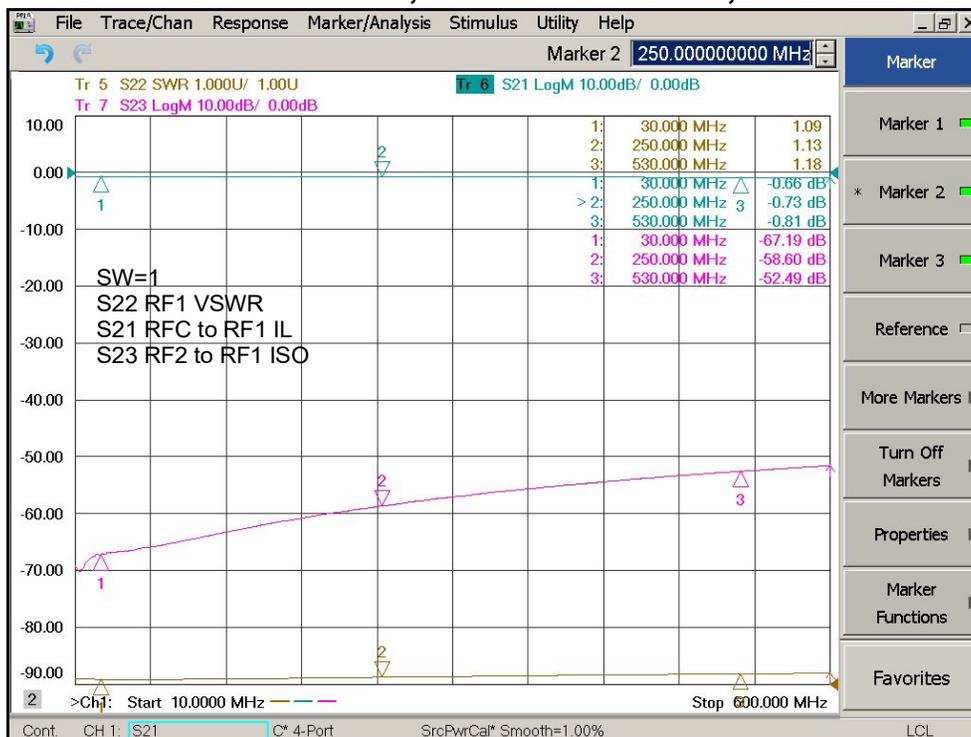
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Low Loss Path RFC-RF1, Isolation RFC-RF2, SW=1



Low Loss Path RFC-RF1, Isolation RFC-RF2, SW=1



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Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage	+6V
RF Input Power	+38dBm
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

Truth table

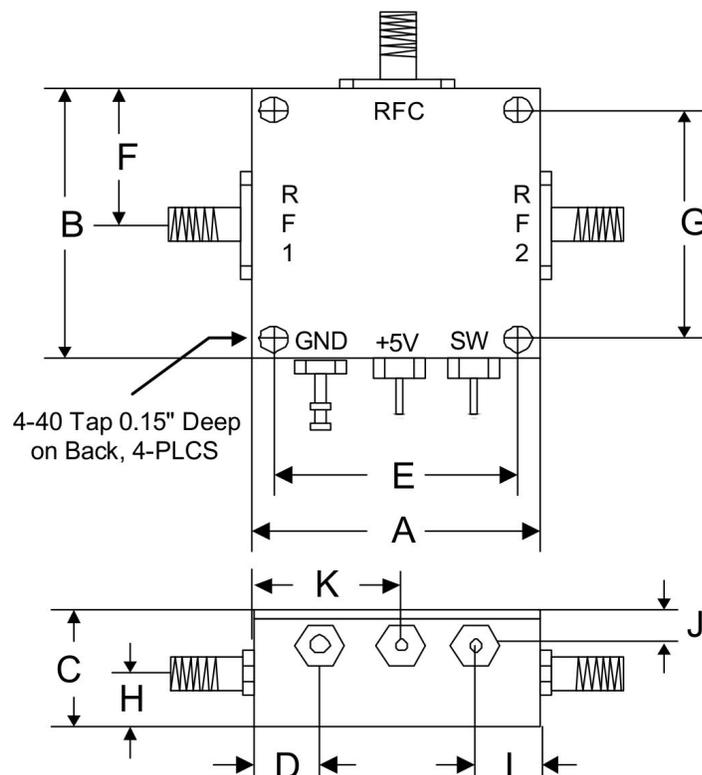
Control Input V _{sw}	Signal Path State
High (+5V)	RFC to RF1
Low (0V)	RFC to RF2

SW Port Internal Pull-Down Resistor 100KΩ

ESD Sensitive Material



Outline



	A	B	C	D	E	F	G	H	I	J	K
Inch	1.250	1.250	0.563	0.325	1.000	0.625	1.000	0.250	0.325	0.187	0.625
mm	31.75	31.75	14.29	8.26	25.40	15.88	25.40	6.35	8.26	4.75	15.88