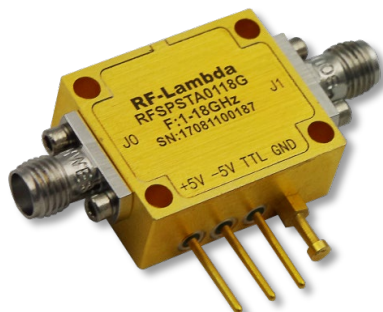


Absorptive Coaxial SPST Switch 1 - 18GHz



Features

- Wide Band Operation 1-18GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation

Typical Applications

- Wireless Infrastructure
- Military and Aerospace
- Test and Measurement

Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{dd} = +5\text{V}/-5\text{V}$, $TTL = 0 / +5\text{V}$

Description	PN: RFSPSTA0118G									
	SPST Absorptive Switch Jo: Absorptive Port J1: Reflective Port									
	Low Power Cold Switching									
Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	1-8			8-12			12-18			GHz
Insertion Loss		1.3	1.5		1.5	2.0		2.0	2.5	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/°C
Isolation (Jo→J1)	80	90		80	90		70	85		dB
Input VSWR		1.5	1.8		1.5	1.8		1.5	1.8	: 1
Output VSWR		1.5	1.8		1.5	1.8		1.5	1.8	: 1
RF Input Power			30			30			30	dBm
DC Power Dissipation		0.3			0.3			0.3		W
0.1dB Compression Point (Po.1dB)		30			30			30		dBm
IIP3		45			43			43		dBm
Switching Speed	100 Max.									ns
Weight	0.5 Max.									ounces
Impedance	50									Ω
Bias Current (+5V/-5V)	80/50 Max.									mA
Input / Output Connectors	SMA - Female									
Finish	Gold Plated									
Material	Aluminum									
Sealing	Hermetically Sealed (Optional)									

Absolute Maximum Ratings

Biassing	+5V±10%/-5V±10%
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Note: TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

Ordering Information

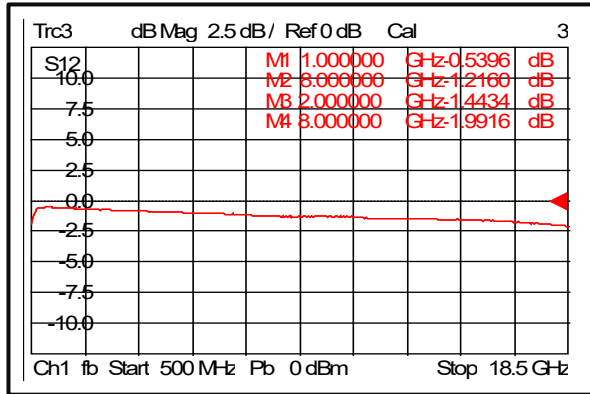
Part No.	Description
RFSPSTA0118G	SPST 1-18GHz PIN Diode Switch

Environmental Specifications and Test Standards

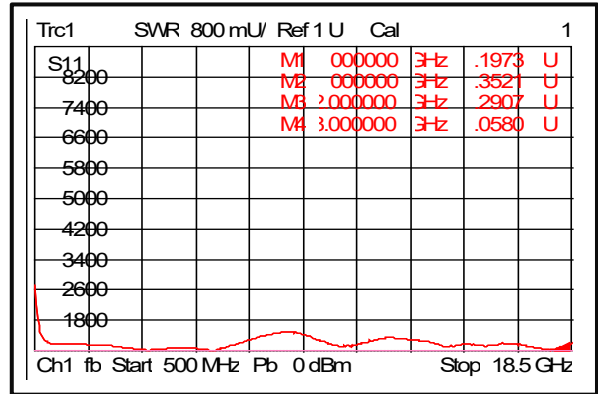
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours
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 (For Hermetically Sealed Units)

Typical Performance Plots

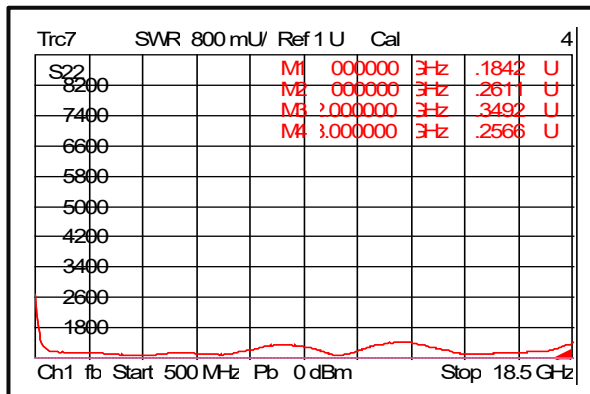
Insertion Loss @+25°C



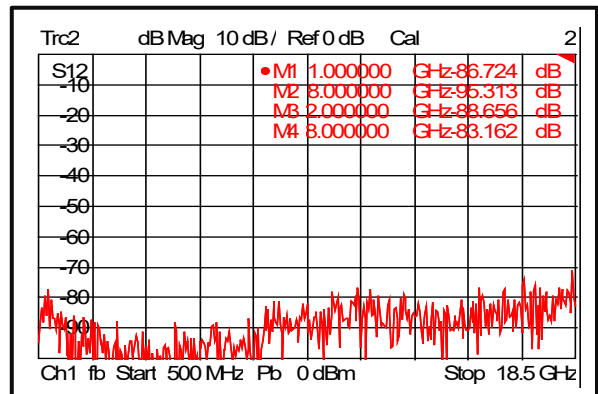
Input VSWR @+25°C



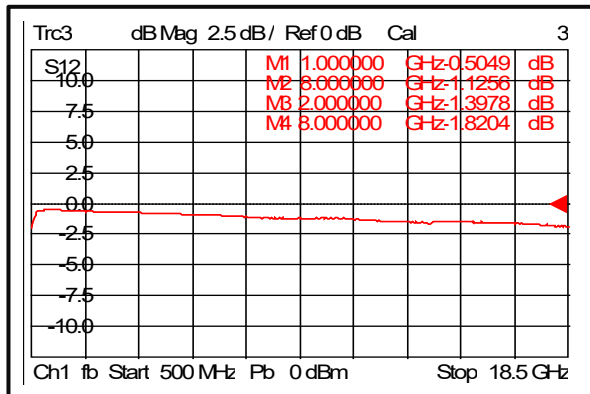
Output VSWR @+25°C



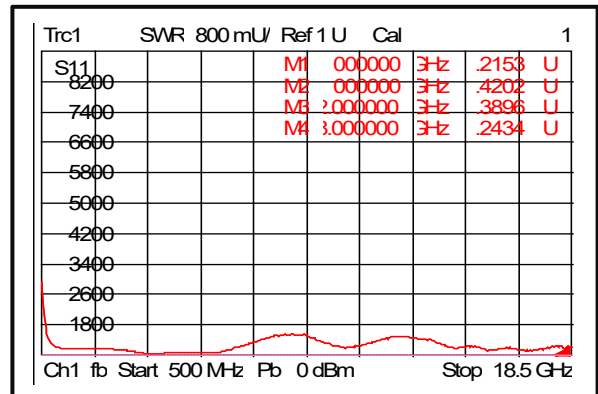
Isolation @+25°C



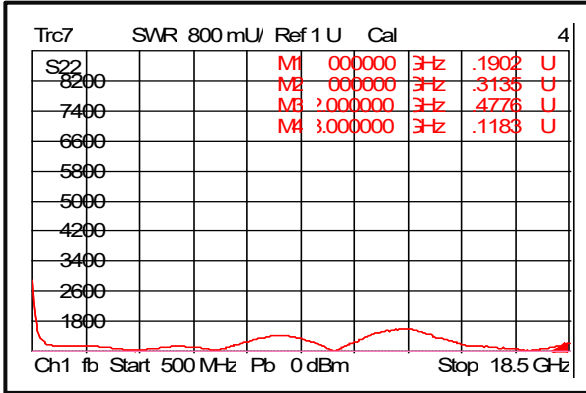
Insertion Loss @-40°C



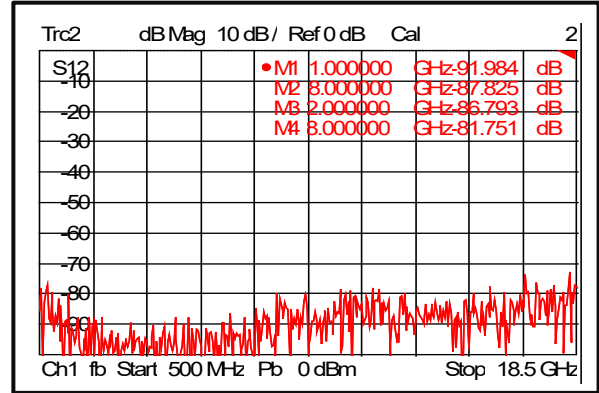
Input VSWR @-40°C



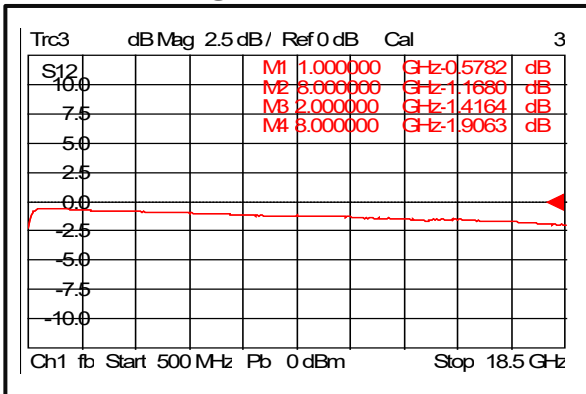
Output VSWR @-40°C



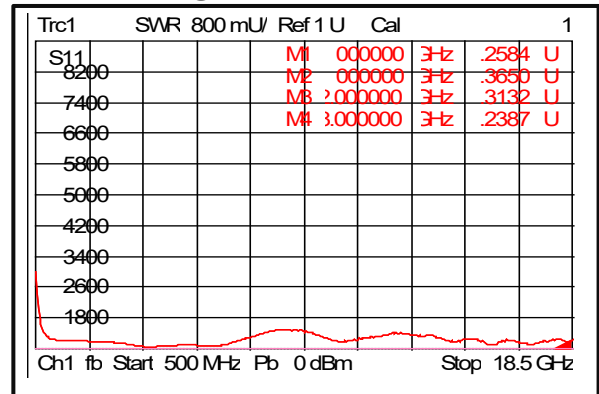
Isolation @-40°C



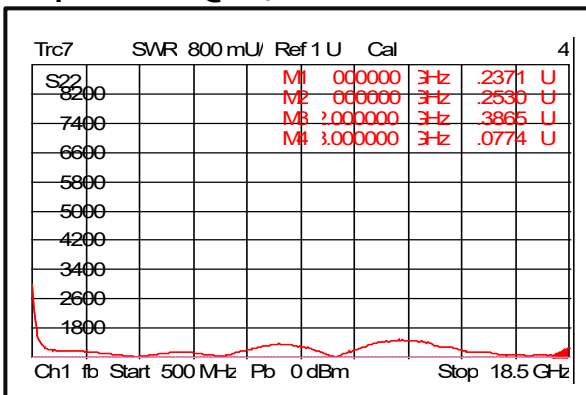
Insertion Loss @+85°C



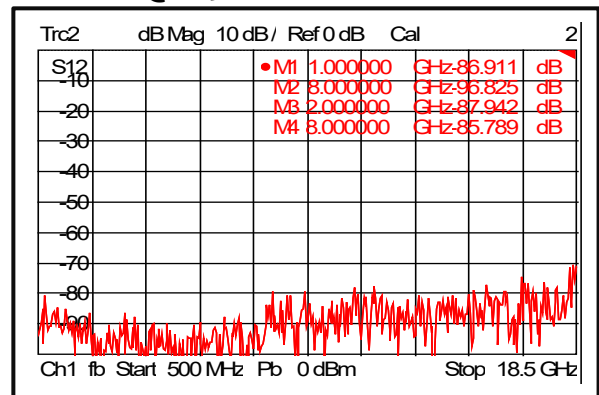
Input VSWR @+85°C



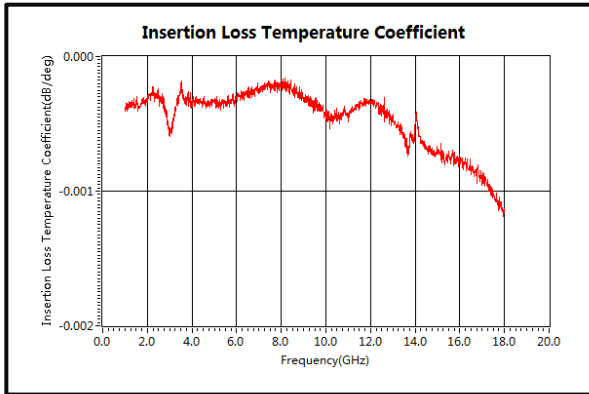
Output VSWR @+85°C



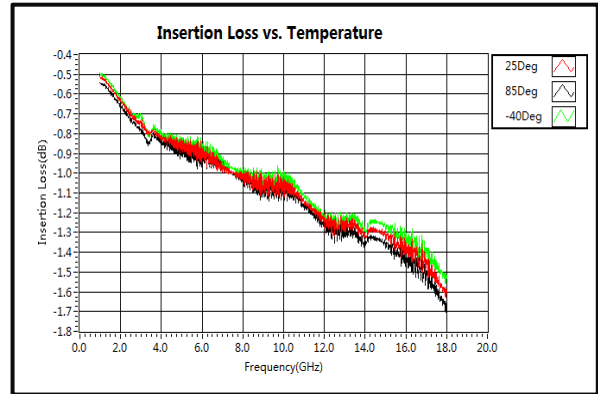
Isolation @+85°C



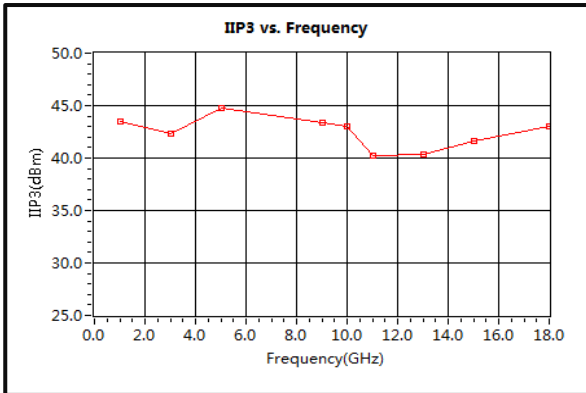
Insertion Loss Temperature Coefficient



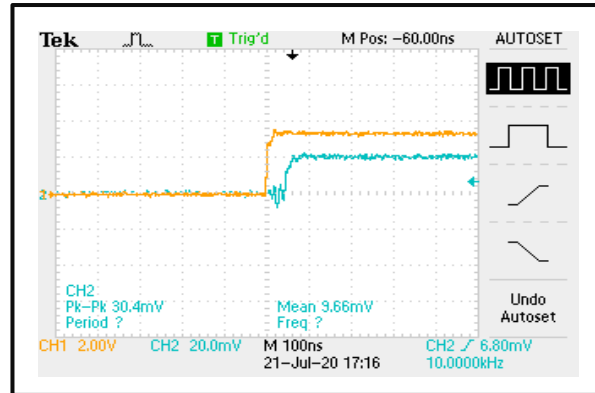
Insertion Loss vs. Temperature



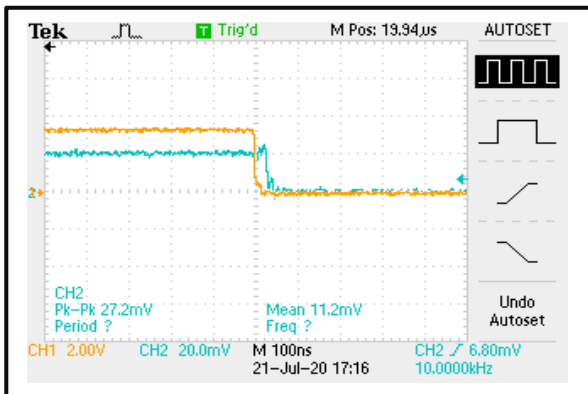
IIP3



Switching Speed



Switching Speed

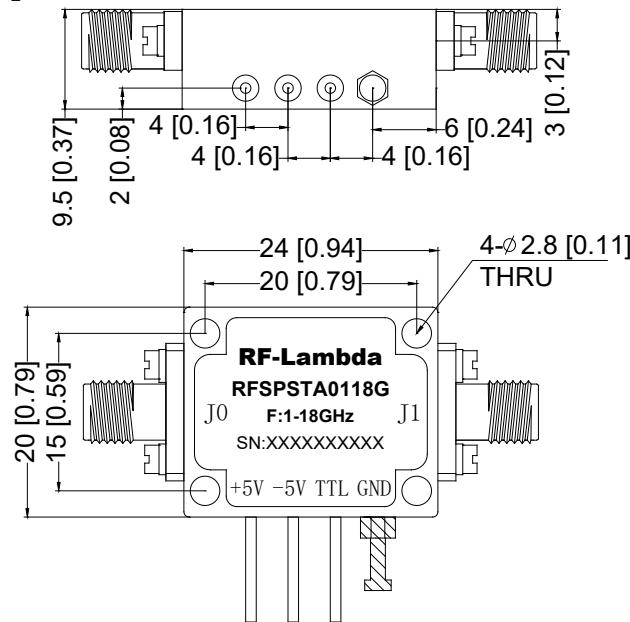


Outline Drawing:

All Dimensions in mm [inches]

Housing Tolerances ± 0.1 [0.004]

[X101]



Truth Table

TTL Control Voltage THRESHOLD	Low(0)=0~0.8V High(1)=2.8~5V
Control Input TTL	Signal Path State
1	ON
0	OFF
Control Pin Customization available upon request	



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Absorptive Coaxial Single Pole Double Throw Switch 1 - 18GHz