



Reflective 0.02-3GHz Coaxial SP2T Switch

Features

- Ultra Wide Band Operation 0.02-3GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request
- High Power Cold Switching



Typical Applications

- Wireless Infrastructure
- 5G communication
- Test and measurement Instrument

RF Microwave & VSAT
Fiber Optics

Parameters	Min.	Typ.	Max.	Units
Frequency Range	0.02~3			GHz
Insertion Loss		1.1	1.5	dB
Insertion Loss Temperature Coefficient		0.003		dB/ ° C
Isolation	60	80		dB
Input VSWR		1.4	1.6	: 1
Output VSWR		1.4	1.6	: 1
RF Input Power			37	dBm
DC Power Dissipation		1		W
0.1dB Compression Point (P 0.1dB)		37		dBm
IIP3		48		dBm
Switching Speed	500 Max.			ns
Weight	1.5 Max.			ounces
Impedance	50			Ω
Bias Current (12V)	120 Max.			mA
Input / Output Connectors	SMA-Female			
Finish	Gold Plated			
Material	Aluminum			
Sealing	Hermetically Sealed (optional)			



Absolute Maximum Ratings

Biassing	+12V±10%
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Environmental Specifications

Operational Temperature	-40°C~+85°C
Storage Temperature	-50°C~+105°C
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35°C, 95%RH at 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

Ordering Information

Part No.	Description
DBSR0200020300F	SP2T 0.02-3GHz PIN Diode Switch

Outline Drawing:

All Dimensions in mm (inches)

The drawing shows a rectangular component with dimensions in mm [inches]. Key features include:

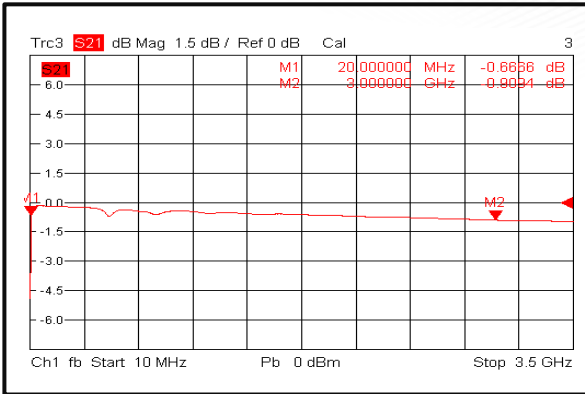
- Top surface: J0 connector, 44 [1.73] mm total width, 40.8 [1.61] mm width to the center of J0.
- Bottom surface: J1 and J2 connectors, 35 [1.38] mm total height, 31.8 [1.25] mm height to the center of J2.
- Control pins: GND, +12V, TTL, with 5 [0.20] mm spacing between GND and +12V, and 5 [0.20] mm between +12V and TTL.
- Bottom edge: 4-Ø 2.2 [0.09] THRU holes.
- Labels: RFECHO, F:0.02-3GHz, SN:XXXXXXXXXX.

Truth Table

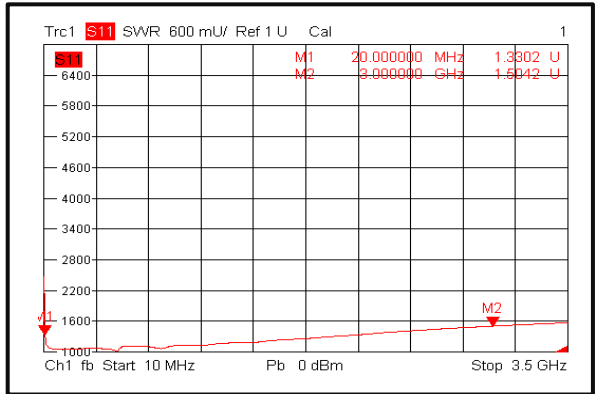
TTL Control Voltage THRESHOLD	Low(0)=0~0.8V High(1)=2.8~5V
Control Input TTL	Signal Path State
0	J0-J1
1	J0-J2
Control Pin Customization available upon request	



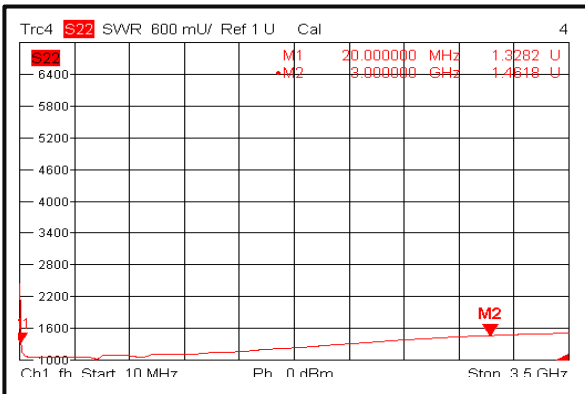
Insertion Loss @+25°C



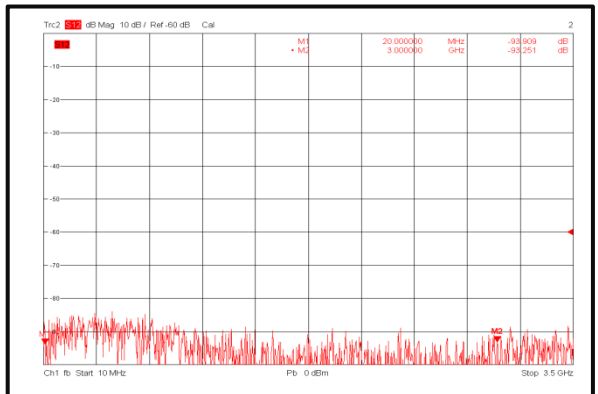
Input VSWR @+25°C



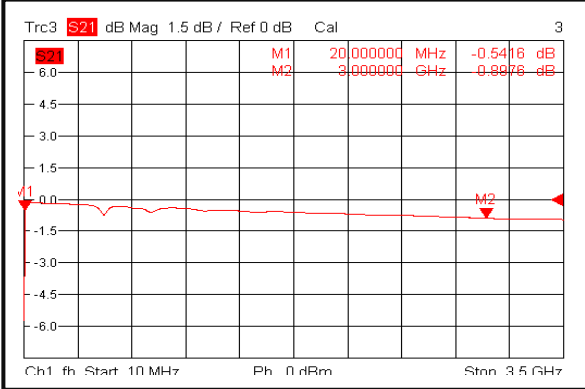
Output VSWR @+25°C



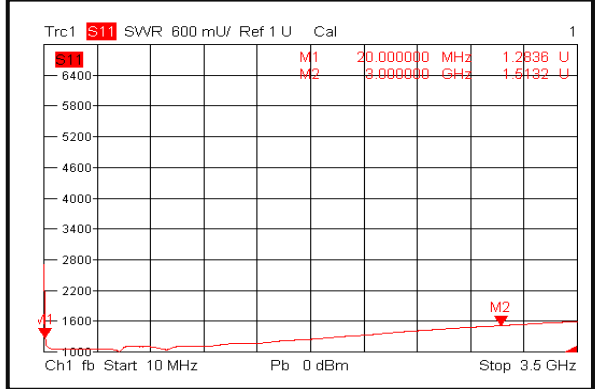
Isolation @+25°C



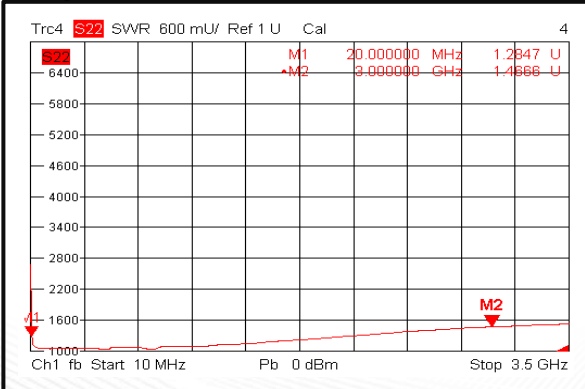
Insertion Loss @-40°C



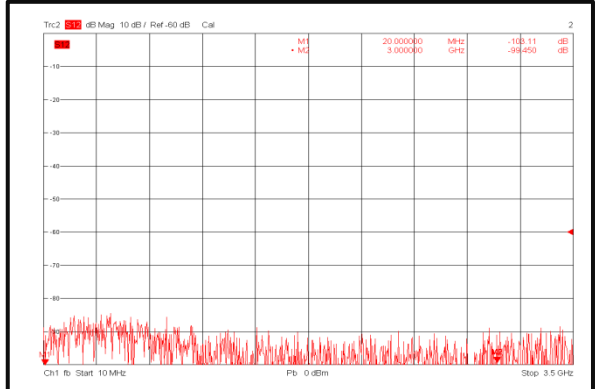
Input VSWR @-40°C



Output VSWR @-40°C

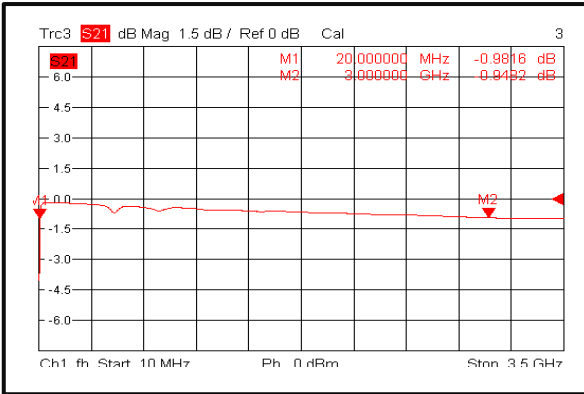


Isolation @-40°C

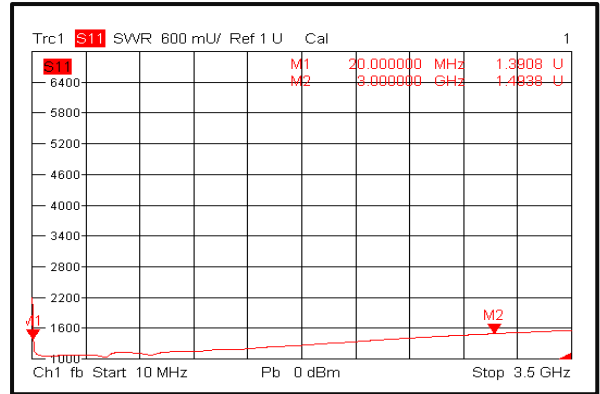




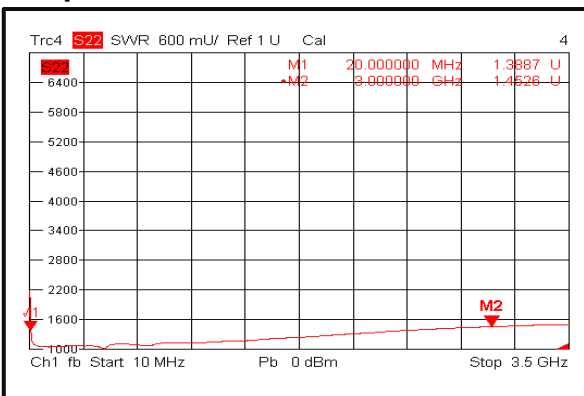
Insertion Loss @+85°C



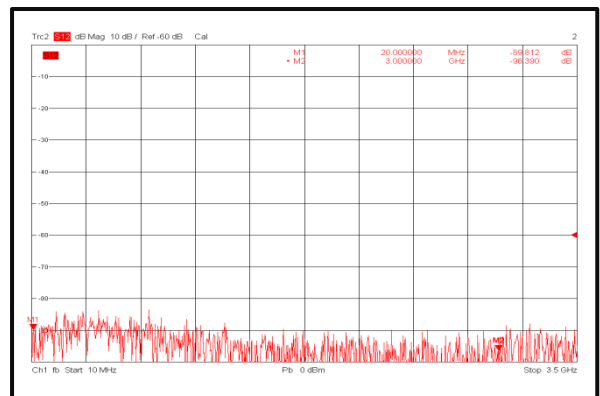
Input VSWR @+85°C



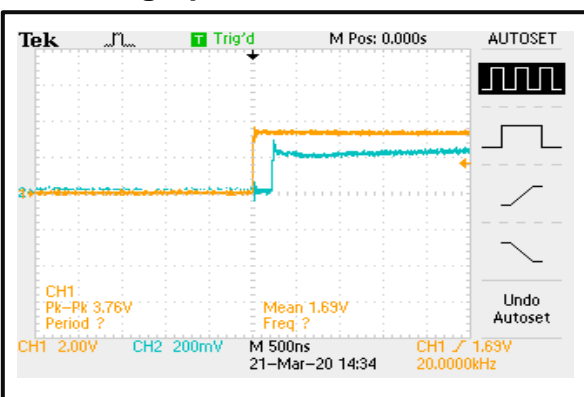
Output VSWR @+85°C



Isolation @+85°C



Switching Speed



Switching Speed

