



Absorptive Coaxial SP2T Switch 0.02 ~ 3GHz



Features

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

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

Description	PN: RFSP2TA0003G			
	SP2T Absorptive Switch			
	Low Power Cold Switching			
Parameters	Min.	Typ.	Max.	Units
Frequency Range	0.02		3	GHz
Insertion Loss		1.4	1.8	dB
Insertion Loss Temperature Coefficient		0.003		dB/°C
Isolation	70	80		dB
Input VSWR		1.3	1.5	:1
Output VSWR		1.3	1.5	:1
RF Input Power (CW)			30	dBm
DC Power Dissipation		0.4		W
0.1dB Compression Point (Po.1dB)		30		dBm
IIP3		55		dBm
Switching Speed		2.5		us
Weight		0.71		ounces
Impedance		50		Ω
Bias Current (+5V/-5V)		80/50		mA
Input / Output Connectors	SMA - Female			
Finish	Gold Plated			
Material	Aluminum			
Sealing	Hermetically Sealed (Optional)			

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Absolute Maximum Ratings

Biassing	+5V±10%/-5V±10%
TTL Control Voltage	0~0.8V / 2.8~5V

Note: TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

Ordering Information

Part No.	ECCN	Description
RFSP2TA0003G	EAR99	SP2T 0.02-3GHz PIN Diode Switch

Environmental Specifications and Test Standards

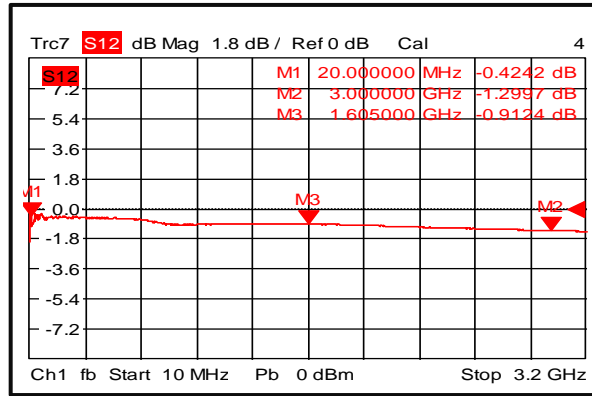
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-50°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 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	MIL-STD-883 (For Hermetically Sealed Units)

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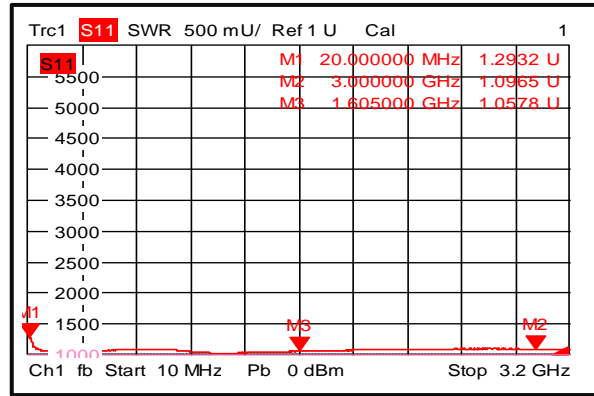


Typical Performance Plots

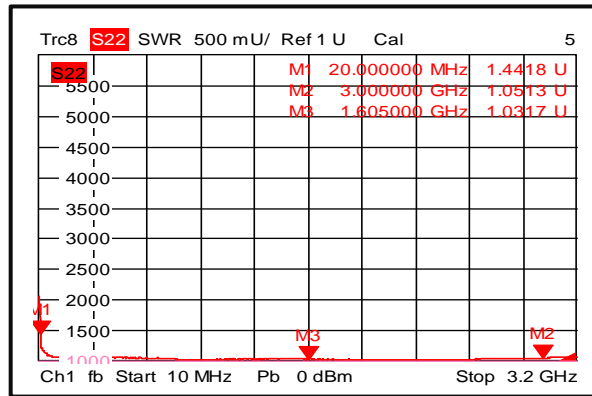
Insertion Loss @+25°C



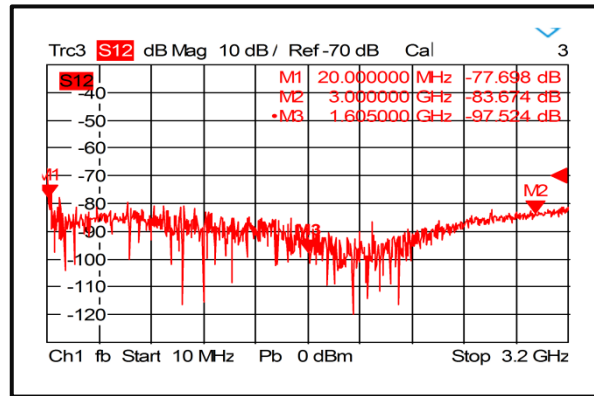
Input VSWR @+25°C



Output VSWR @+25°C



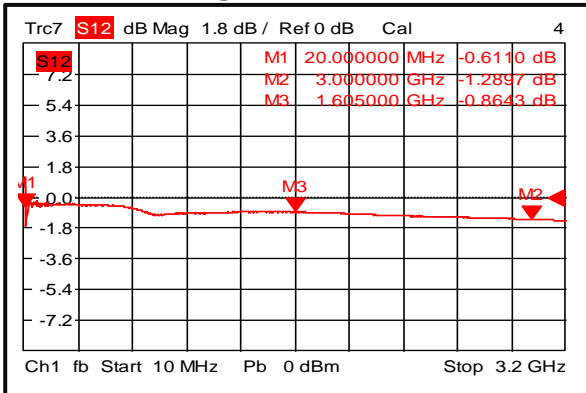
Isolation @+25°C



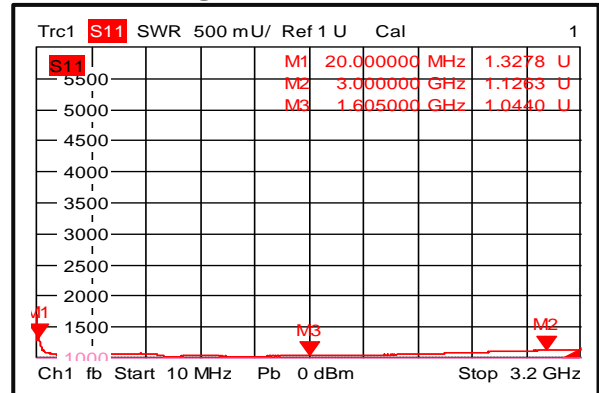
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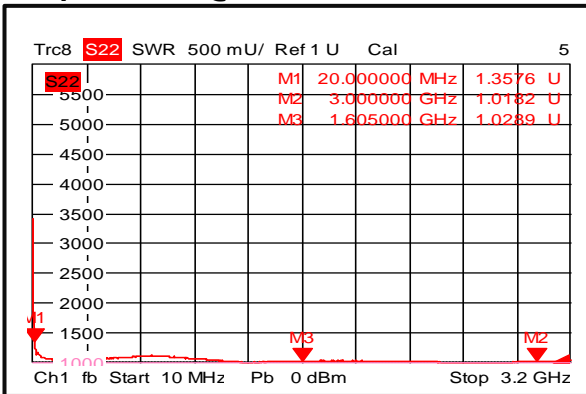
Insertion Loss @-45°C



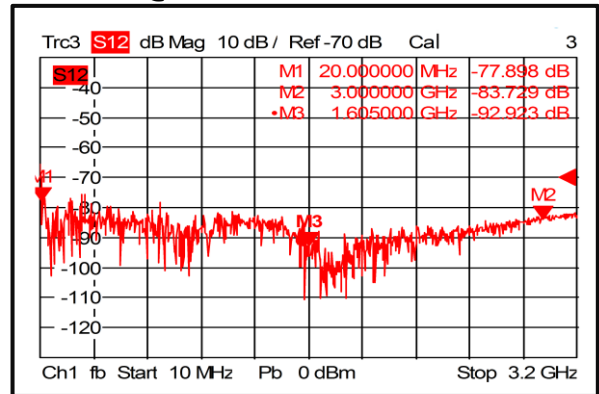
Input VSWR @-45°C



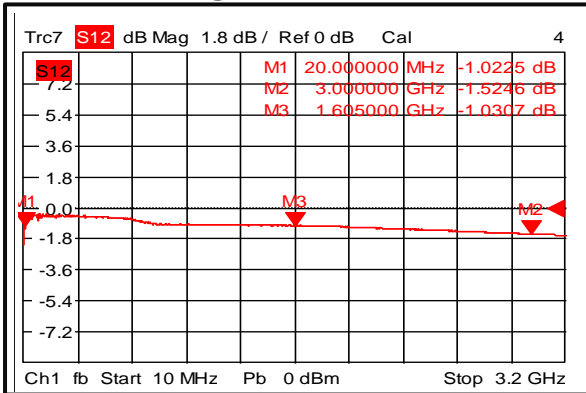
Output VSWR @-45°C



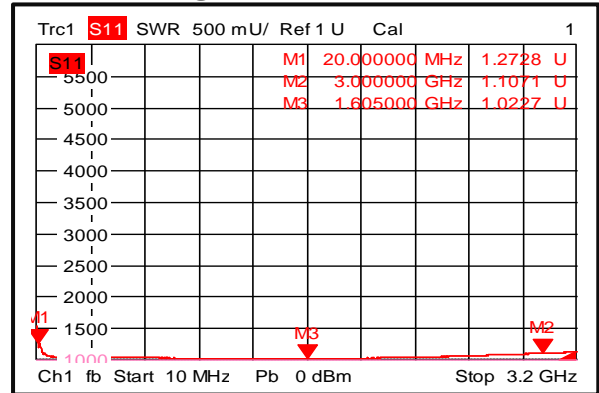
Isolation @-45°C



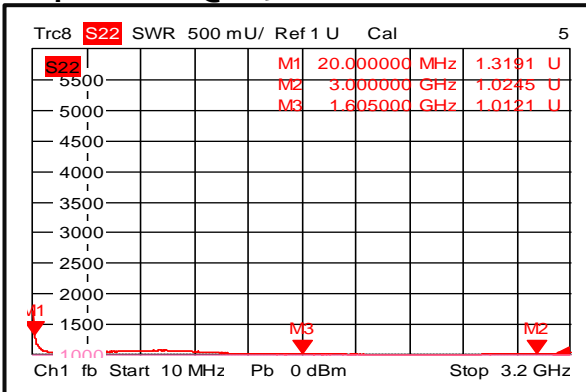
Insertion Loss @+85°C



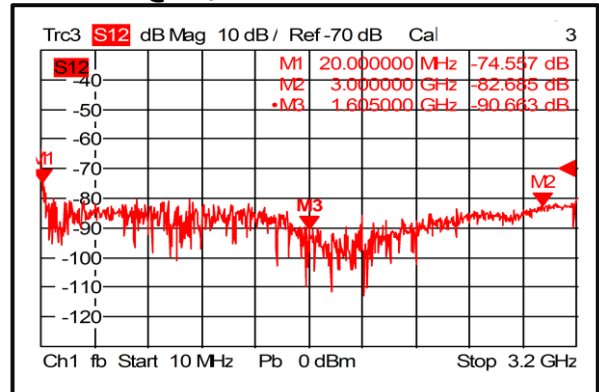
Input VSWR @+85°C



Output VSWR @+85°C



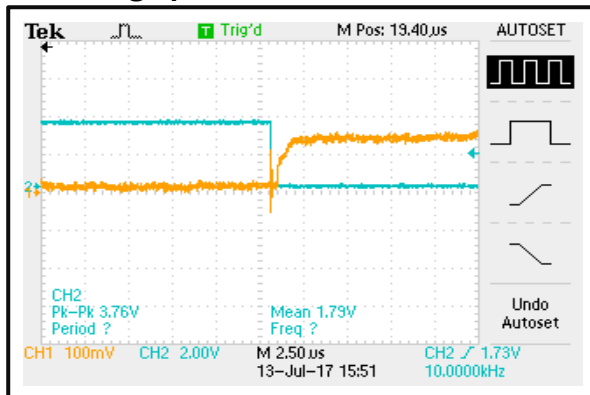
Isolation @+85°C



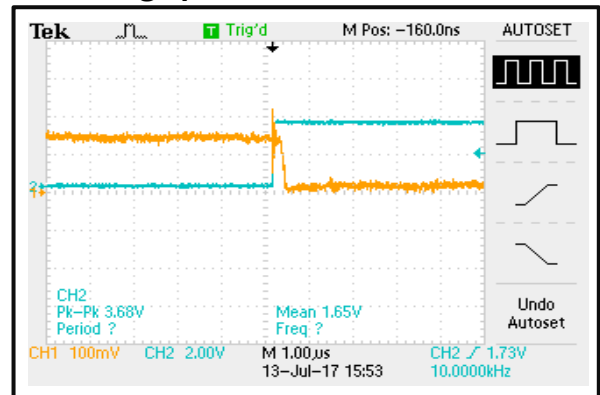
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Switching Speed

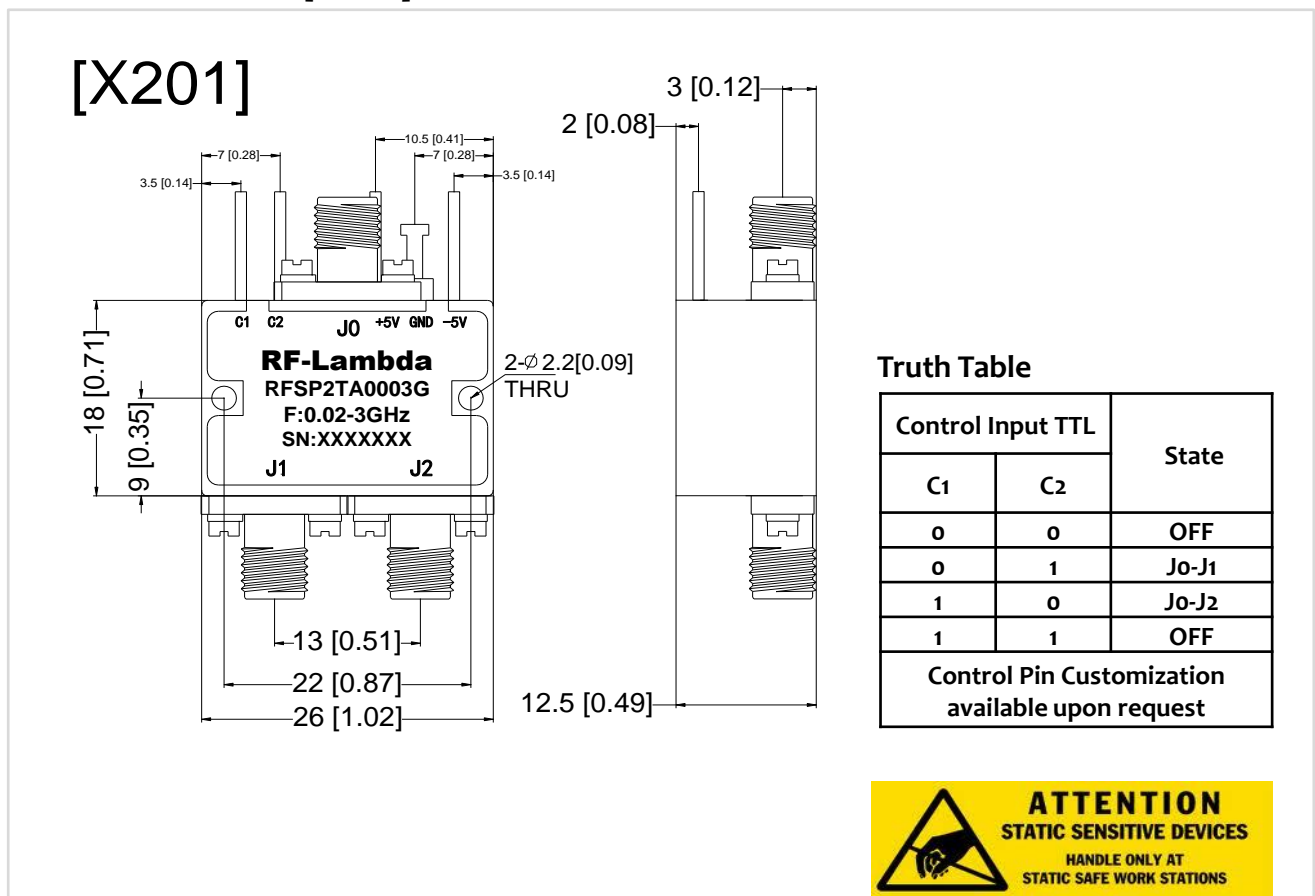


Switching Speed



Outline Drawing:

All Dimensions in mm [inches]



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