



Absorptive Coaxial SP3T Switch 1 - 2GHz



Features

- Wide Band Operation 1-2GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

Electrical Specifications, TA = +25 °C, Vdd = +5V/-5V, TTL = +5V

Description	PN: RFSP3TA0102G			
	SP3T Absorptive Switch			
	Low Power Cold Switching			
Parameters	Min	Typ.	Max	Units
Frequency Range	1~2			GHz
Insertion Loss		1	1.3	dB
Insertion Loss Temperature Coefficient		0.003		dB/°C
Isolation	80	85		dB
Input VSWR		1.2	1.4	:1
Output VSWR		1.2	1.4	:1
RF Input power (CW)			30	dBm
DC Power Dissipation		0.85		W
0.1dB Compression Point (P _{0.1dB})		30		dBm
IIP ₃		55		dBm
Switching Speed	100			ns
Weight	0.71			ounces
Impedance	50			Ω
Bias Current (+5V/-5V)	120/50			mA
Input / Output Connectors	SMA-Female			
Finishing	Gold Plating			
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
RFSP3TA0102G	EAR99	SP3T 1-2GHz PIN Diode Switch

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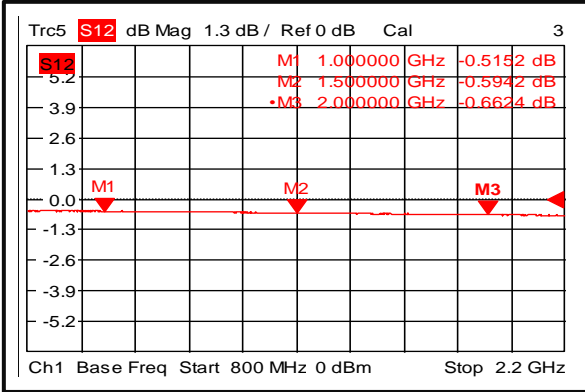
Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C (Case Temperature)
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)

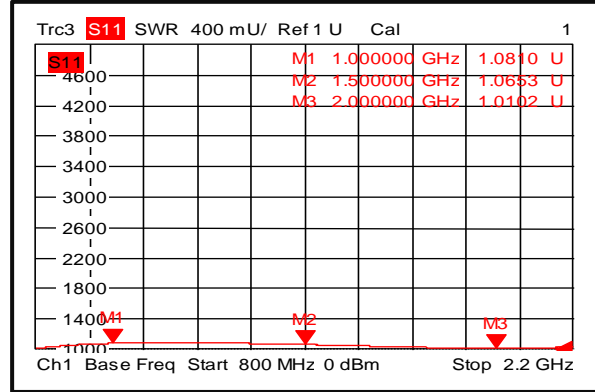


Typical Performance Plots

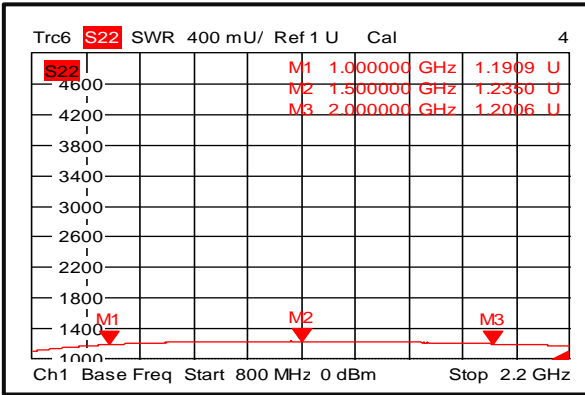
Insertion Loss @+25°C



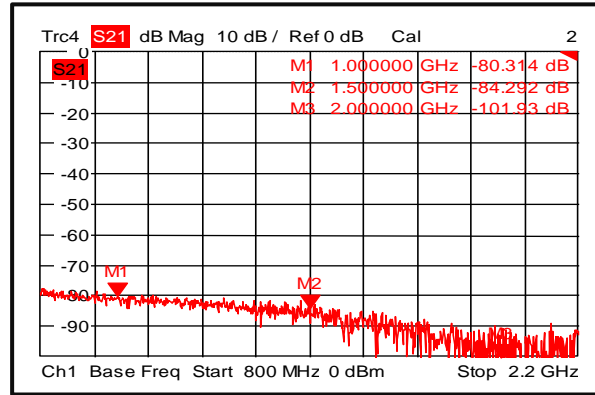
Input VSWR @+25°C



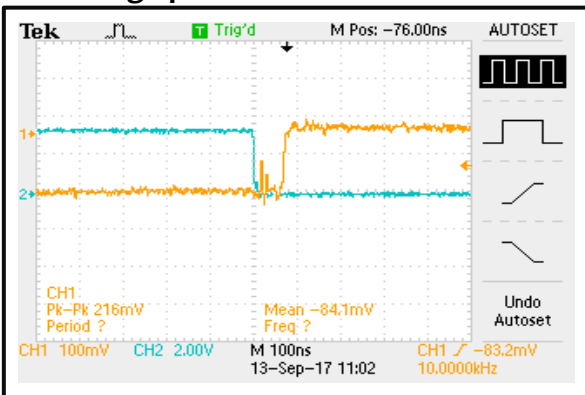
Output VSWR @+25°C



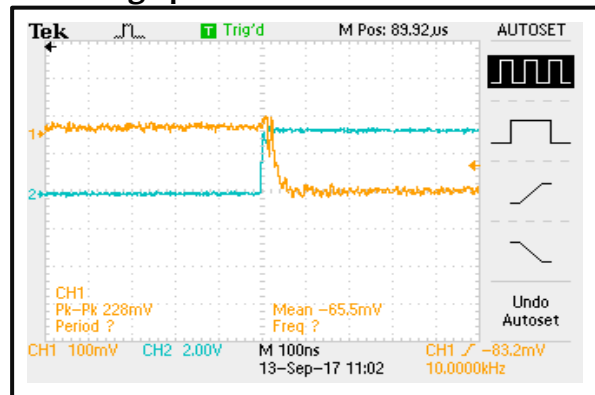
Isolation @+25°C



Switching Speed



Switching Speed



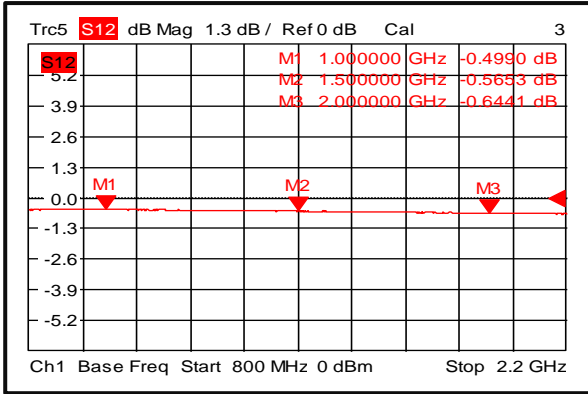


RF-LAMBDA

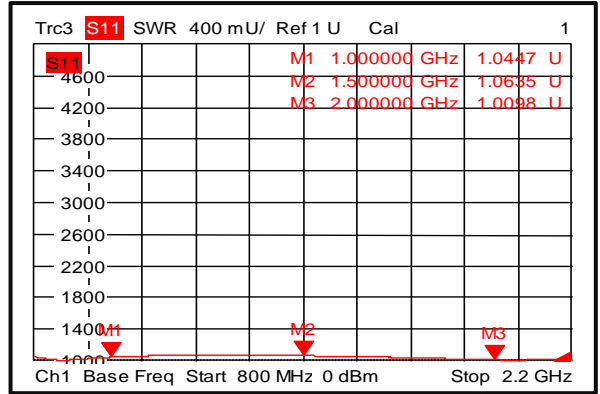
LEADER OF RF BROADBAND SOLUTIONS

RFSP3TA0102G

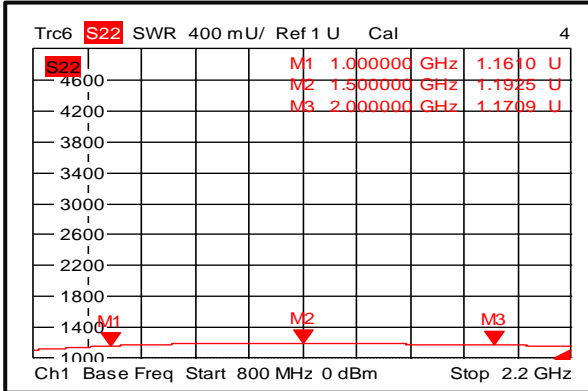
Insertion Loss @-45°C



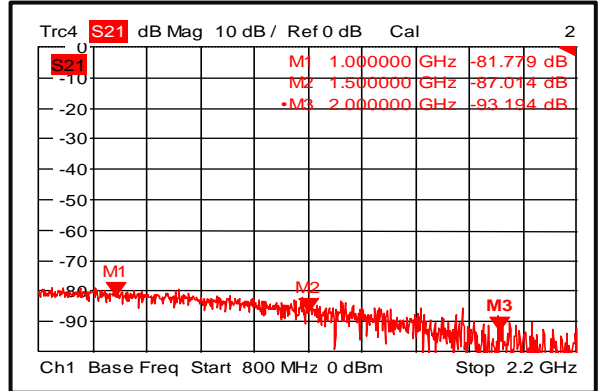
Input VSWR @-45°C



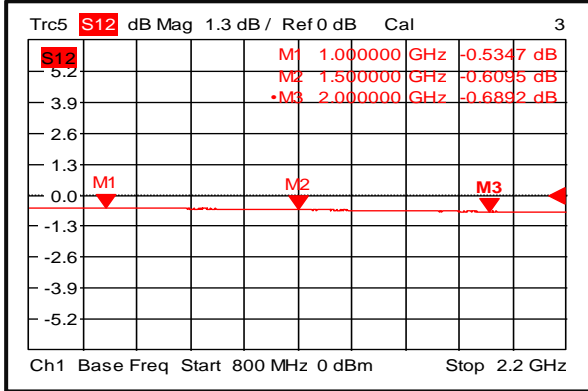
Output VSWR @-45°C



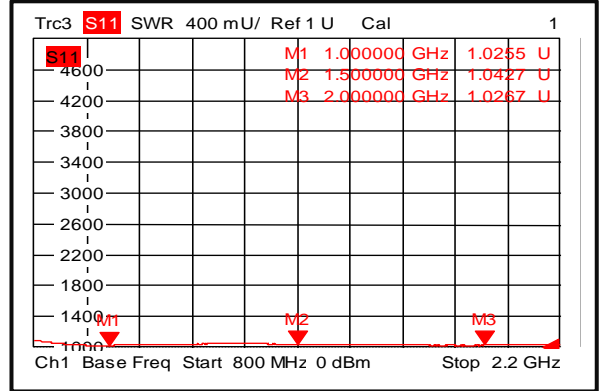
Isolation @-45°C



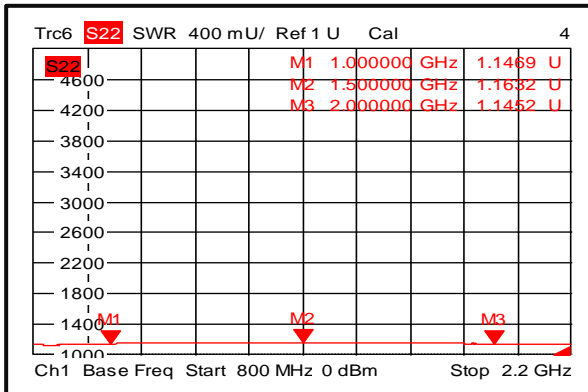
Insertion Loss @+85°C



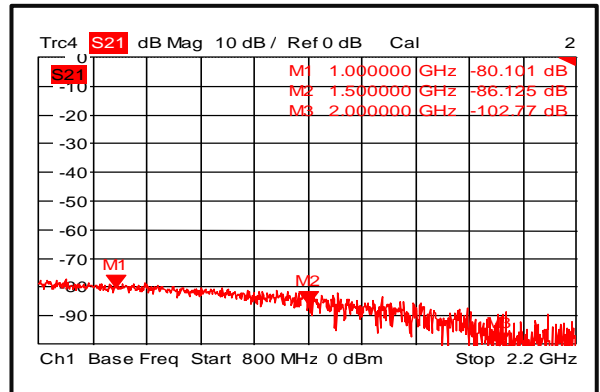
Input VSWR @+85°C



Output VSWR @+85°C



Isolation @+85°C

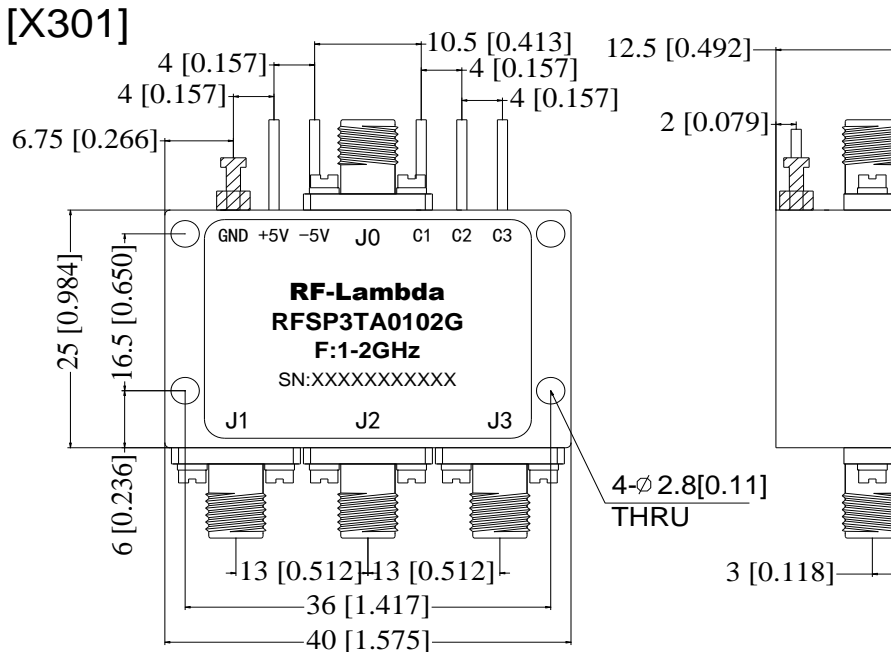


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Outline Drawing:

All Dimensions in mm [inches]



Truth Table

Control Input TTL			Signal Path State
C1	C2	C3	
0	0	0	Not used
0	1	1	Jo-J1
1	0	1	Jo-J2
1	1	0	Jo-J3
1	1	1	OFF

Control Pin Customization available upon request



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