



Absorptive Coaxial SP2T Switch 0.02 ~ 3GHz



Features

- Wide Band Operation 0.02-3GHz
- Functional Bandwidth : 20 MHz to 12 GHz
- 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, $T_A = +25\text{ }^\circ\text{C}$, $V_{dd} = +12\text{V}/-12\text{V}$, $TTL = 0 / +5\text{V}$

Description	PN: RFSP2TA0003GBA						
	SP2T Absorptive Switch						
	Low Power Cold Switching						
Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.02~3			3~12			GHz
Insertion Loss		1.5	2.0		3.8	4.2	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/°C
Isolation	70	85		65	70		dB
Input VSWR		1.3	1.5		1.5	1.8	: 1
Output VSWR		1.3	1.5		1.5	1.8	: 1
RF Input Power (CW)			30			30	dBm
DC Power Dissipation		0.6			0.6		W
0.1dB Compression Point (Po.1dB)		30			30		dBm
IIP3		55			55		dBm
Switching Speed		250	500		250	500	ns
Weight	0.75 Max.						ounces
Impedance	50						Ω
Bias Current (+12/ -12V)	80/50 Max.						mA
Input / Output Connectors	SMA-Female						
Finish	Gold Plated						
Material	Aluminum						
Sealing	Hermetically Sealed (Optional)						

Absorptive Coaxial Single Pole Double Throw Switch 0.02 - 3GHz



Absolute Maximum Ratings

Biasing	±12V±5%
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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.	ECCN	Description
RFSP2TA0003GBA	EAR99	SP2T 0.02-3GHz PIN Diode Switch

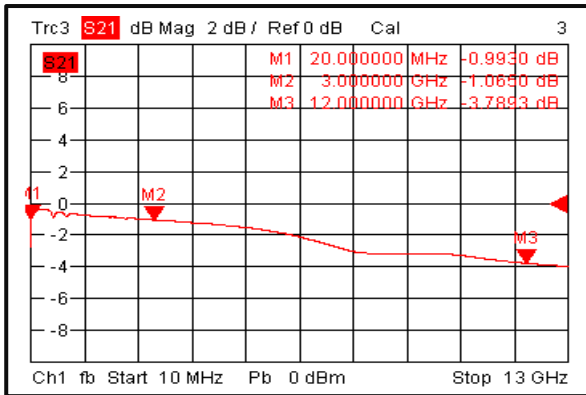
Environmental Specifications and Test Standards

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

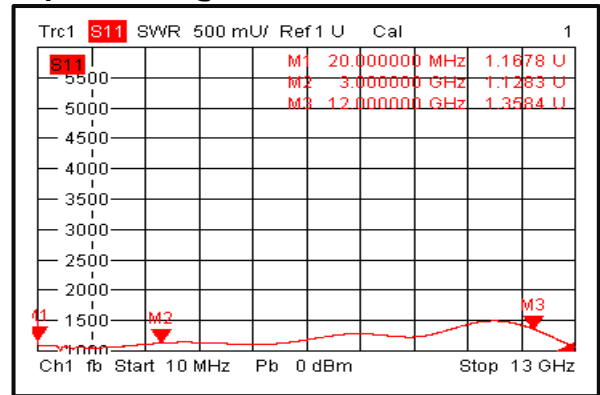


Typical Performance Plots

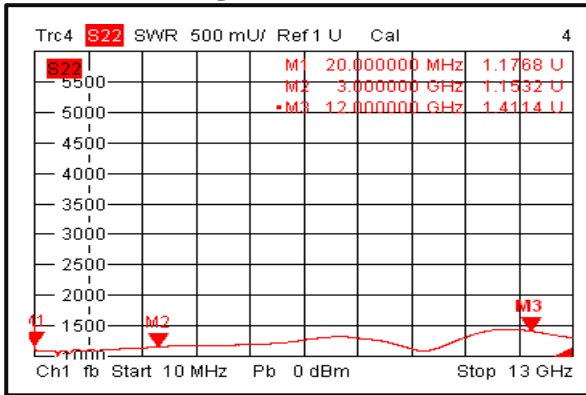
Insertion Loss @+25°C



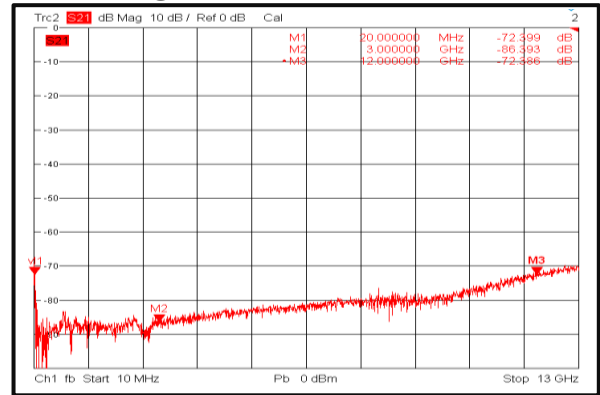
Input VSWR @+25°C



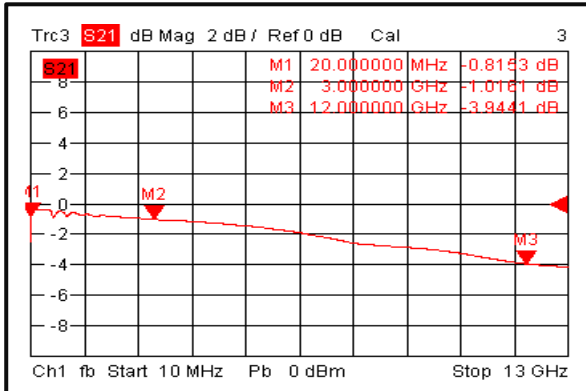
Output VSWR @+25°C



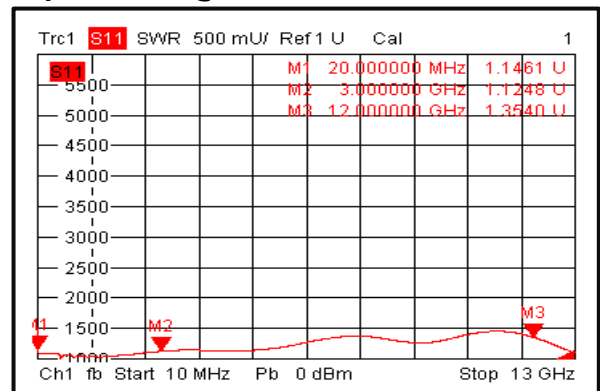
Isolation @+25°C



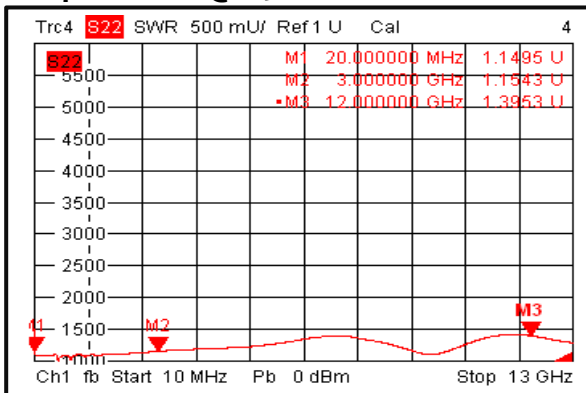
Insertion Loss @-45°C



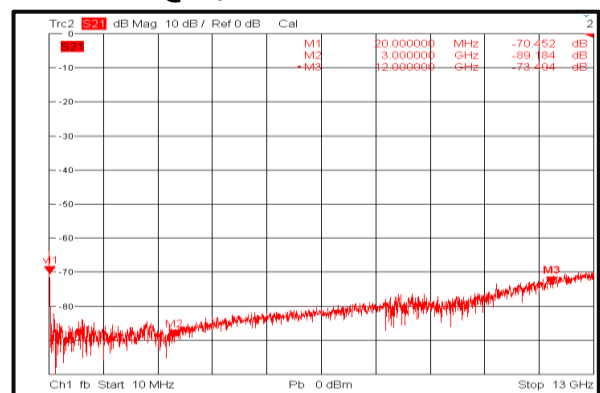
Input VSWR @-45°C



Output VSWR @-45°C

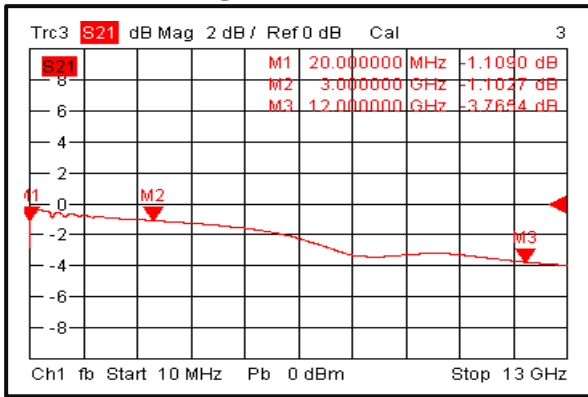


Isolation @-45°C

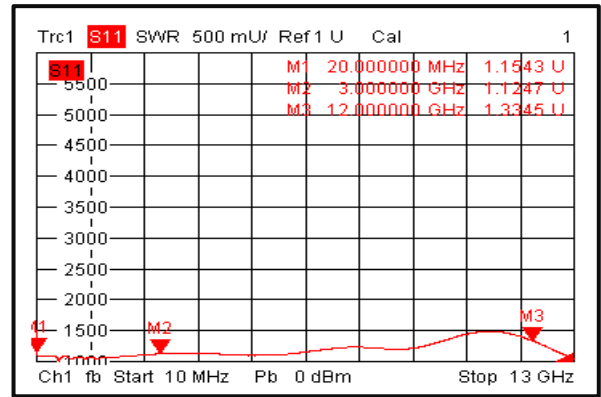




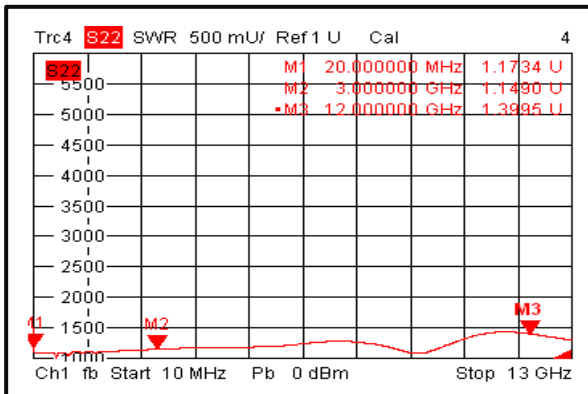
Insertion Loss @+85°C



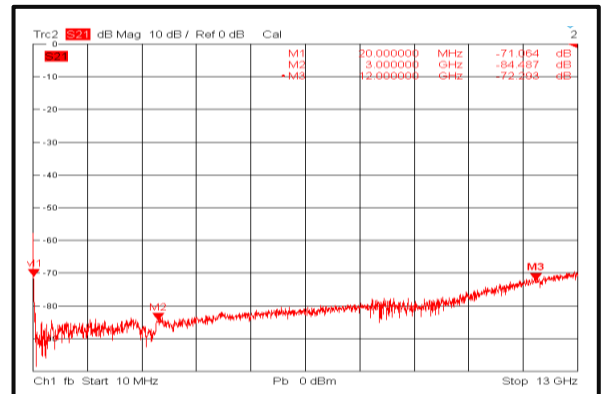
Input VSWR @+85°C



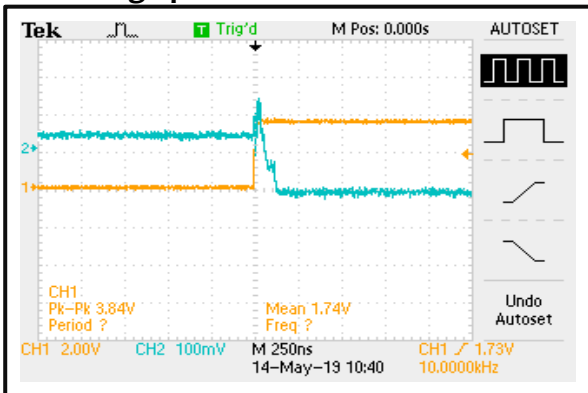
Output VSWR @+85°C



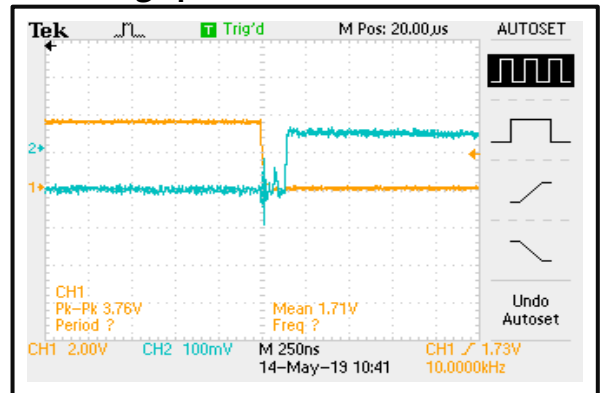
Isolation @+85°C



Switching Speed



Switching Speed

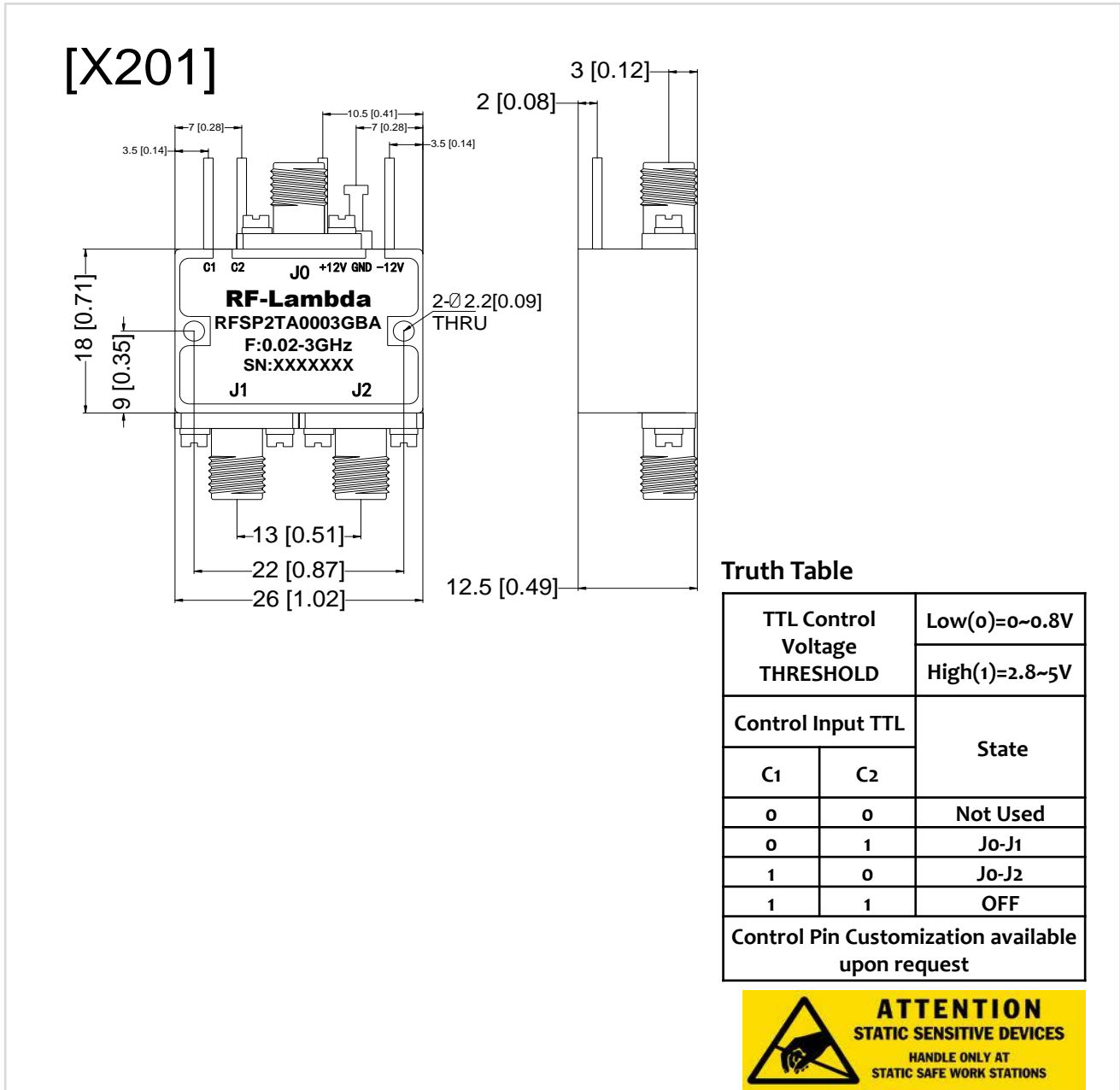


Absorptive Coaxial Single Pole Double Throw Switch 0.02 - 3GHz



Outline Drawing:

All Dimensions in mm [inches]



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