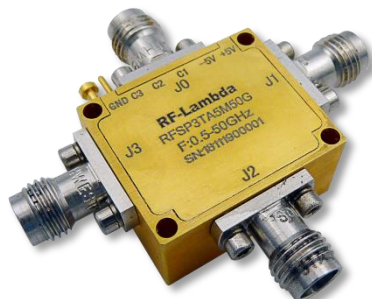


Absorptive Coaxial SP3T Switch 0.5 - 50GHz



Features

- Ultra Wide Band Operation 0.5-50GHz
- 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: RFSP3TA5M50G									
	SP3T Absorptive Switch									
	Low Power Cold Switching									
Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.5-30			30-43.5			43.5-50			GHz
Insertion Loss		4.5	5.0		5	6.0		6.5	7.2	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/ $^\circ\text{C}$
Isolation	50	60		42	50		40	45		dB
Input VSWR		2.5	3		2.5	3		2.5	3	:1
Output VSWR		2.5	3		2.5	3		2.5	3	:1
RF Input Power			23			23			23	dBm
DC Power Dissipation		0.6			0.6			0.6		W
0.1dB Compression Point ($P_{0.1\text{dB}}$)		23			23			23		dBm
IIP3		43			38			33		dBm
Switching Speed	100 Max.									ns
Weight	0.75 Max.									Ounces
Impedance	50									Ω
Bias Current (+5V / -5V)	120/50 Max.									mA
Input / Output Connectors	2.4mm-Female									
Finish	Gold Plated									
Material	Aluminum									
Sealing	Hermetically Sealed (Optional)									

Absolute Maximum Ratings

Biasing	+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

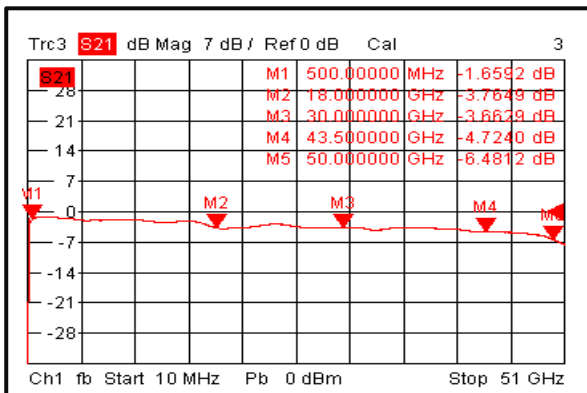
Part No.	Description
RFSP3TA5M50G	SP3T 0.5-50GHz PIN Diode Switch

Environmental Specifications and Test Standards

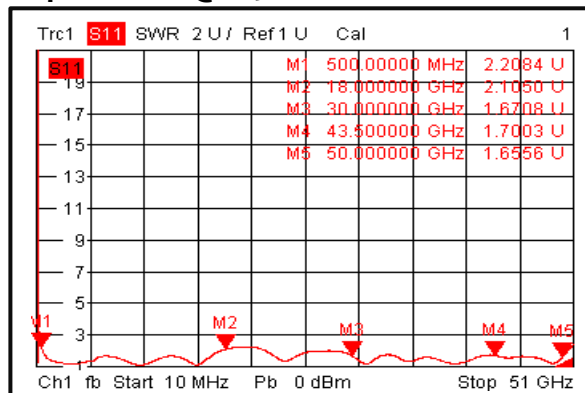
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours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

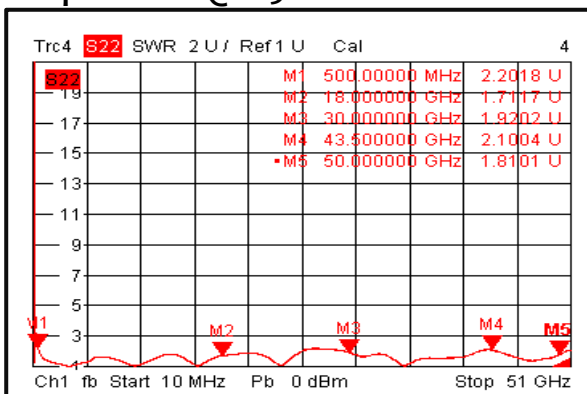
Insertion Loss @+25°C



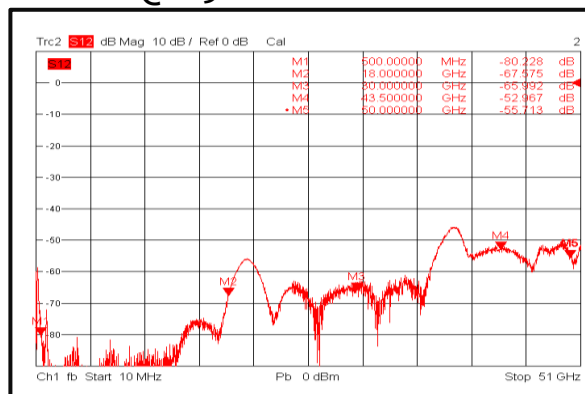
Input VSWR @+25°C



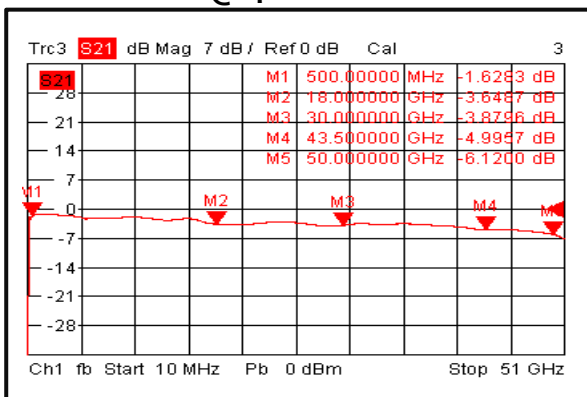
Output VSWR @+25°C



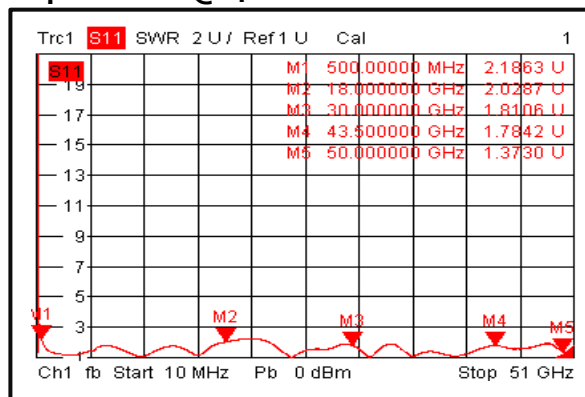
Isolation @+25°C



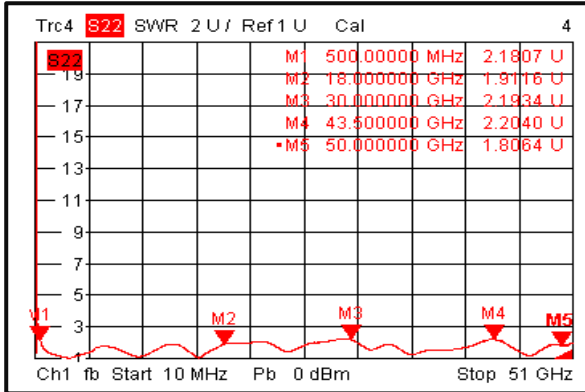
Insertion Loss @-40°C



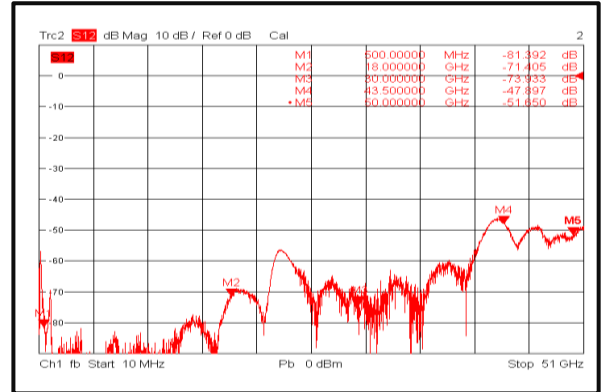
Input VSWR @-40°C



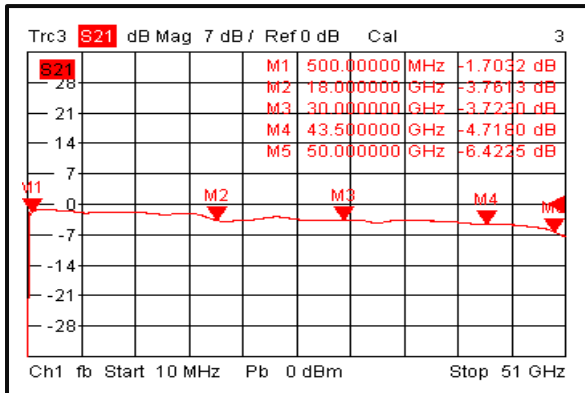
Output VSWR @-40°C



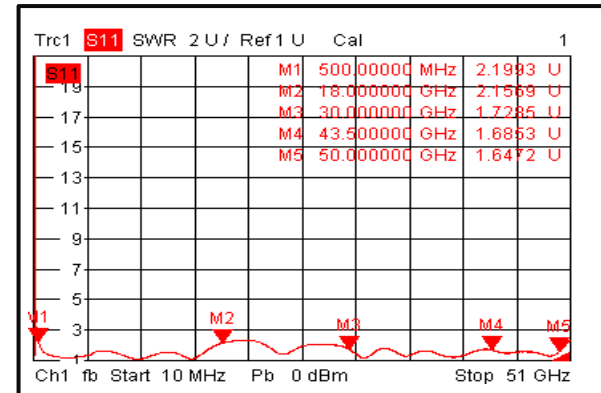
Isolation @-40°C



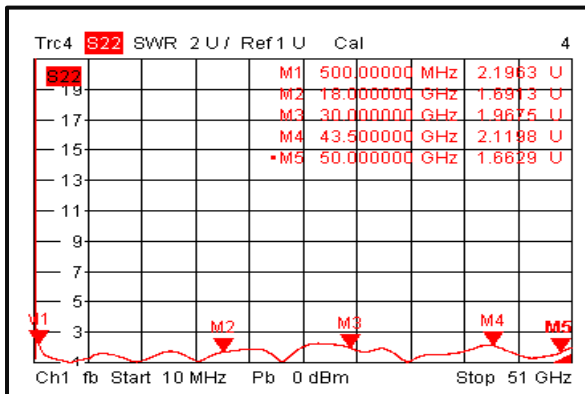
Insertion Loss @+85°C



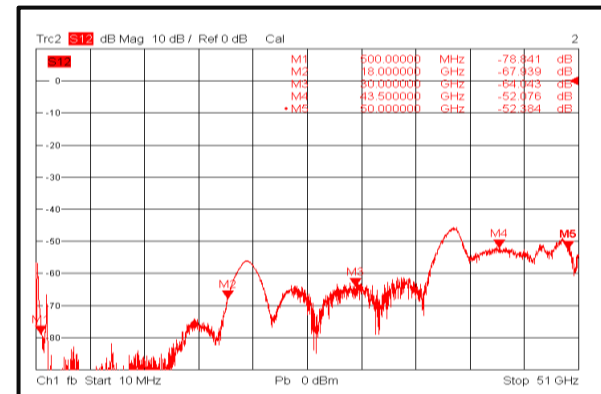
Input VSWR @+85°C



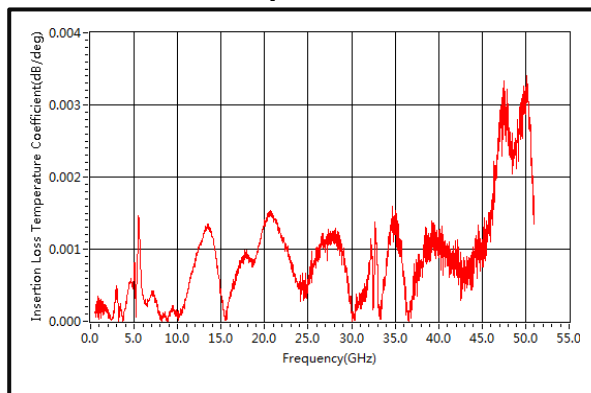
Output VSWR @+85°C



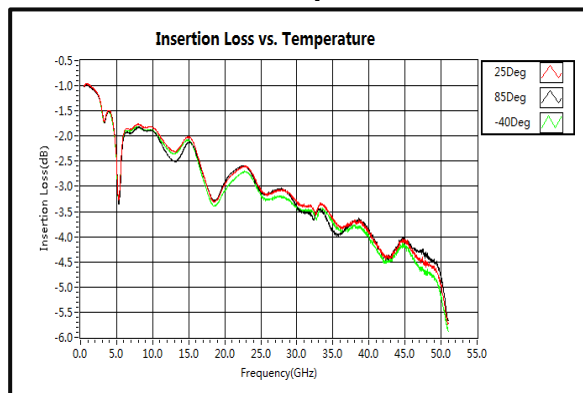
Isolation @+85°C



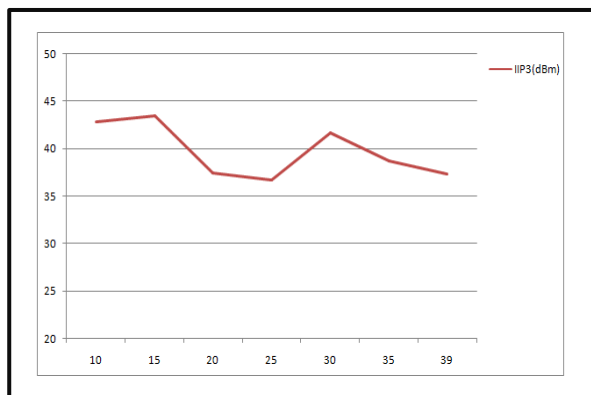
Insertion Loss Temperature Coefficient



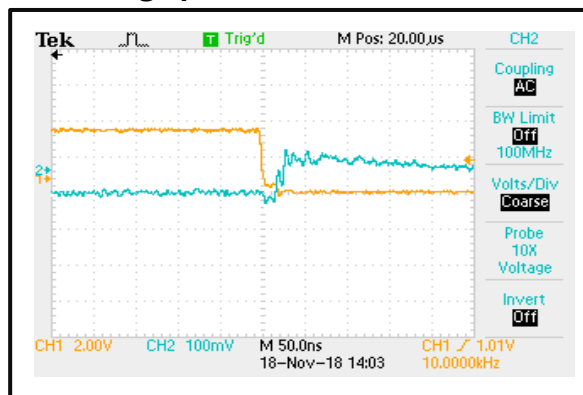
Insertion Loss vs. Temperature



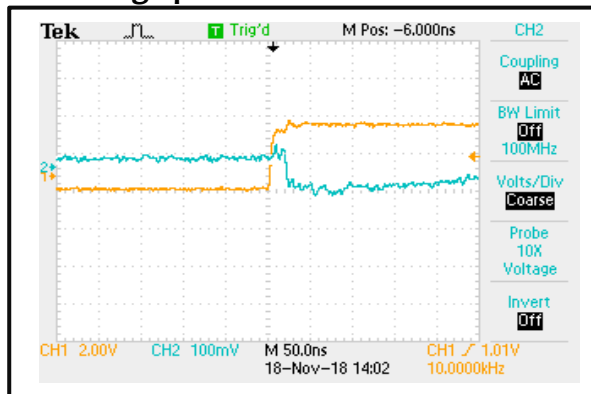
IIP3



Switching Speed

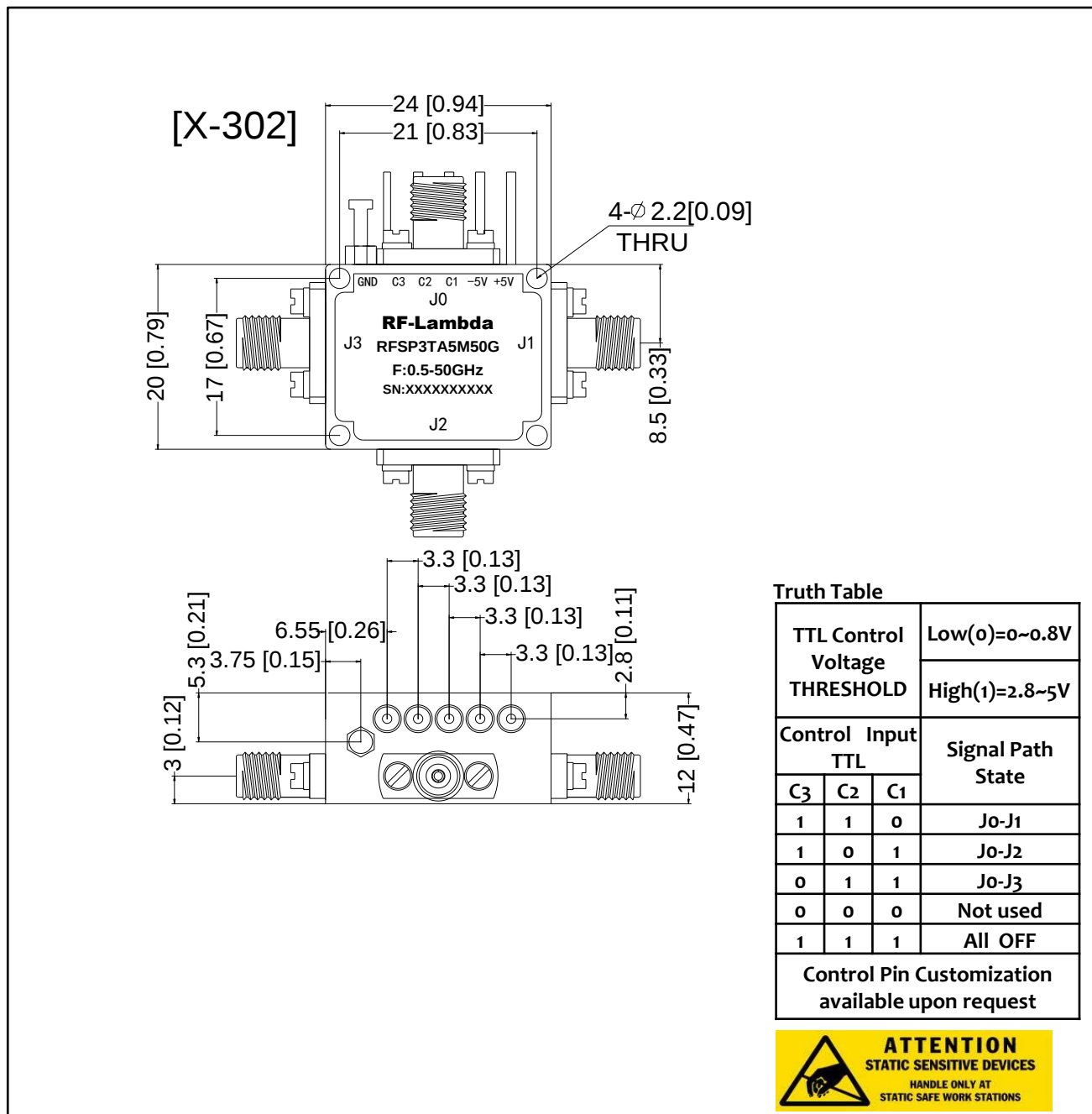


Switching Speed



Outline Drawing:

All Dimensions in mm [inches]



AbsorptiveCoaxial Single Pole Three Throw Switch 0.5 - 50GHz

Important Notice

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