



### Reflective Coaxial SP2T Switch 2 - 50GHz



#### Features

- Ultra Wide Band Operation 2-50GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation

#### Typical Applications

- Wireless Infrastructure
- RF Microwave & VSAT
- Military & Aerospace

Electrical Specifications, TA = +25 °C, Vdd = +5V/-12V, TTL = 0 / +5V

Description	PN: RFSP2TR0250G						
	SP2T Reflective Switch						
	Low Power Cold Switching						
Parameters	Min	Typ.	Max	Min	Typ.	Max	Units
Frequency Range	2-26		26-50				GHz
Insertion Loss		2.5	3.2		4.5	5.5	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/°C
Isolation	38	45		37	45		dB
Input VSWR		1.8	2.5		2	2.5	: 1
Output VSWR		1.8	2.5		2	2.5	: 1
RF Input power (CW)			+23			+23	dBm
DC Power Dissipation (CW)		0.5			0.5		W
0.1dB Compression Point (Po.1dB )		23			23		dBm
IIP3		50			45		dBm
Switching Speed			100			100	ns
Weight	0.71						ounces
Impedance	50						Ω
Bias Current (+5V/-12V)	70/80						mA
Input / Output Connectors	2.4mm-Female						
Finish	Gold Plated						
Material	Aluminum						
Seal	Hermetically Sealed (Optional)						

Reflective Coaxial Single Pole Double Throw Switch 2 - 50GHz



### Absolute Maximum Ratings

Biasing	+5V±10% / -12V±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
RFSP2TR0250G	EAR99	SP2T 2-50GHz PIN Diode Switch

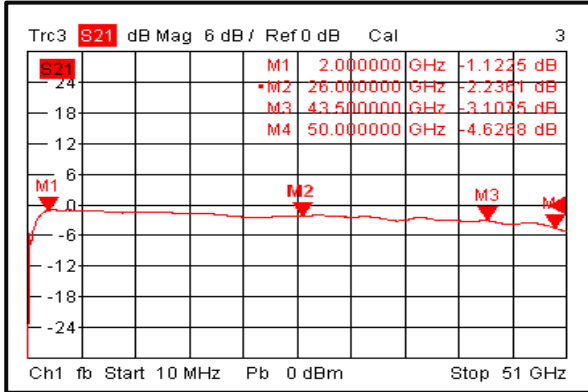
### Environmental Specifications and Test Standards

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)

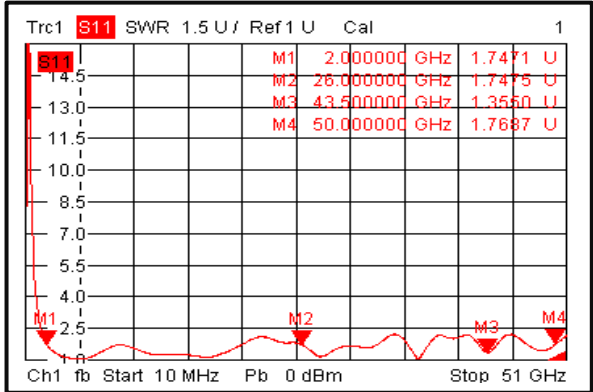


### Typical Performance Plots

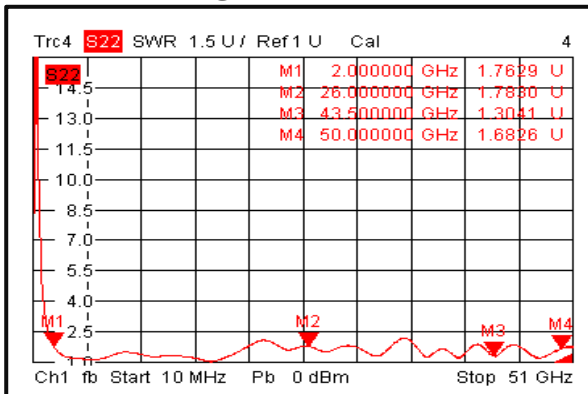
#### Insertion Loss @+25°C



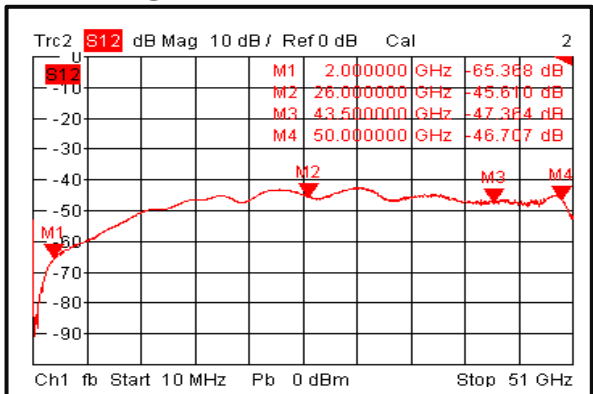
#### Input VSWR @+25°C



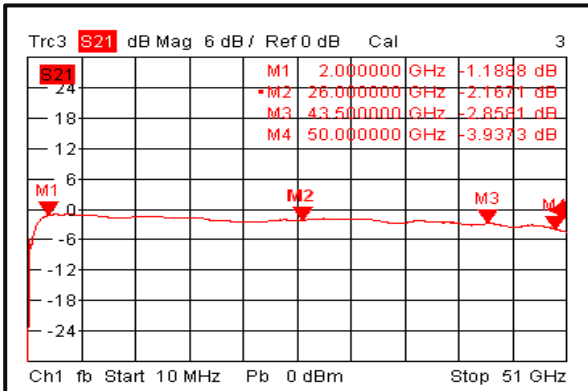
#### Output VSWR @+25°C



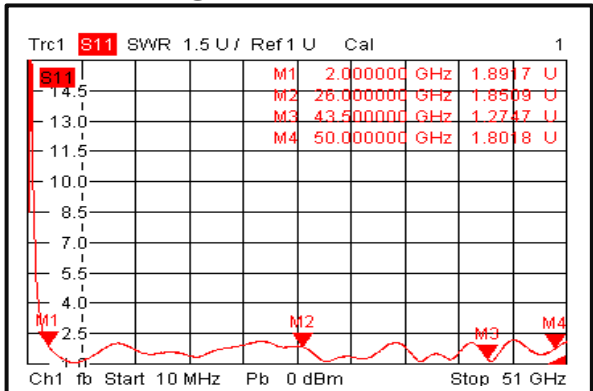
#### Isolation @+25°C



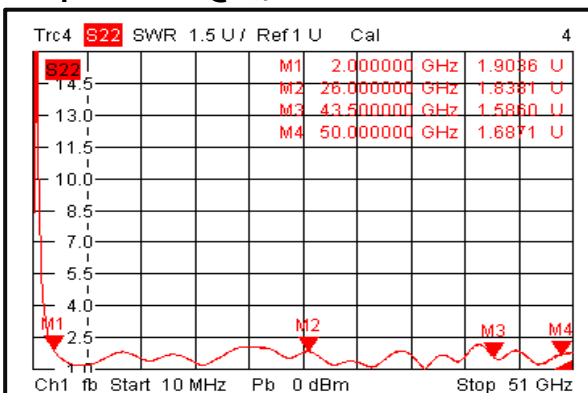
#### Insertion Loss @-45°C



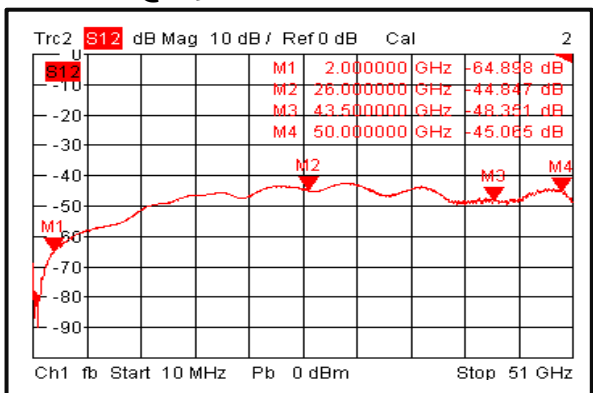
#### Input VSWR @-45°C



#### Output VSWR @-45°C

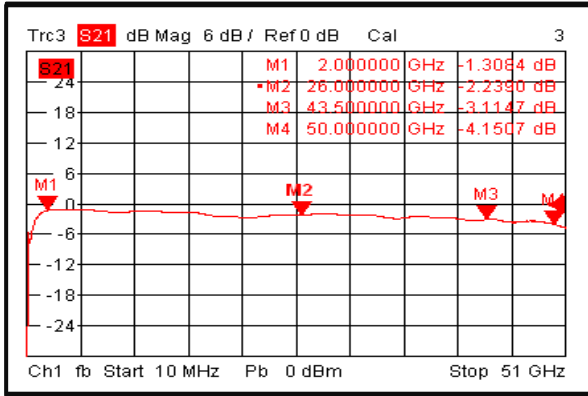


#### Isolation @-45°C

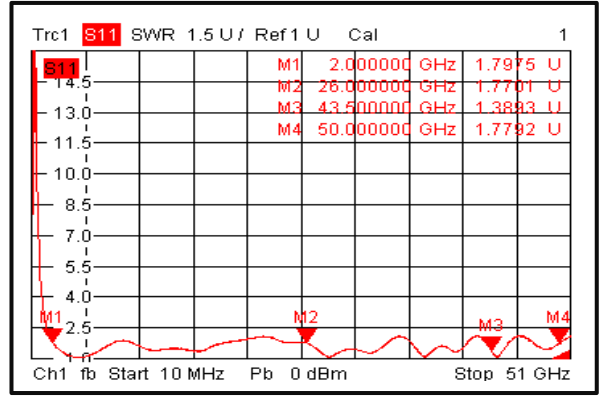




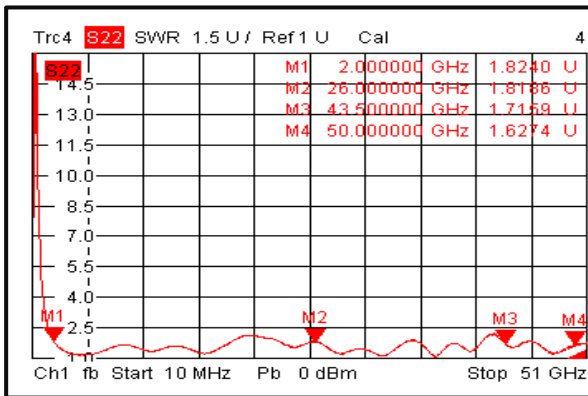
### Insertion Loss @+85°C



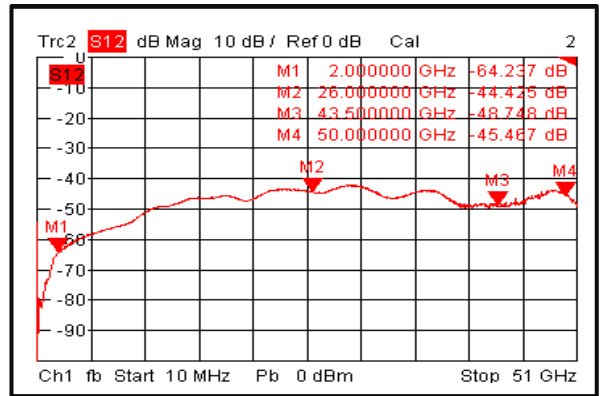
### Input VSWR @+85°C



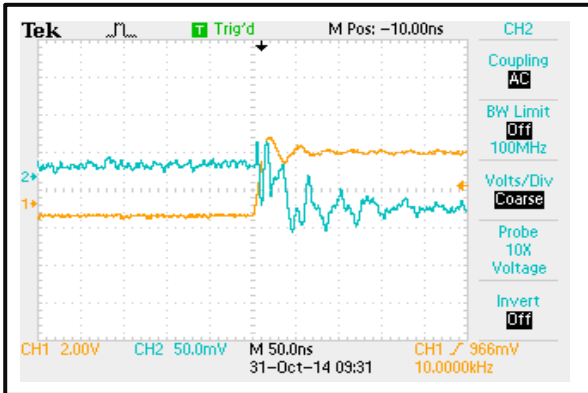
### Output VSWR @+85°C



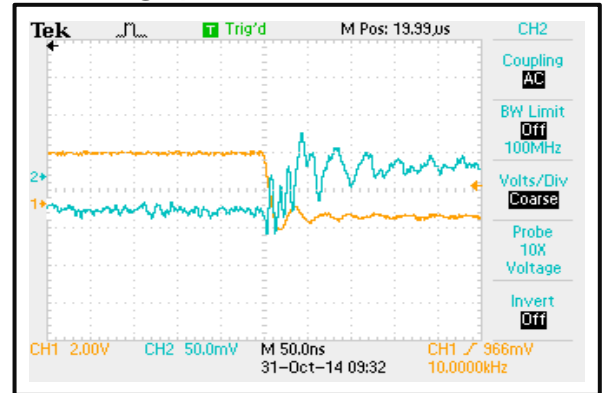
### Isolation @+85°C



### Switching Speed



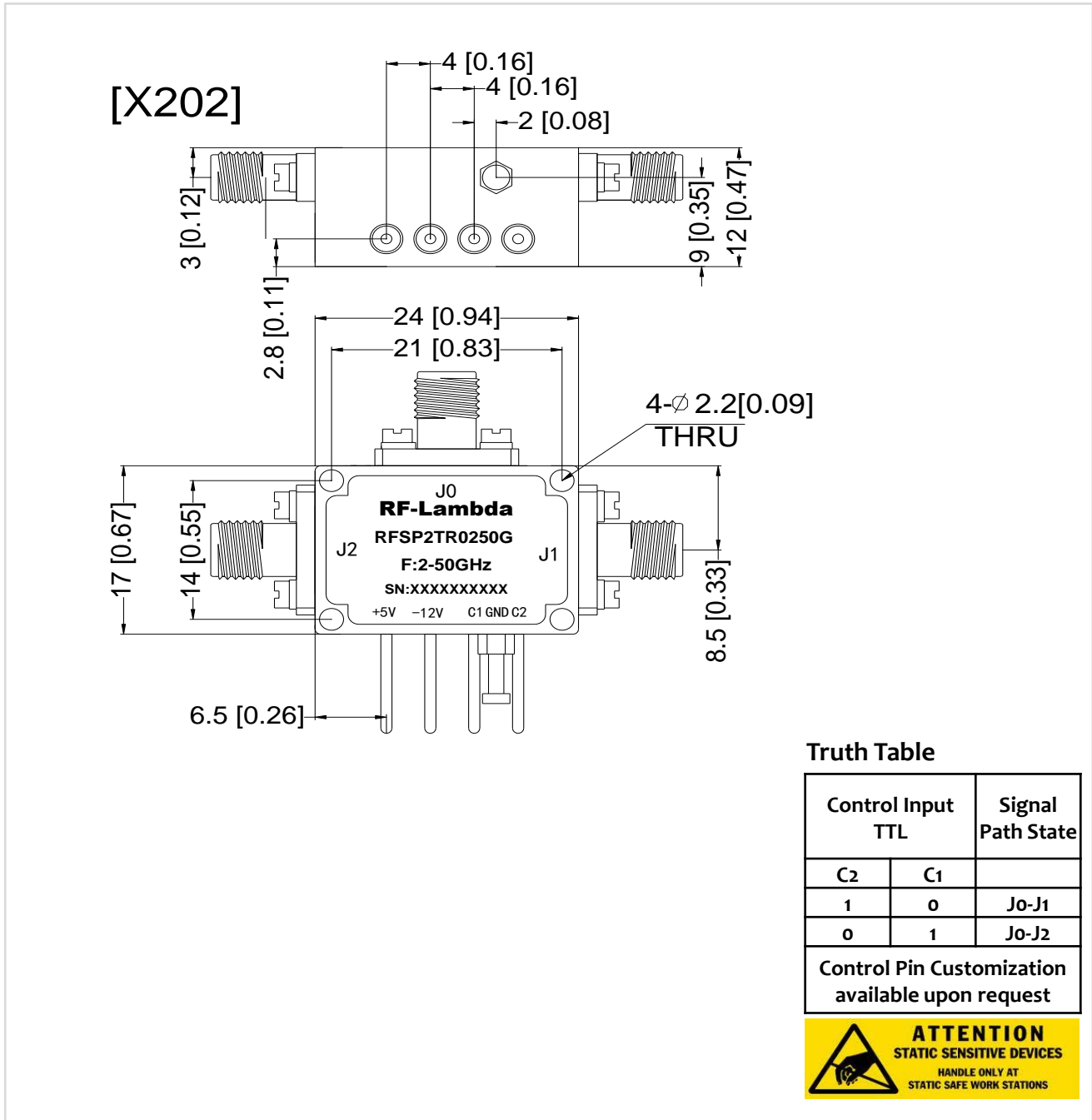
### Switching Speed





### Outline Drawing:

All Dimensions in mm [inches]



### Truth Table

Control Input TTL		Signal Path State
C2	C1	
1	0	Jo-J1
0	1	Jo-J2

Control Pin Customization  
available upon request



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