



Reflective Coaxial SP4T Switch 0.001 - 60GHz



Features

- Ultra Wide Band Operation 0.001-60GHz
- Functional Bandwidth : 0.001GHz to 72GHz
- 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, $T_A = +25\text{ }^\circ\text{C}$, $V_{dd} = +5\text{V}$, $TTL = 0 / +5\text{V}$

Description	PN: RFSP4TR0060G			
	SP4T Reflective Switch			
	Low Power Cold Switching			
Parameter	Min.	Typ.	Max.	Units
Frequency Range	0.001		60	GHz
Insertion Loss		8.5	9.2	dB
Insertion Loss Temperature Coefficient		0.003		dB/°C
Isolation	29	35		dB
Input VSWR		2.0		: 1
Output VSWR		2.2		: 1
RF Input Power (CW)			15	dBm
DC Power Dissipation		0.8		W
0.1dB Compression Point (Po.1dB)		15		dBm
IIP3		30		dBm
Switching Speed	250 Max.			ns
Weight	1.7 Max.			ounces
Impedance	50			Ω
Bias Current (+5V)	50 Max.			mA
Input / Output Connectors	1.85mm-Female			
Finish	Gold Plated			
Material	Aluminum			
Sealing	Hermetically Sealed (Optional)			

Reflective Coaxial Single Pole Four Throw Switch 0.001 - 60GHz



Absolute Maximum Ratings

Biasing	+5V±10% @ 25°C
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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
RFSP4TR0060G	EAR99	SP4T 0.001-60GHz PIN Diode Switch

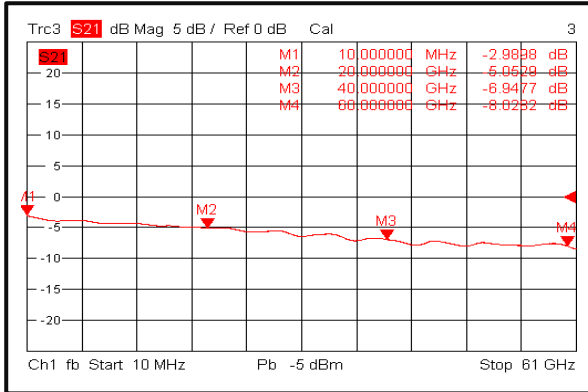
Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-40°C~+85°C (Case Temperature)
Storage Temperature		-50°C~+105°C
Thermal Shock		1 Hour@ -40°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)

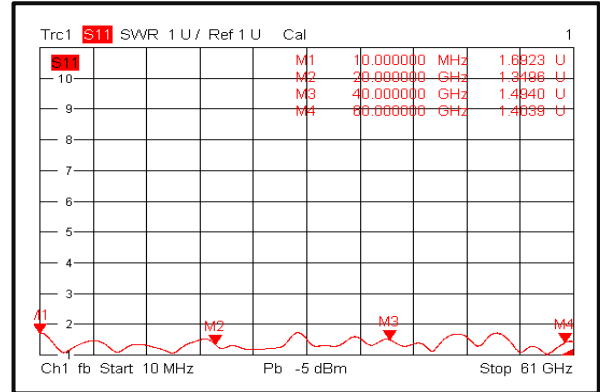
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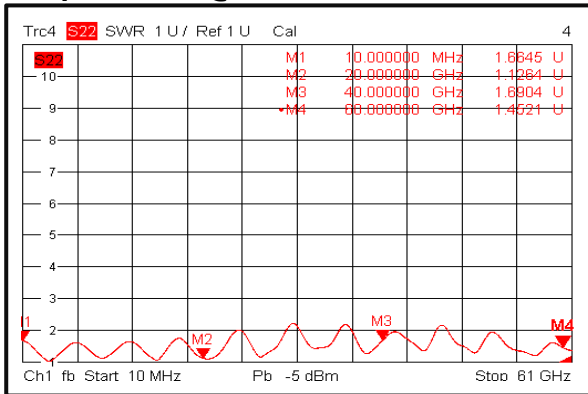
Typical Performance Plots
Insertion Loss @+25°C



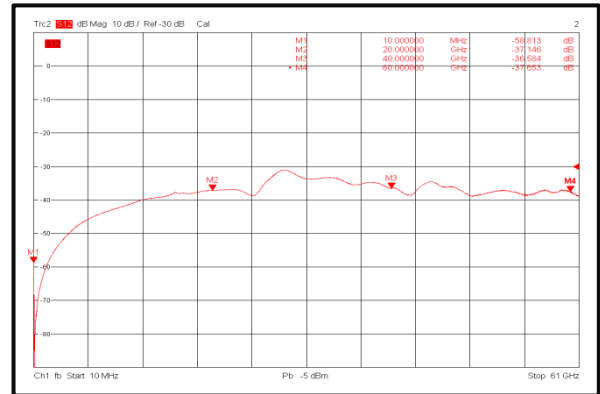
Input VSWR @+25°C



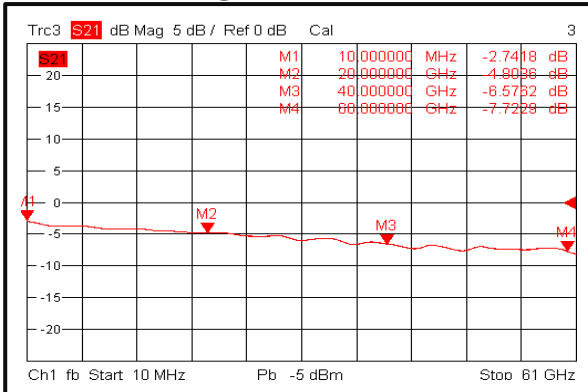
Output VSWR @+25°C



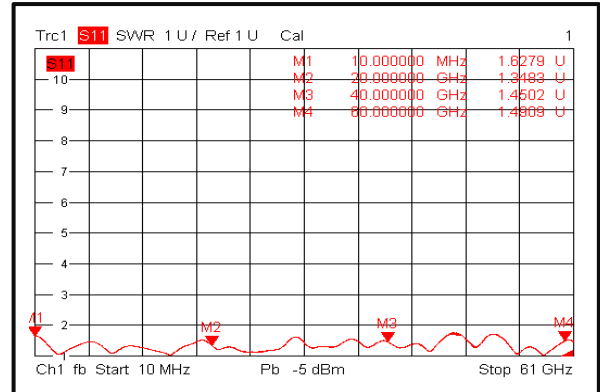
Isolation @+25°C



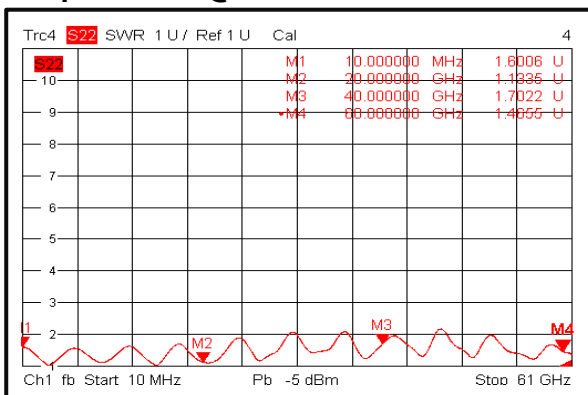
Insertion Loss @-40°C



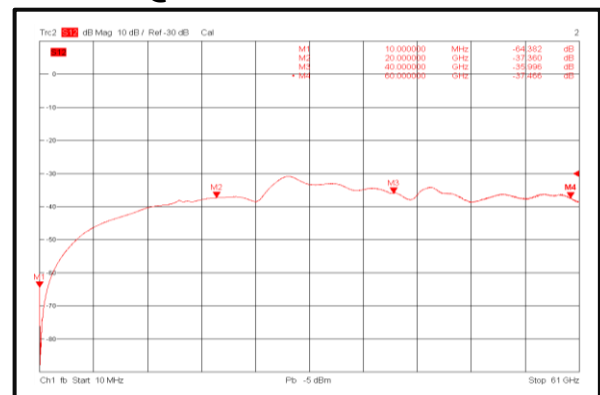
Input VSWR @-40°C



Output VSWR @-40°C



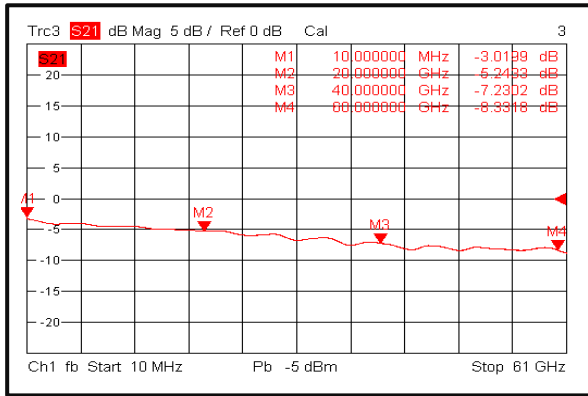
Isolation @-40°C



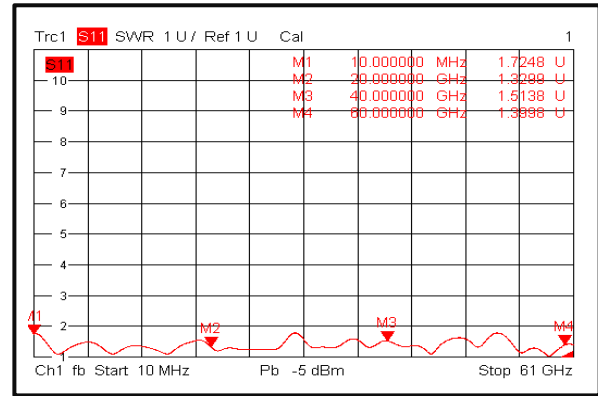
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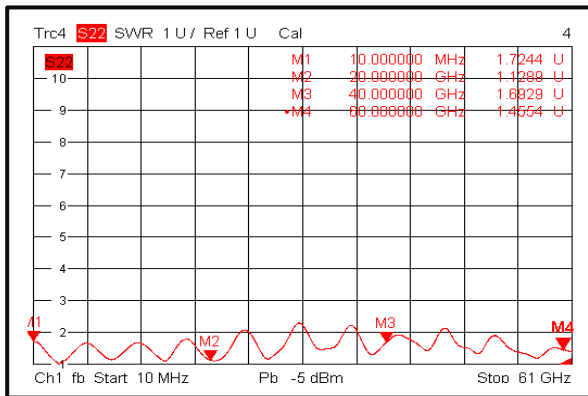
Insertion Loss @+85°C



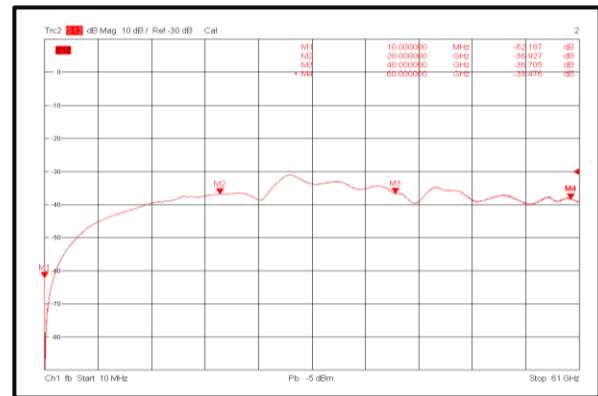
Input VSWR @+85°C



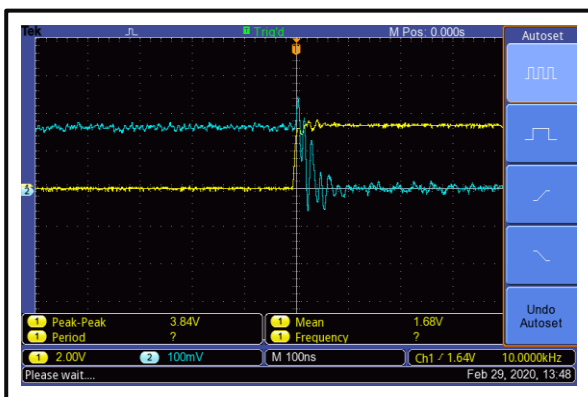
Output VSWR @+85°C



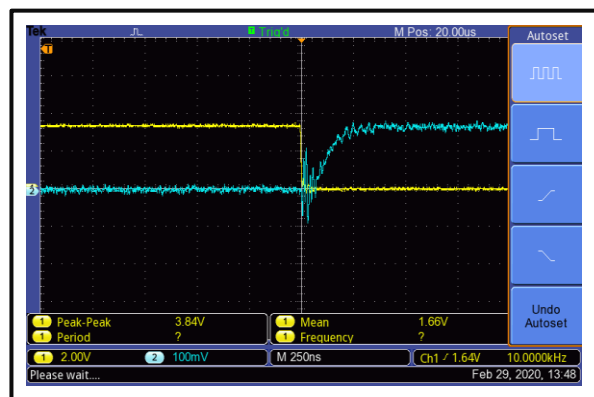
Isolation @+85°C



Switching Speed



Switching Speed

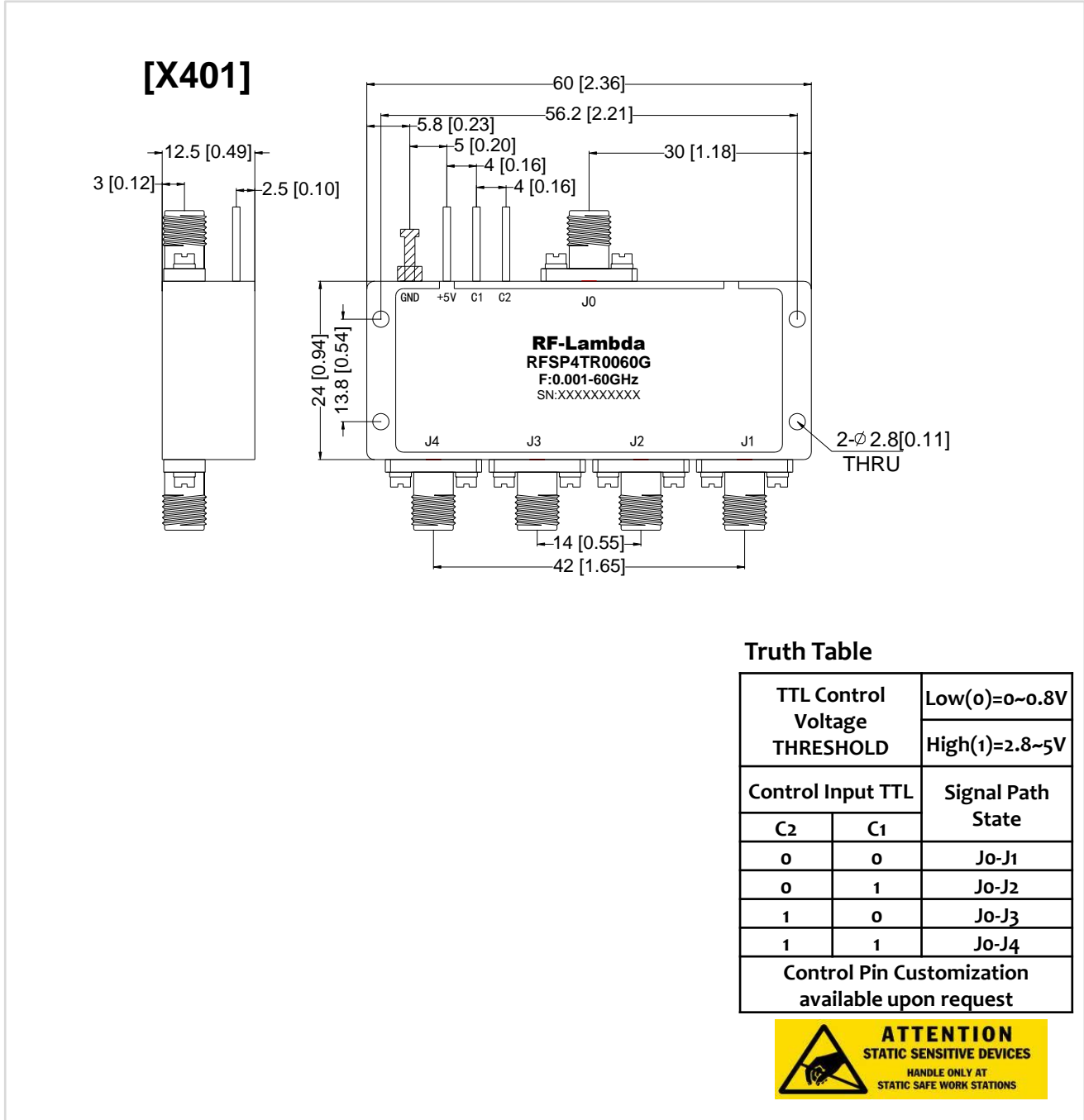


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Outline Drawing:

All Dimensions in mm [inches]



Truth Table

TTL Control Voltage THRESHOLD		Low(0)=0~0.8V
		High(1)=2.8~5V
Control Input TTL		Signal Path State
C2	C1	
0	0	Jo-J1
0	1	Jo-J2
1	0	Jo-J3
1	1	Jo-J4
Control Pin Customization available upon request		



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