

Reflective Coaxial SP2T Switch 0.5 - 6GHz



Features

- Ultra Wide Band Operation 0.5-6GHz
- 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: RFSP2TR5M06G						
	SP2T Reflective Switch						
	High Power Cold Switching						
Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.5-3			3-6			GHz
Insertion Loss		1.1	1.3		1.3	1.5	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/ $^\circ\text{C}$
Isolation	40	48		35	38		dB
Input VSWR		1.4	1.6		1.4	1.6	: 1
Output VSWR		1.4	1.6		1.4	1.6	: 1
RF Input Power			50			50	dBm
DC Power Dissipation		0.5			0.5		W
0.1dB Compression Point ($P_{0.1dB}$) (Pulsed)			50			50	dBm
IIP3		55			55		dBm
Switching Speed	150Max.						ns
Weight	3.53						Ounces
Impedance	50						Ω
Bias Current (+5V)	100						mA
Input / Output Connectors	N - Female						
Finish	Gold Plated						
Material	Aluminum						
Sealing	Hermetically Sealed (Optional)						

Absolute Maximum Ratings

Biassing	+5.5V
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Ordering Information

Part No.	Description
RFSP2TR5M06G	SP2T 0.5-6GHz GaN Switch

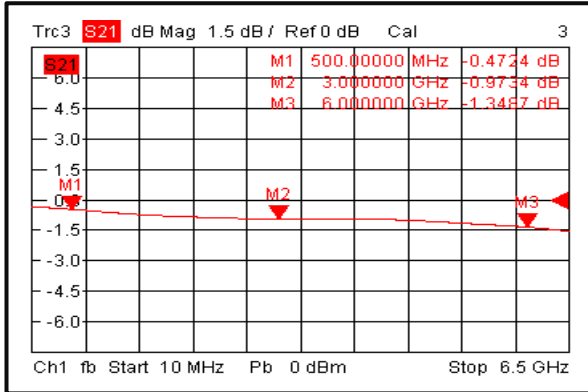
Notes:

1. If the device operates in high power state, case temperature must be lower than 60°C.
2. Cold Switching: Before changing any TTL signal(s), the RF input power must be blanked or the switch could be damaged.

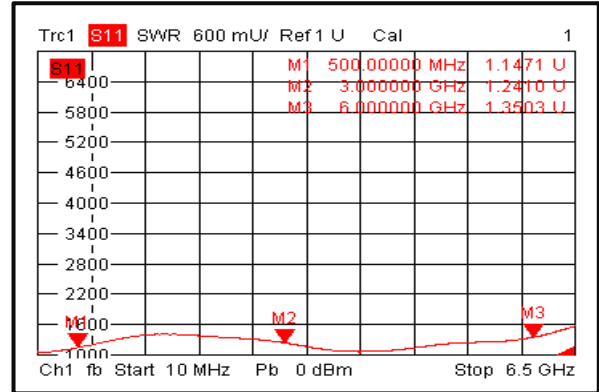
Environmental Specifications and Test Standards

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)

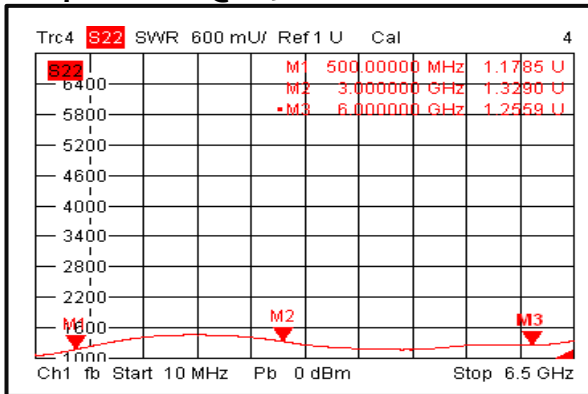
Typical Performance Plots
Insertion Loss @+25°C



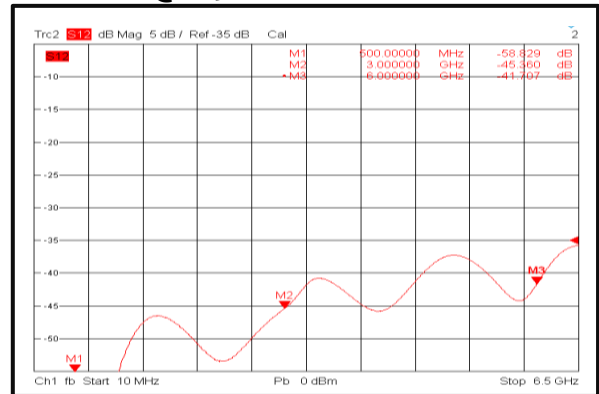
Input VSWR @+25°C



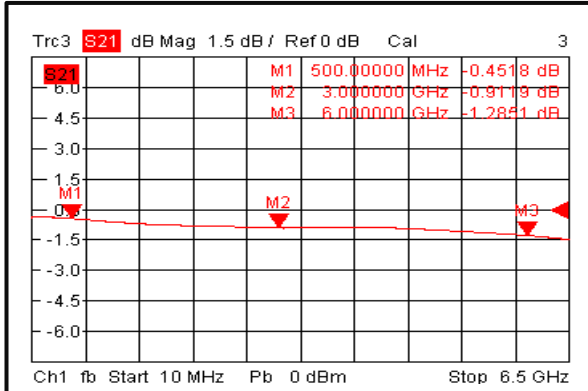
Output VSWR @+25°C



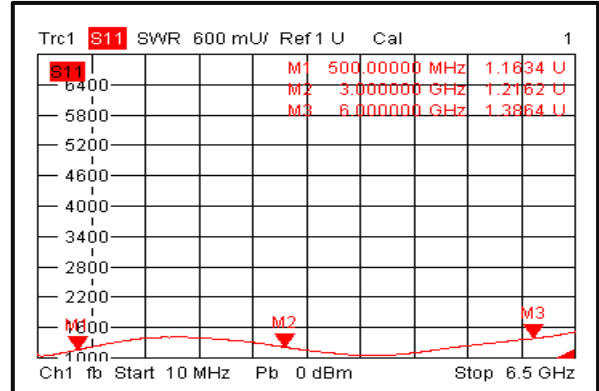
Isolation @+25°C



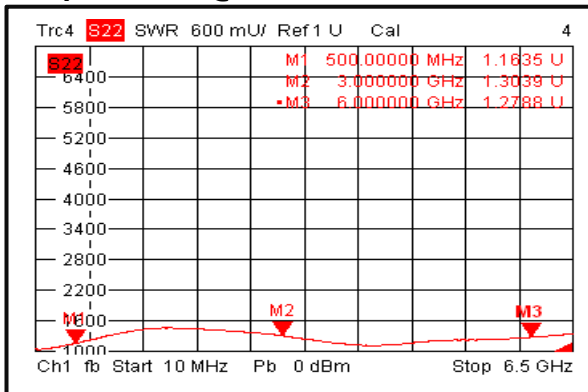
Insertion Loss @-40°C



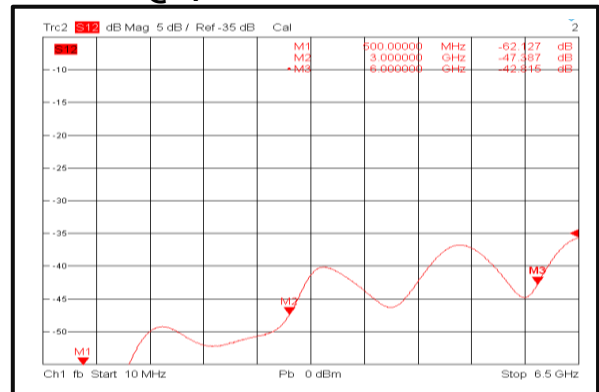
Input VSWR @-40°C



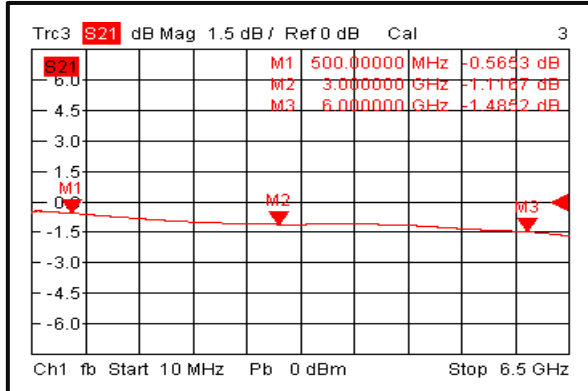
Output VSWR @-40°C



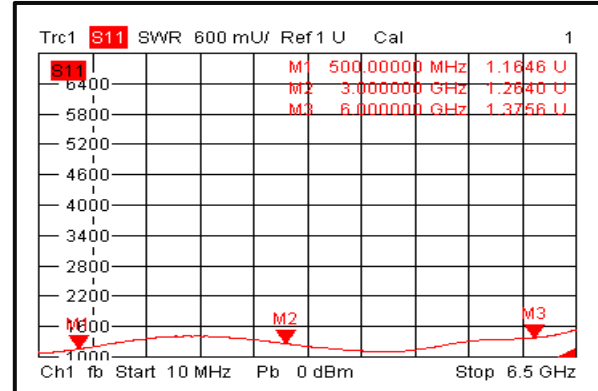
Isolation @-40°C



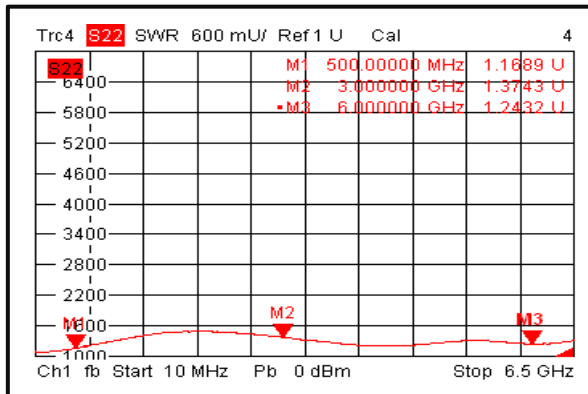
Insertion Loss @+85°C



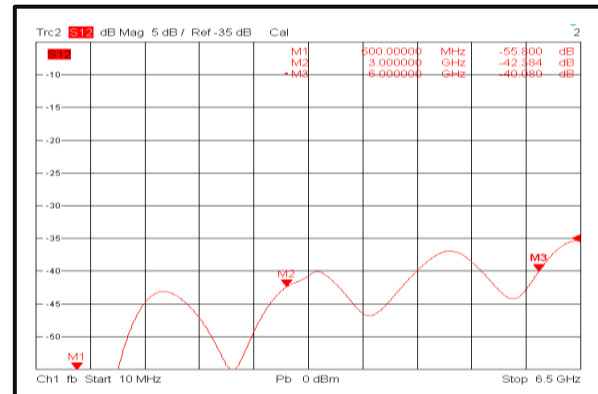
Input VSWR @+85°C



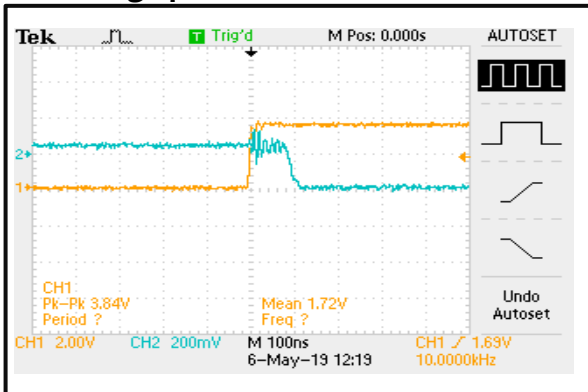
Output VSWR @+85°C



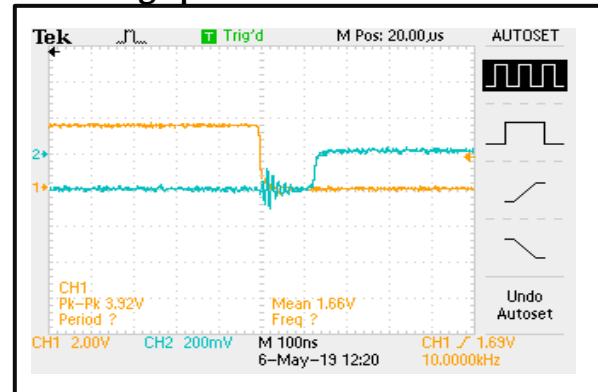
Isolation @+85°C



Switching Speed

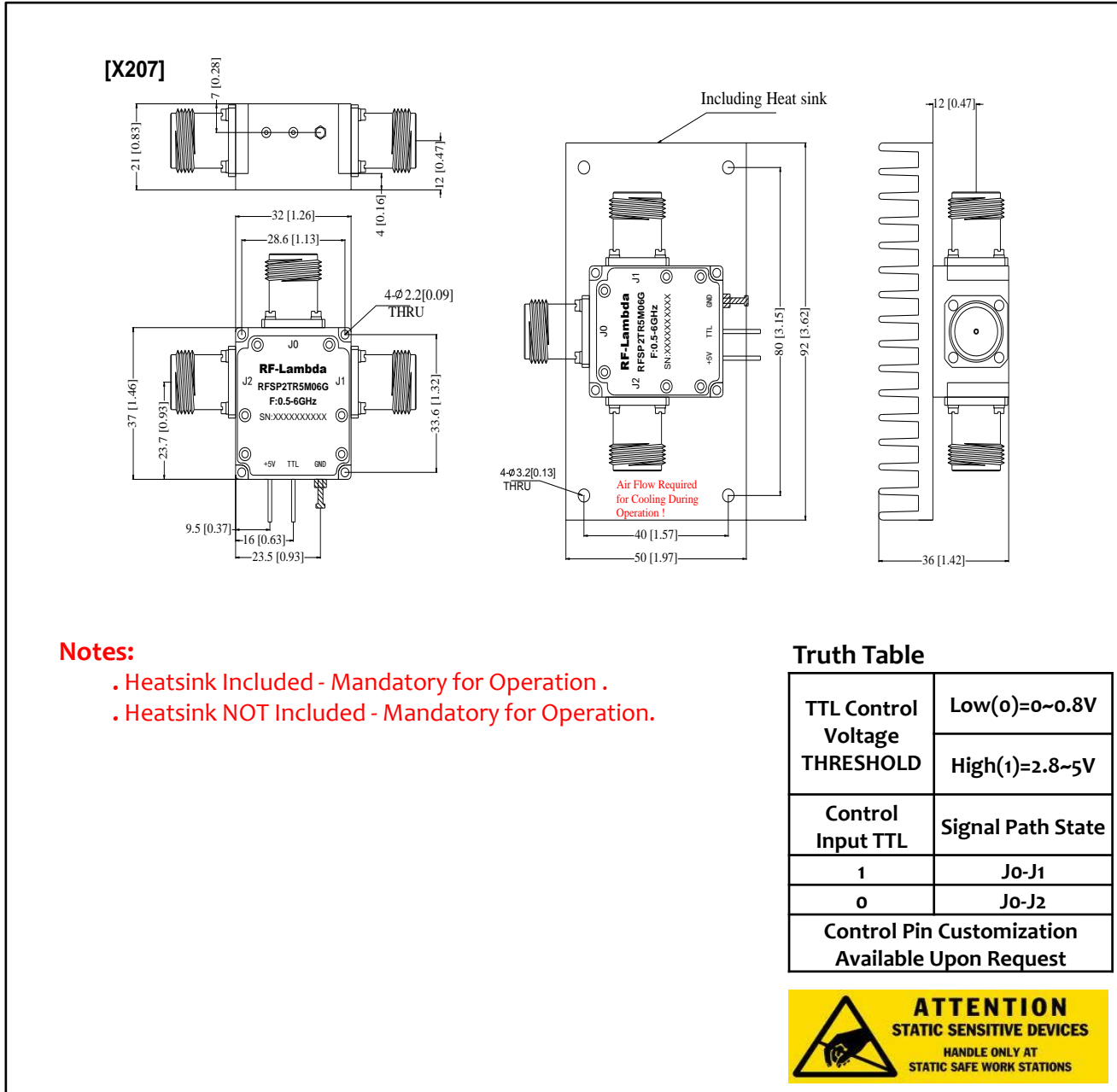


Switching Speed



Outline Drawing:

All Dimensions in mm [inches]
Housing Tolerances ± 0.1 (0.004)



Notes:

- . Heatsink Included - Mandatory for Operation .
- . Heatsink NOT Included - Mandatory for Operation.

Truth Table

TTL Control Voltage THRESHOLD	Low(0)=0~0.8V
	High(1)=2.8~5V
Control Input TTL	Signal Path State
1	J0-J1
0	J0-J2
Control Pin Customization Available Upon Request	



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