

50W High Power Reflective Coaxial SP2T Switch 24GHz-37GHz



Features

- TTL compatible driver included
- Fast Switching Speed
- High Power Cold Switching
- Insertion Loss 1.8dB Typical
- Isolation 28dB Typical
- 50 Ohm Matched

Product Description

RFSP2TR24G37G is a reflective coaxial single pole double throw switch with a frequency range of 24 to 37GHz.

The maximum power input of this switch is 47dBm. The insertion loss is 1.8dB with a typical isolation of 28dB.

The product features fast switching speed, low insertion loss and high isolation.

The working temperature of this product is between - 40°C and + 85°C

Typical Applications

- Wireless Infrastructure
- Military and Aerospace Applications
- Test Instrumentation
- Radar Systems
- 5G Wireless Communications
- Microwave Radio Systems
- TR Modules
- Research and Development
- Cellular Base Stations

Electrical Specifications(TA = +25°C), Vdd = +5V, TTL = 0 / +5V

Parameter	Min	Typ	Max	Units
Frequency Range		24-37		GHz
Insertion Loss		1.8		dB
Insertion Loss Temperature Coefficient		0.003		dB/ °C
Isolation		28		dB
Input VSWR		1.8		: 1
Output VSWR		1.8		: 1
RF Input Power(CW)		46	47	dBm
DC Power Dissipation		0.7		W
0.1dB Compression Point(P0.1dB)		42		dBm
IIP3		45		dBm
Switching Speed		100 Typ.		ns
Bias Current (+12V)		200 Typ.		mA
Weight	Net	/ Max		lbs
	Including Heat sink	/ Max.		
Impedance		50		Ω
Input / Output Connectors	2.92mm-Female(Input) – 2.92mm-Female(Output)			
Package	Epoxy Sealed (Standard)			
	Hermetically Sealed (Optional)			

Absolute Maximum Ratings

Parameter	Rating
Biasing	+12V±10%

Notes:

1. If the device operates in high power state, recommend keeping case temperature 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.

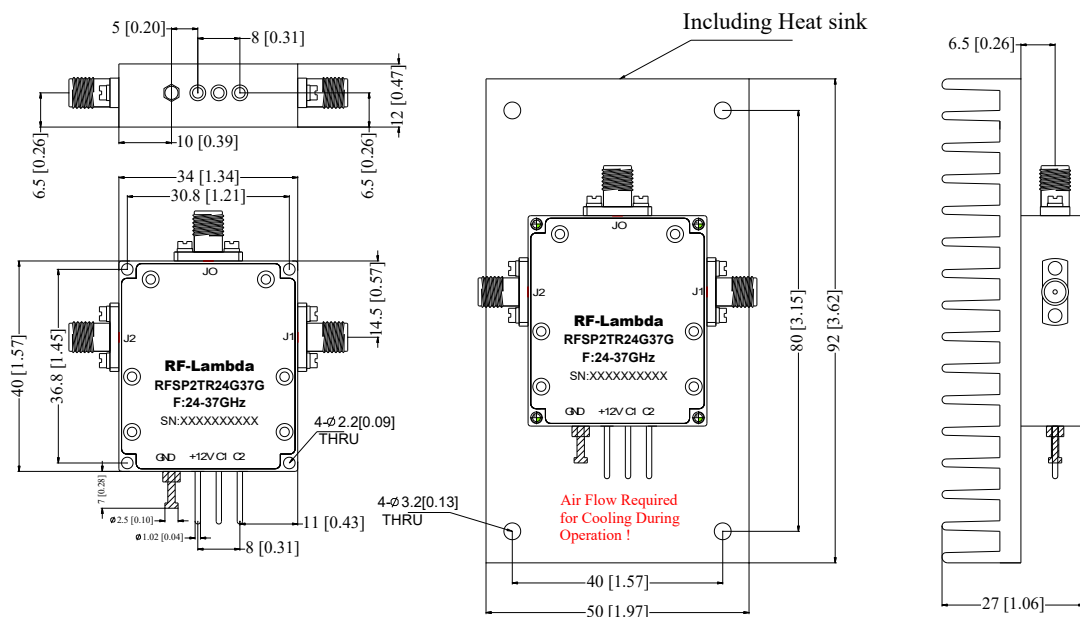
Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-40°C to +85°C (Case Temperature)
Storage Temperature	-50°C to +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)

** For vibration testing details please see additional information section.

Outline Drawing

[X206]

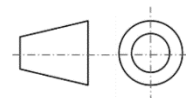


Notes:

1. Package Material: Copper
2. Finish: Gold Plated
3. All dimensions are in millimeters [inches].
4. Housing Tolerances ± 0.1 [0.004] unless otherwise specified.
5. Heatsink Required - Mandatory for High Power Operation. Matching heatsink is listed on our website. If customer would like to use their own cooling method, please make sure the amplifier will operate under the specs that listed in page 2 of this datasheet.
6. Standard torque wrench must be used to secure RF connectors.

Truth Table

TTL Control Voltage THRESHOLD		
Low(0)=0~0.8V		
High(1)=2.8~5V		
C1	C2	State
0	1	J0-J1
1	0	J0-J2
Control pin customization available upon request		



Additional Information

Documentation

Webpage

ESD Policy

https://rflambda.com/pdf/rflambda_esd_control.pdf

Heatsink Lookup Specifications

https://rflambda.com/search_heatsink.jsp

Connector Torque Specifications

https://www.rflambda.com/pdf/Torque_Specifications.pdf

Random Vibration Test Standard

https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf

Ordering Information

Part Number	Modification	Description
RFSP2TR24G37G	Connectors 2.92mm-Female	24GHz-37GHz Reflective Coaxial SP2T Switch

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