

Reflective Coaxial SP2T Switch 26GHz-40GHz



Product Description

RFSP2TR2640GA is a reflective coaxial single pole double throw switch with a frequency range of 26 to 40GHz.

The maximum power input of this switch is 42dBm. The insertion loss is 1.5dB with a typical isolation of 30dB.

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

Features

- TTL compatible driver included
- Fast Switching Speed
- High Power Cold Switching
- Insertion Loss 1.5dB Typical
- Isolation 30dB Typical
- 50 Ohm Matched

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	26		40	GHz
Insertion Loss		1.5	2.8	dB
Insertion Loss Temperature Coefficient		0.003		dB/ °C
Isolation	25	30		dB
Input VSWR		1.8	2.0	: 1
Output VSWR		1.8	2.0	: 1
RF Input Power(CW)		41.5	42	dBm
DC Power Dissipation		0.7		W
0.1dB Compression Point(P0.1dB)		34		dBm
IIP3		45		dBm
Switching Speed		100 Typ.		ns
Bias Current (+5V)		100 Typ.		mA
Weight	Net	0.23 Max		lbs
	Including Heat sink	0.39 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	+5V±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.

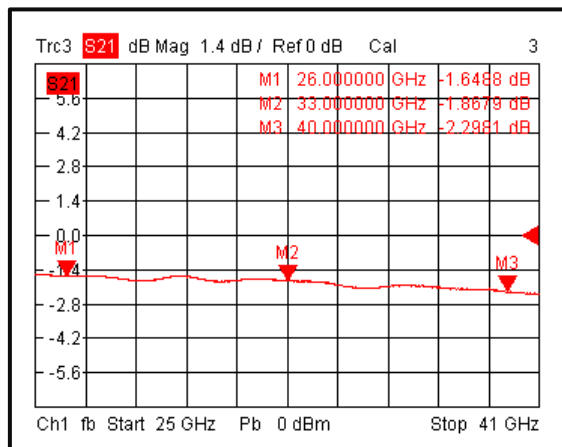
Environmental Specifications and Test Standards

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)

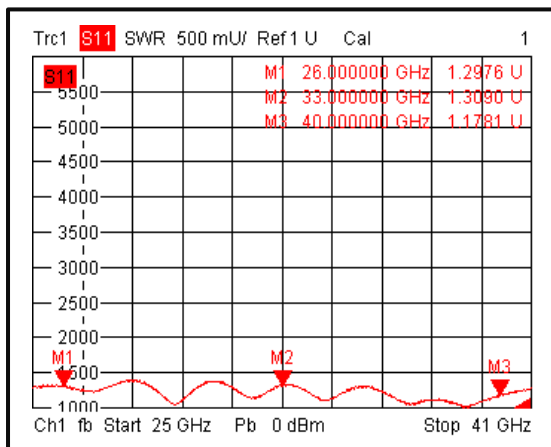
** For vibration testing details please see additional information section.

Typical Performance Plots

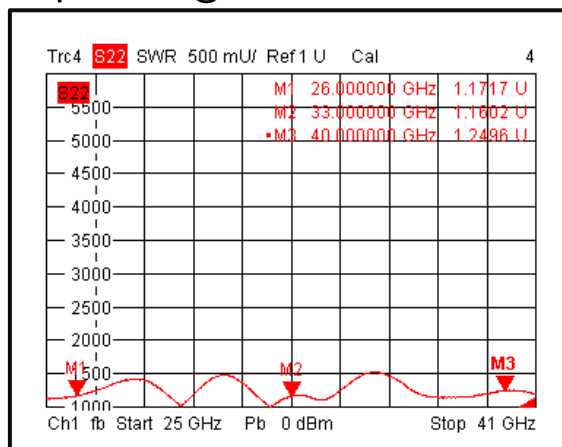
Insertion Loss @+25°C



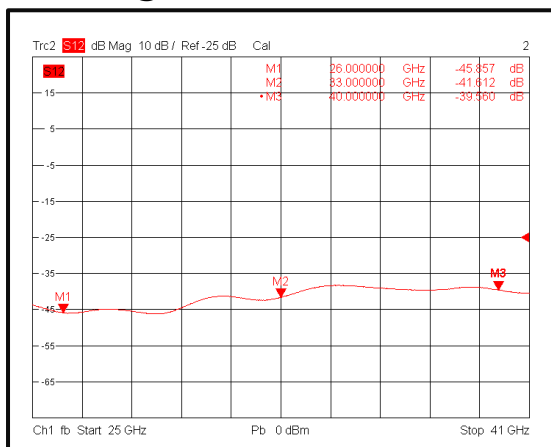
Input VSWR @+25°C



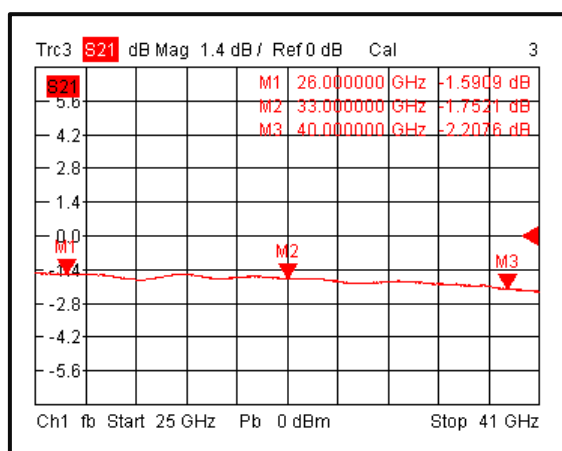
Output VSWR @+25°C



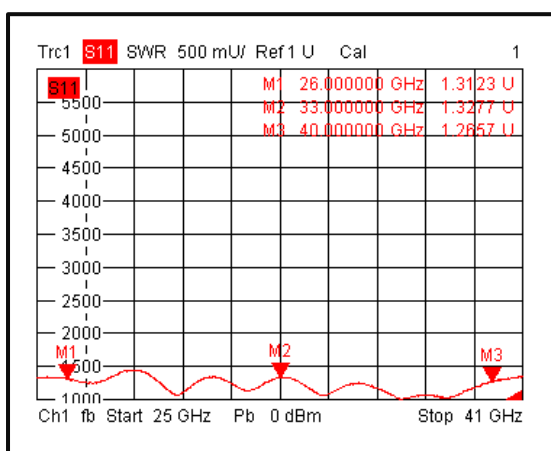
Isolation @+25°C



Insertion Loss @-40°C

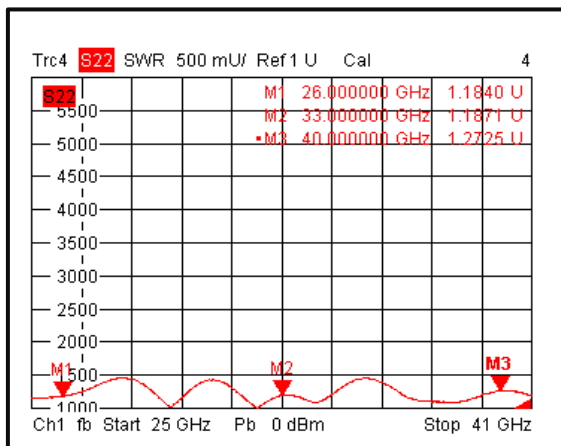


Input VSWR @-40°C

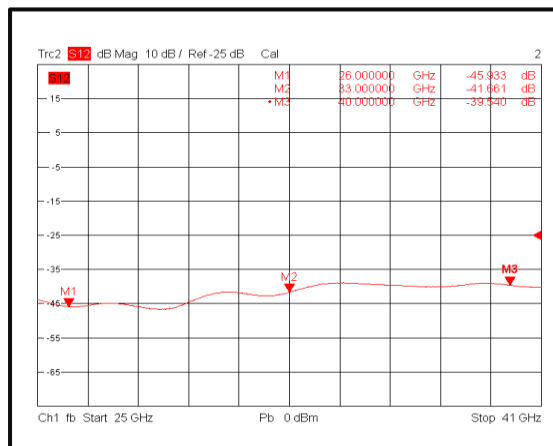


Typical Performance Plots

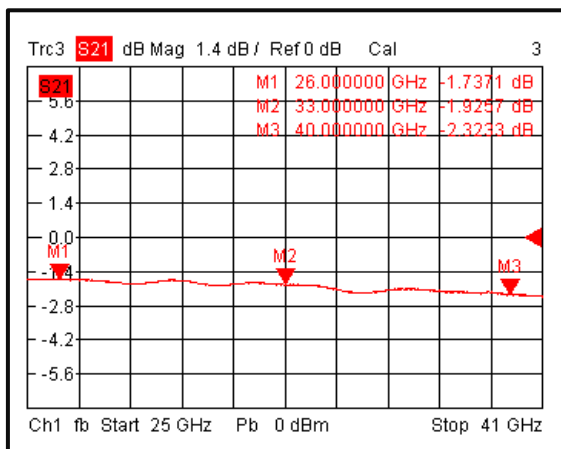
Output VSWR @-40°C



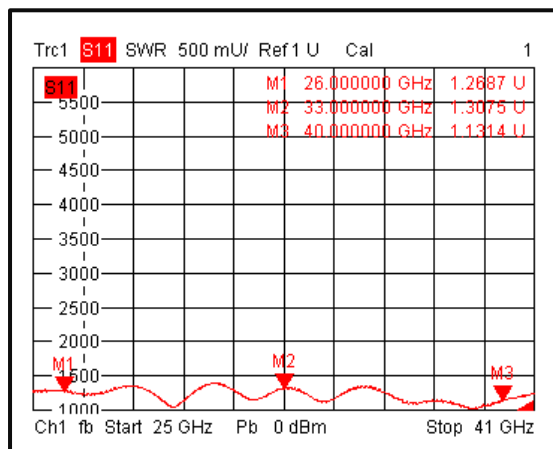
Isolation @-40°C



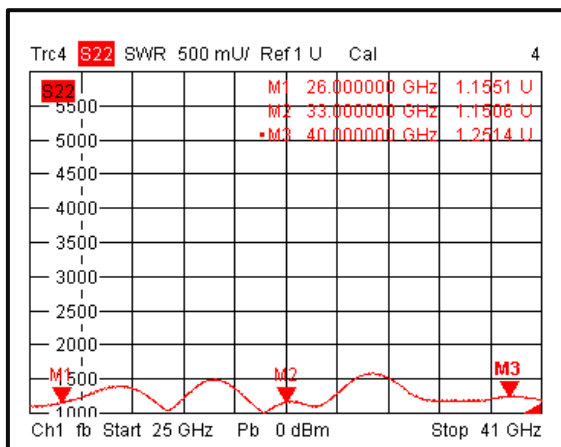
Insertion Loss @+85°C



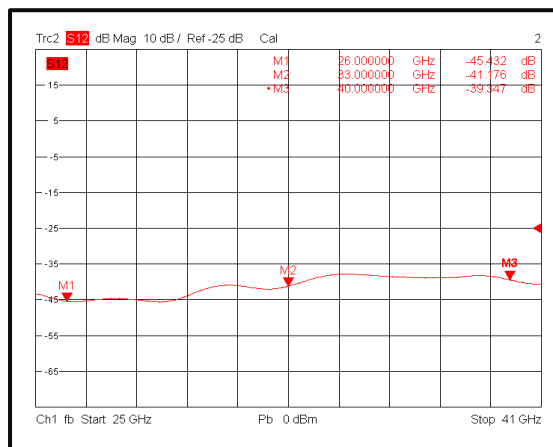
Input VSWR @+85°C



Output VSWR @+85°C

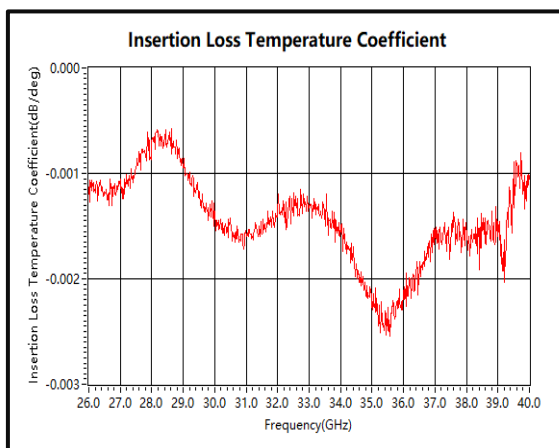


Isolation @+85°C

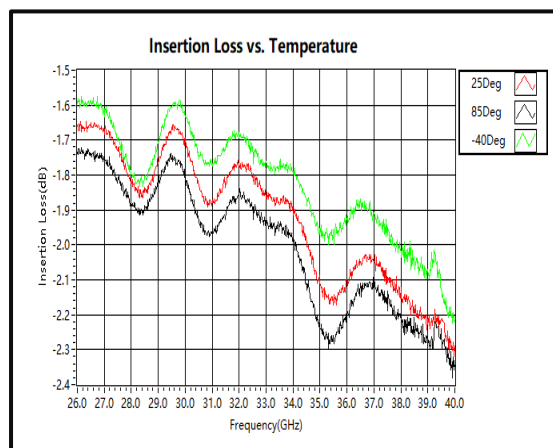


Typical Performance Plots

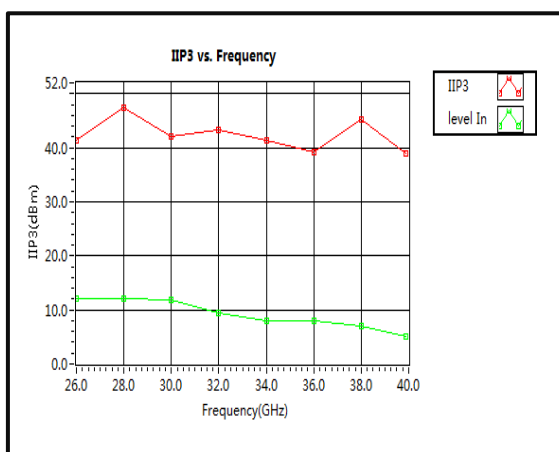
Insertion Loss Temperature Coefficient



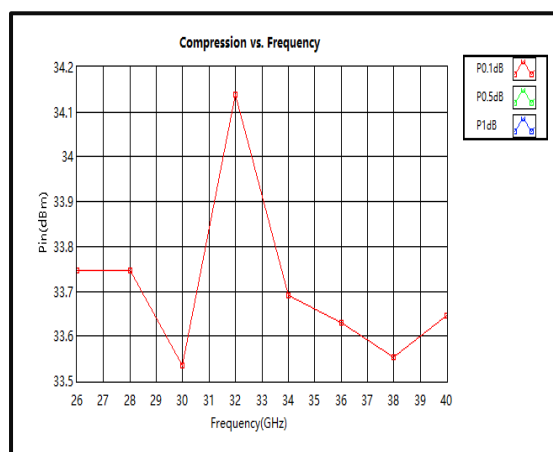
Insertion Loss vs. Temperature



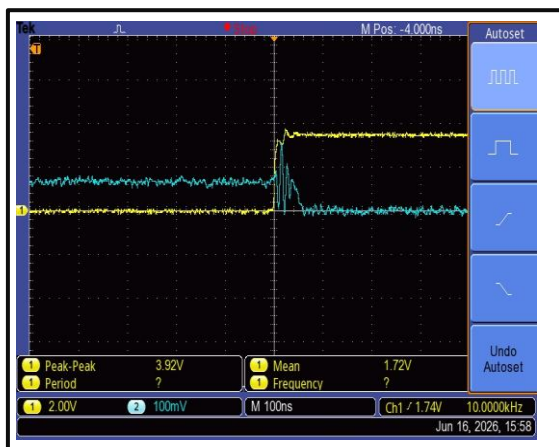
IIP3



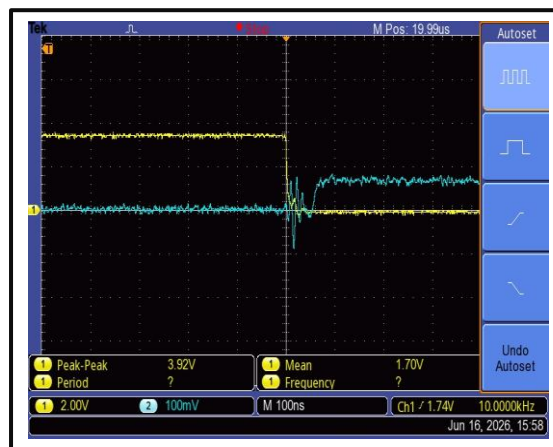
P0.1dB



Switching Speed

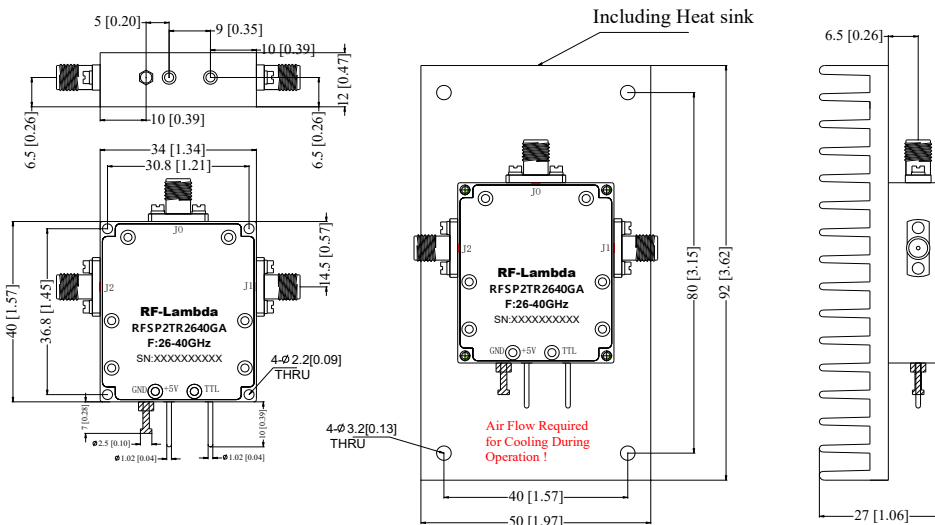


Switching Speed



Outline Drawing

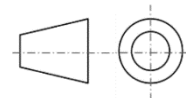
[X206]



Truth Table	
TTL Control Voltage	Low(0)=0~0.8V
THRESHOLD	High(1)=2.8~5V
Control Input	State
TTL	
1	J0-J1
0	J0-J2
Control Pin	Customization available upon request

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.



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
RFSP2TR2640GA	Connectors 2.92mm-Female	26GHz-40GHz Reflective Coaxial SP2T Switch

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