



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFSP4TR52G72G

Reflective Coaxial SP4T Switch 52 - 72GHz



Features

- Wide Band Operation 52-72GHz
- 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, $T_A = +25^\circ\text{C}$, $V_{dd} = +5\text{V} / -5\text{V}$, $TTL = 0 / +5\text{V}$

Description	PN: RFSP4TR52G72G						
	SP4T Reflective Switch						
	Low Power Cold Switching						
Parameter	Min	Typ.	Max	Min	Typ.	Max	Units
Frequency Range	52		70	70		72	GHz
Insertion Loss		7.0	7.5		7.5	8.5	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/°C
Isolation	30	35		30	35		dB
Input VSWR		2.5	2.8		2.5	2.8	: 1
Output VSWR		2.5	2.8		2.5	2.8	: 1
RF Input Power (CW)			20			20	dBm
DC Power Dissipation		0.5			0.5		W
0.1dB Compression Point (Po.1dB)		20			20		dBm
IIP3		50			50		dBm
Switching Speed		100			100		ns
Weight	1.41						ounces
Impedance	50						Ω
Bias Current (+5V / -5V)	100/50						mA
Input / Output Connectors	1.85mm-Female						
Finish	Gold Plated						
Material	Aluminum						
Sealing	Hermetically Sealed (Optional)						

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Absolute Maximum Ratings

Biasing Voltage	+5V $\pm$ 10% / -5V $\pm$ 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
RFSP4TR52G72G	EAR99	SP4T 52-72GHz 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	MIL-STD-883	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)

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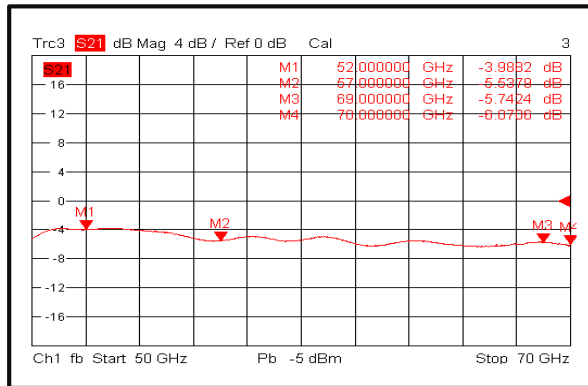
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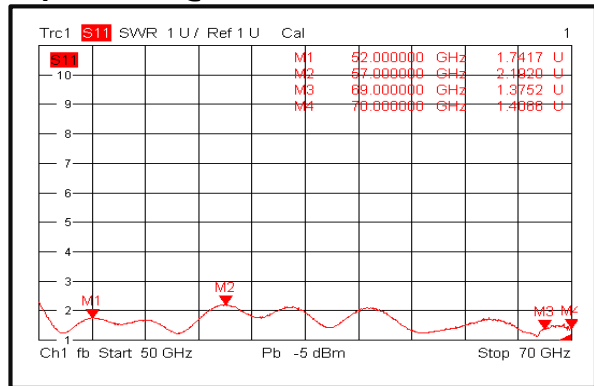
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Typical Performance Plots

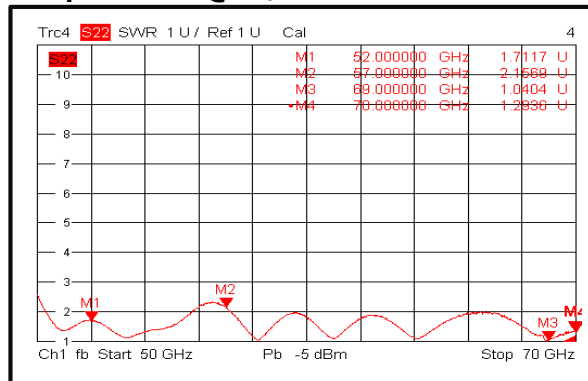
Insertion Loss@+25°C



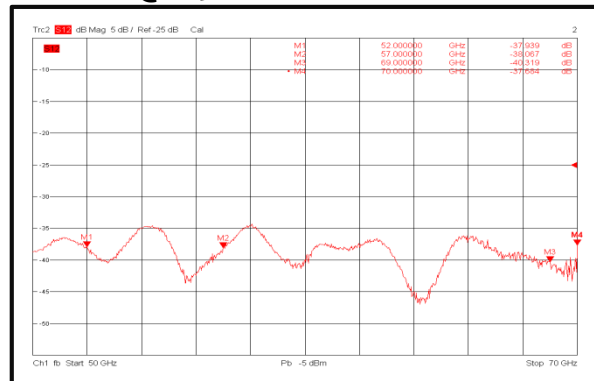
Input VSWR@+25°C



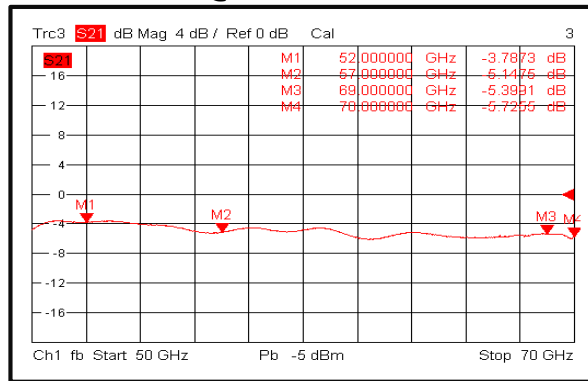
Output VSWR@+25°C



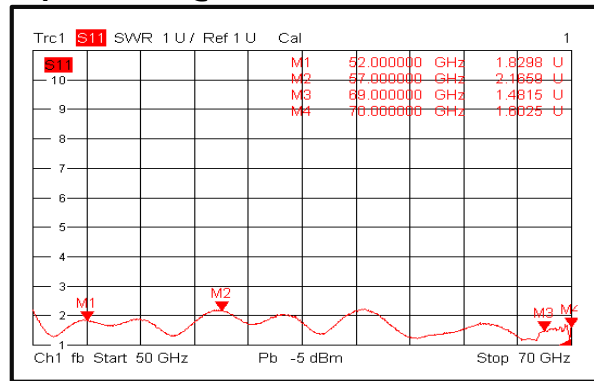
Isolation@+25°C



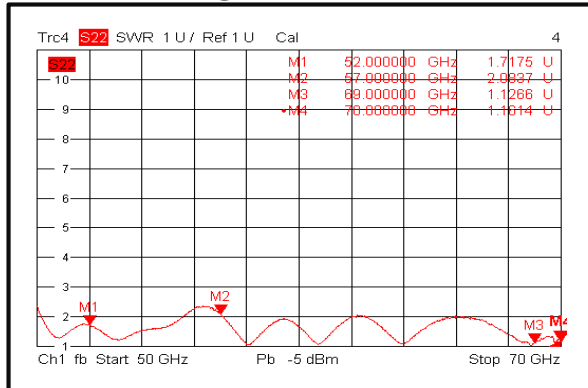
Insertion Loss@-45°C



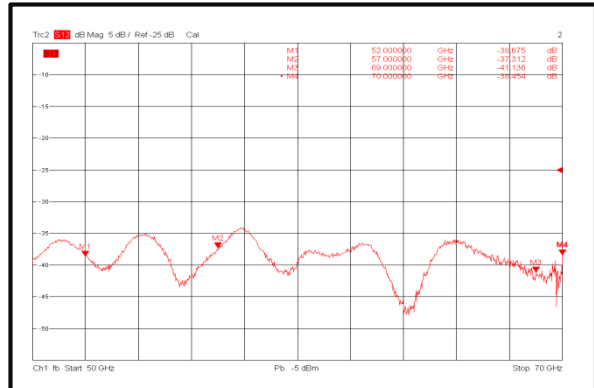
Input VSWR @-45°C



Output VSWR @-45°C



Isolation @-45°C





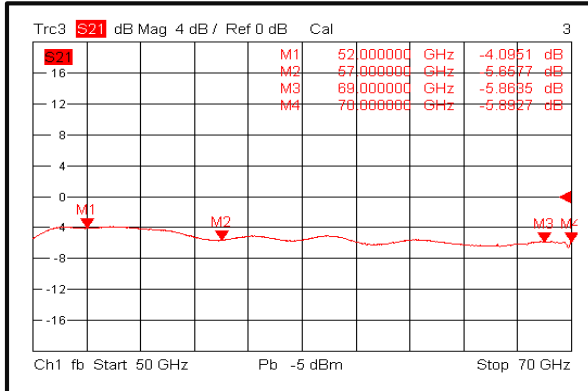
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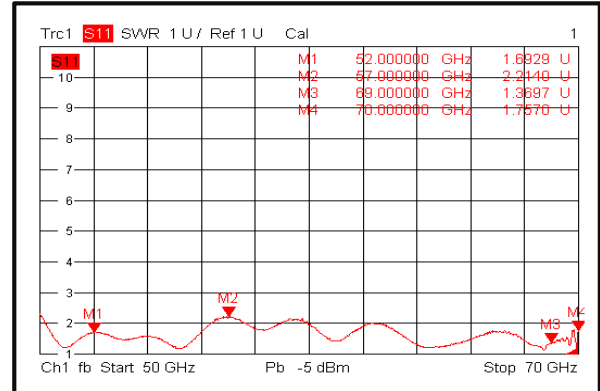
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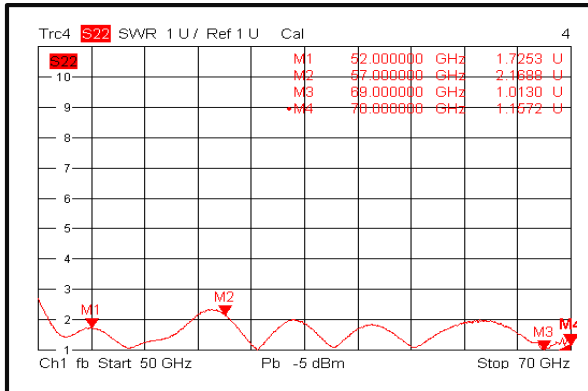
Insertion Loss@+85°C



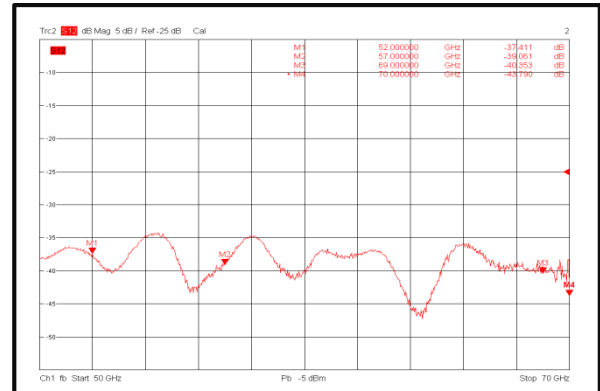
Input VSWR@+85°C



Output VSWR@+85°C



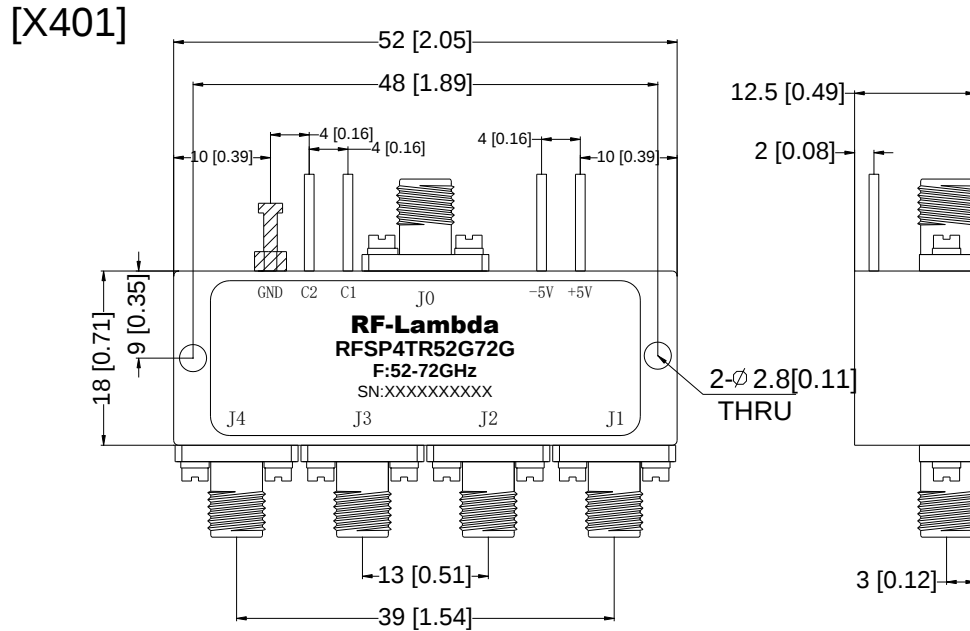
Isolation@+85°C





Outline Drawing:

All Dimensions in mm [inches]



Truth Table

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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