



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFSP2TR0005M

Reflective Coaxial SP2T Switch 20 – 500MHz



Features

- Wide Band Operation 20-500MHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test & Measurement

Electrical Specifications, TA = +25°C, Vdd = +5V/-28V, TTL = 0 / +5V

Description	PN: RFSP2TR0005M						
	SP2T Reflective Switch						
	High Power Cold Switching						
Parameter	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range	20 – 25			25 - 500			MHz
Insertion Loss		0.8	1.2		0.55	0.8	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/°C
Isolation	55	60		60	65		dB
Input VSWR		1.5	1.8		1.4	1.5	: 1
Output VSWR		1.5	1.8		1.4	1.5	: 1
RF Input Power (CW)			100			100	W
DC Power Dissipation		1.3			1.3		W
0.1dB Compression Point (Po.1dB)		50			50		dBm
IIP3		55			55		dBm
Switching Speed		2.5	3		2.5	3	us
Weight	1.41						ounces
Impedance	50						Ω
Bias Current (+5V/-28V)	250/50						mA
Input / Output Connectors	SMA - Female						
Finish	Gold Plated						
Material	Aluminum						
Sealing	Hermetically Sealed (Optional)						

Reflective Coaxial Single Pole Double Throw Switch 20 – 500MHz



Absolute Maximum Ratings

Biasing	+5V±10%/-28V±10%
TTL Control Voltage	0~0.8V/2.8~5V

Ordering Information

Part No.	ECCN	Description
RFSP2TR0005M	EAR99	SP2T 20-500MHz PIN Diode Switch

Notes:

- TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.
- Cold Switching: Before changing any TTL signal(s), the RF input power must be blanked or the switch could be damaged.

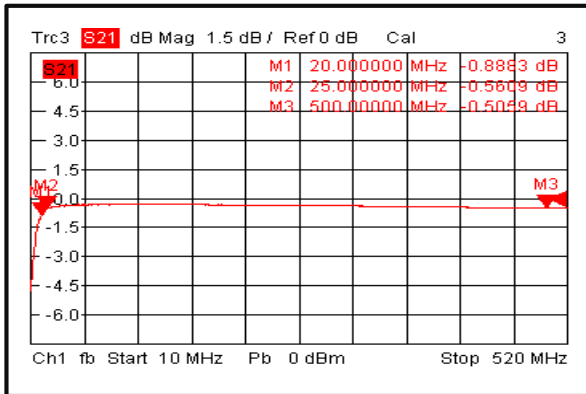
Environmental Specifications and Test Standards

Parameter	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)

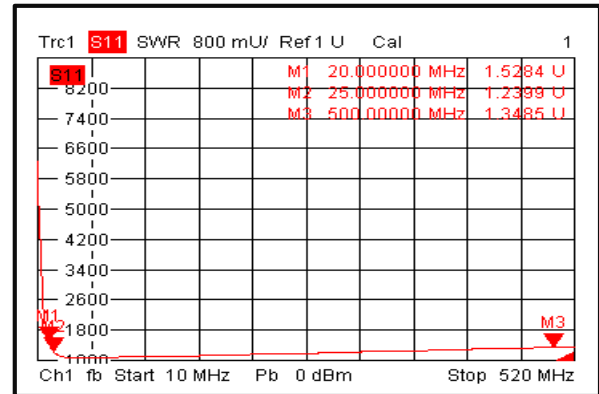


Typical Performance Plots

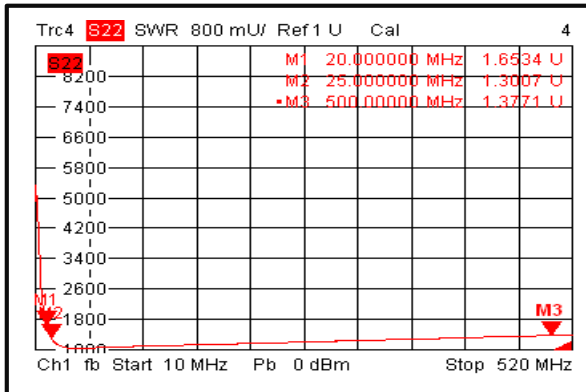
Insertion Loss



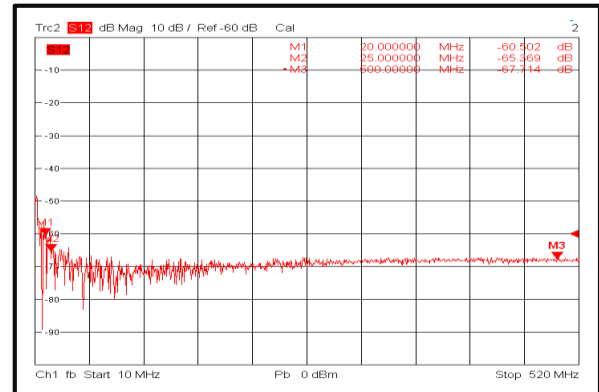
Input VSWR



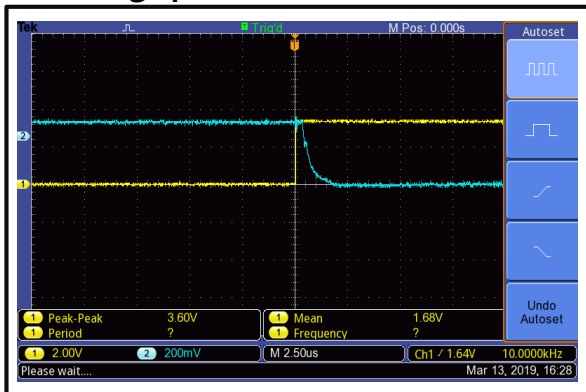
Output VSWR



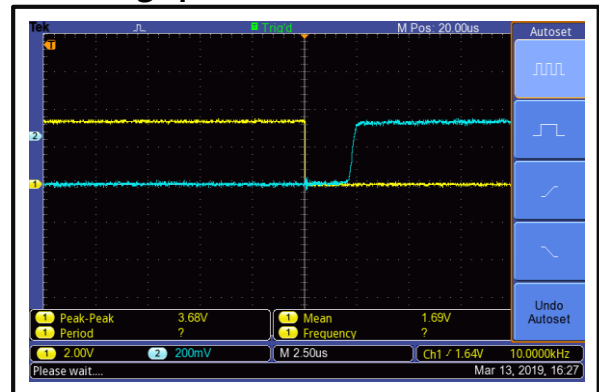
Isolation



Switching Speed



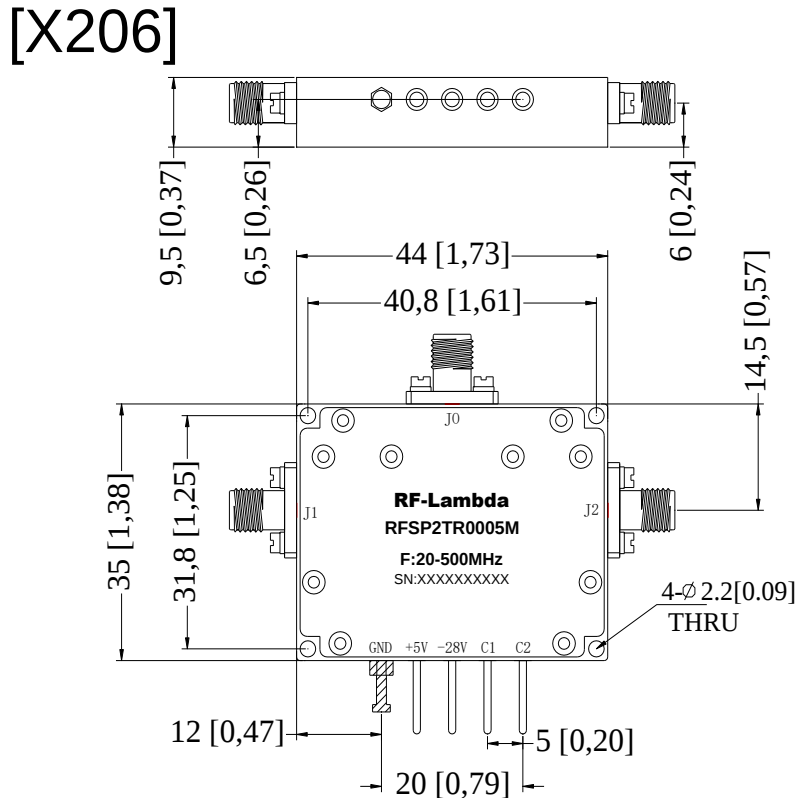
Switching Speed





Outline Drawing:

All Dimensions in mm [inches]



Truth Table

Control Input TTL		Signal Path State
C2	C1	
0	0	OFF
0	1	J0-J1
1	0	J0-J2
1	1	Not Used
Control Pin Customization available upon request		



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