



Absorptive Coaxial SP12T Switch 1.5 – 4.5GHz



Features

- Wide Band Operation 1.5-4.5GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{dd} = +5\text{V}/-5\text{V}$, $TTL = 0 / +5\text{V}$

Description	PN: RFSP12TA1545G			
	SP12T Absorptive Switch			
	High Power Cold Switching			
Parameters	Min.	Typ.	Max.	Units
Frequency Range	1.5 – 4.5			GHz
Insertion Loss		2	2.5	dB
Insertion Loss Temperature Coefficient		0.003		dB/°C
Loss Imbalance		0.5		dB
Isolation	60	75		dB
Input VSWR		1.5	1.8	:1
Output VSWR		1.5	1.8	:1
RF Input power			30	dBm
DC Power Dissipation		2.5		W
0.1dB Compression Point (Po.1dB)			30	dBm
IIP3		55		dBm
Switching Speed		120	250	ns
Weight	7.05			ounces
Impedance	50			Ω
Bias Current (+5V / -5V)	500 / 50			mA
Input / Output Connectors	SMA-Female			
Finish	Nickel Plated			
Material	Aluminum			
Sealing	Hermetically Sealed (optional)			

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Absolute Maximum Ratings

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

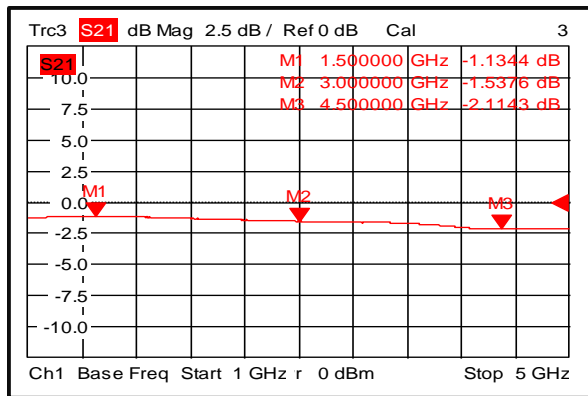
Note: TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

Ordering Information

Part No.	ECCN	Description
RFSP12TA1545G	EAR99	SP12T 1.5-4.5GHz PIN Diode Switch

Typical Performance Plots

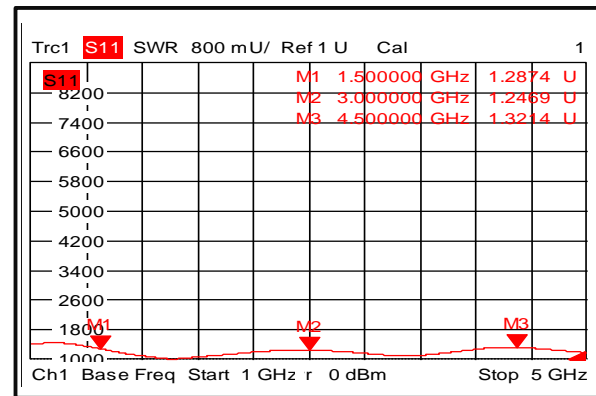
Insertion Loss



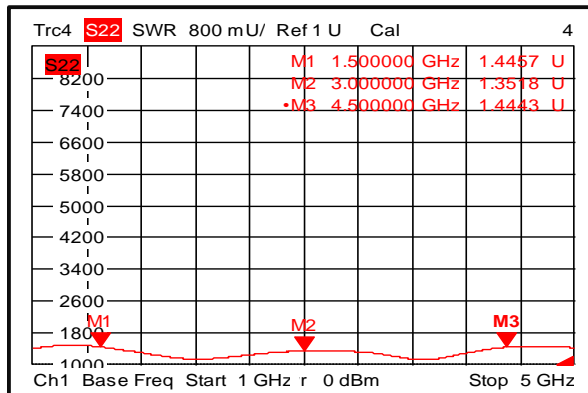
Environmental Specifications

Operational Temperature (°C)	-45 ~ +85
Storage Temperature (°C)	-50 ~ +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

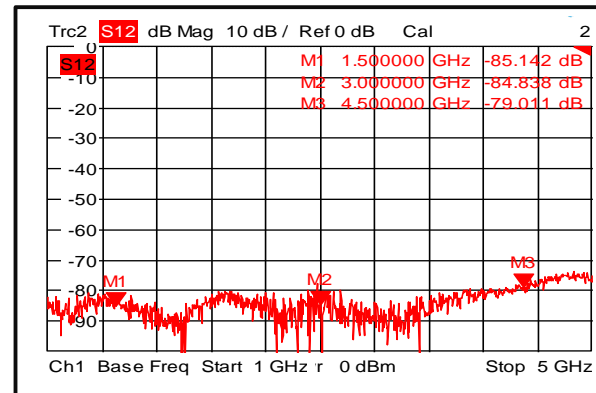
Input VSWR



Output VSWR

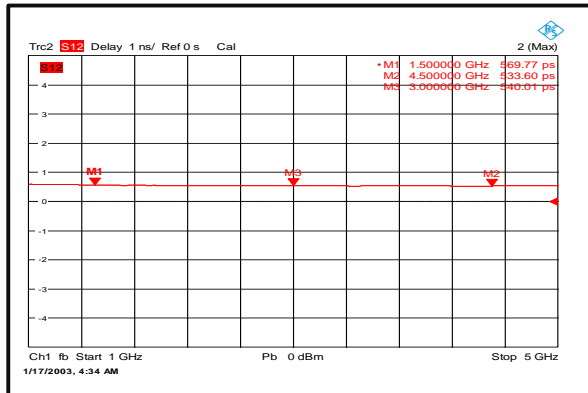


Isolation

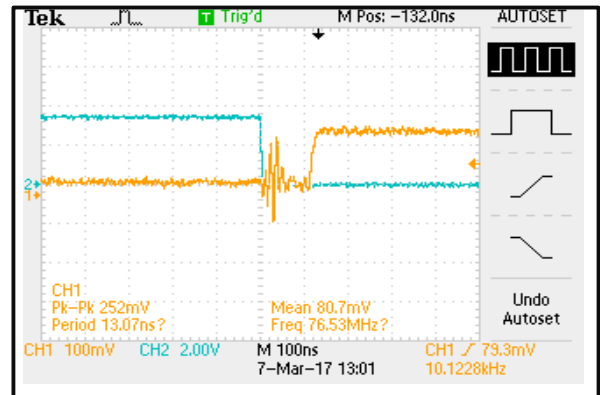




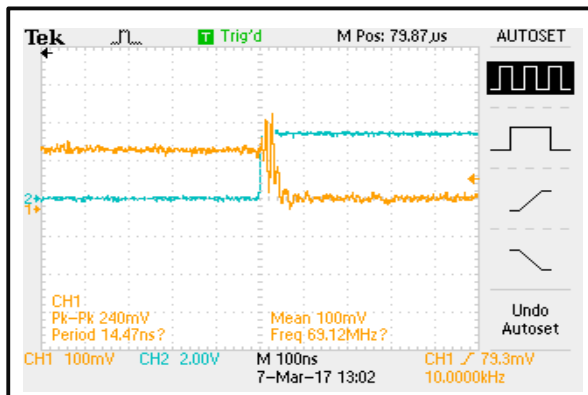
Group Delay



Switching Speed



Switching Speed

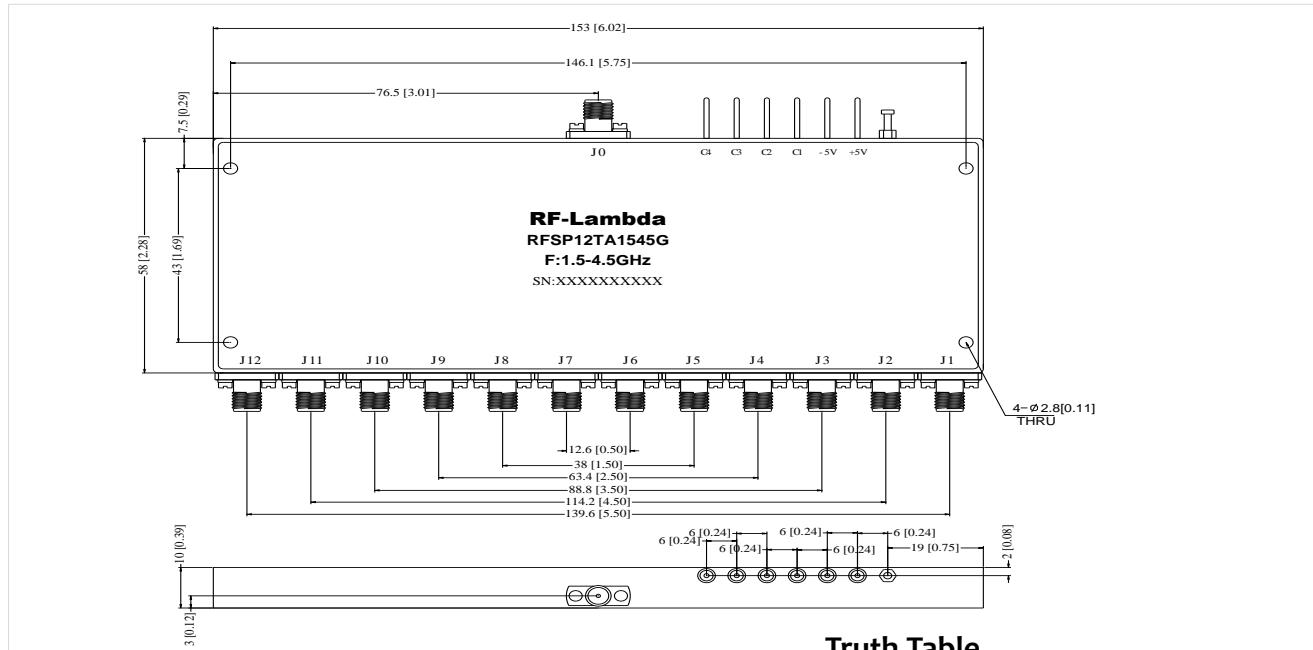


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Outline Drawing:

All Dimensions in mm [inches]



Truth Table

Control Input TTL				Signal Path State
C4	C3	C2	C1	
0	0	0	0	J0-J1
0	0	0	1	J0-J2
0	0	1	0	J0-J3
0	0	1	1	J0-J4
0	1	0	0	J0-J5
0	1	0	1	J0-J6
0	1	1	0	J0-J7
0	1	1	1	J0-J8
1	0	0	0	J0-J9
1	0	0	1	J0-J10
1	0	1	0	J0-J11
1	0	1	1	J0-J12

Control Pin Customization available upon request



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