



### Reflective 0.8-20GHz Coaxial SP8T Switch



#### Features

- Ultra Wide Band Operation 0.8-20GHz
- TTL compatible driver include
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Temperature Range -45°C~+85°C
- Customization available upon request
- Hermetically sealed package up to 60,000ft available upon request.

Electrical Specifications, TA = +25° C, With Vdd = +5V, Vss = -5V & VCTL = 0/ +5V

Description	PN: RFSP8TR0020G									
	SP8T Reflective Switch									
	Low Power Cold Switching									
Parameters	Min	Typ.	Max	Min	Typ.	Max	Min	Typ.	Max	Units
Frequency Range	0.8-6			6-12			12-20			GHz
Insertion Loss		3.5	4		4.5	5		4.8	5.5	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/°C
Isolation	60	80		60	80		60	70		dB
Input VSWR		1.5	2		1.7	2		1.7	2	
Output VSWR		1.5	2		1.7	2		1.7	2	
RF Input Power	30			30			30			dBm
Power Dissipation (CW)		0.35			0.35			0.5		W
0.1dB Compression Po.1dB		30			30			30		dBm
IM3		40			40			40		dBc
IIP3		50			50			50		dBm
Switching Speed			200			200			200	ns
Weight	3.53									ounces
Impedance	50									Ω
Biasing(+5V/-5V)	350/50									mA
Input /Output Connector	SMA-Female/SMA-Female (Standard)									
Finishing	Gold Plating									
Material	Aluminum									
Seal	Hermetically Sealed ( optional)									

Reflective Coaxial Single Pole Eight Throw Switch 0.8-20GHz



### Absolute Maximum Ratings

Biassing	+5V±10%/-5V±10%
TTL Control Voltage	0~0.8V/2~5V
Operating Temperature(°C)	-45 ~ +85
Storage Temperature(°C)	-50 ~ +125

### Ordering Information

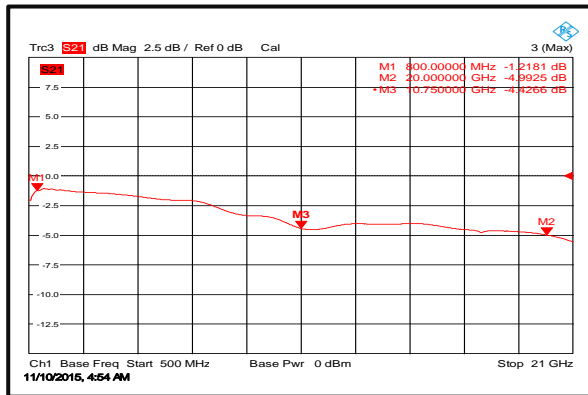
Part No	ECCN	Description
RFSP8TR0020G	EAR99	SP8T 0.8-20GHz PIN Diode Switch

### Environment specifications

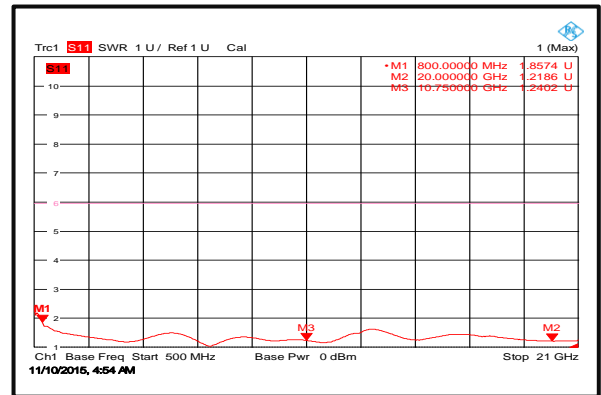
Operational Temperature (°C)	-45 ~ +85
Storage Temperature (°C)	-50 ~ +125
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH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

### Typical performance plots

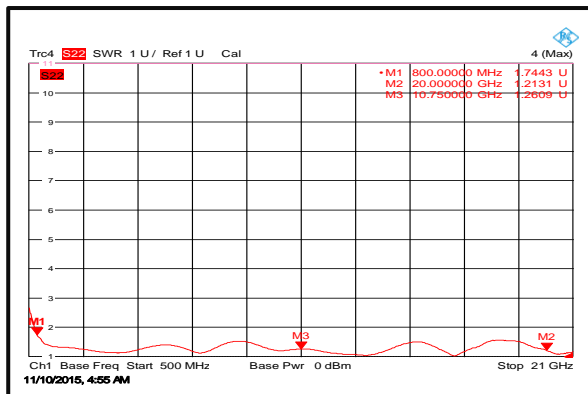
#### Insertion Loss



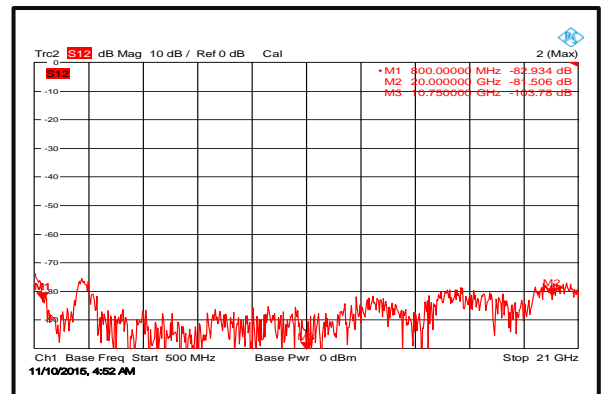
#### Input VSWR



#### Output VSWR



#### Isolation



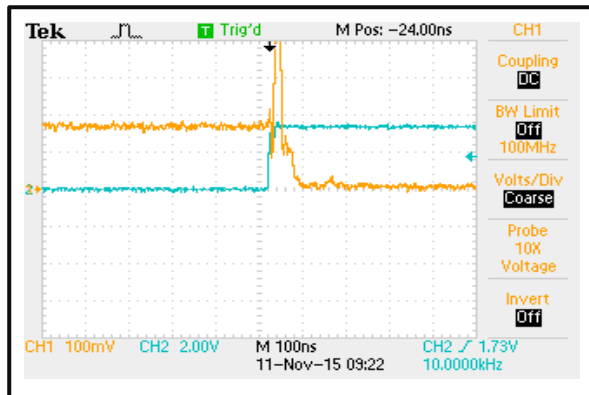


# RF-LAMBDA

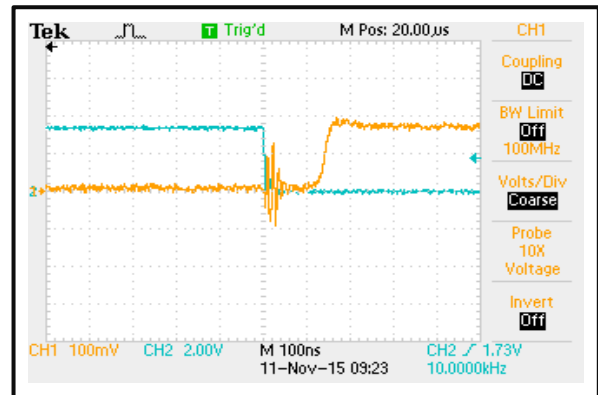
LEADER OF BROADBAND SOLUTIONS

## RFSP8TR0020G

### Switching Speed



### Switching Speed



### Outline Drawing:

All Dimensions in mm (inches)

RF-Lambda  
 RFSP8TR0020G  
 F:0.8-20GHz  
 SN:XXXXXXXXXX

3-Ø 2.8 [0.11] THRU

48.54 [1.91]  
 37.79 [1.49]  
 37.09 [1.46]  
 4.2 4.3 13.2 4.3 4.3  
 13.9 [0.55]  
 21 [0.83]  
 40.26 [1.58]  
 18.9 [0.74]  
 9.5 [0.37]  
 0.7  
 L=2 [0.08]  
 3 [0.12]

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

Control Pin Customization available upon request

**ATTENTION**  
 STATIC SENSITIVE DEVICES  
 HANDLE ONLY AT  
 STATIC SAFE WORK STATIONS

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Reflective Coaxial Single Pole Eight Throw Switch 0.8-20GHz