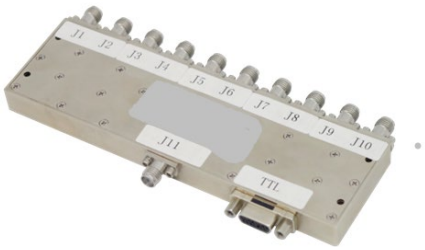
Absorptive Coaxial SP10T Switch
8 - 12GHz



Note: Photo is for illustration purposes only.
Please refer to outline drawing.

Features

- Wide Band Operation 8-12GHz
- 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, TA = +25°C, Vdd=+5V, TTL= 0 / +5V

Description	PN: RFSP10TA0812G SP10T Absorptive Switch Low Power Cold Switching			
Parameters	Min.	Typ.	Max.	Units
Frequency Range	8		12	GHz
Insertion Loss		3.5	4.5	dB
Insertion Loss Temperature Coefficient		0.003		dB/ °C
Isolation (Adjacent channels)	70	75		dB
Isolation (Between any channels)	70	73		dB
Input VSWR		1.5	1.7	: 1
Output VSWR		1.5	1.6	: 1
RF Input Power			30	dBm
DC Power Dissipation		1.8		W
0.1dB Compression Point (P0.1dB)		30		dBm
IIP3		45		dBm
Switching Speed	100Max.			ns
Weight	4.8Max.			ounces
Impedance	50			Ω
Bias Current (+5V)	300TYP. 400Max.			mA
Input / Output Connectors	SMA-Female			
Finish	Nickel Plated			
Material	Aluminum			
Sealing	Hermetically Sealed (Optional)			

Absorptive Coaxial Single Pole Ten Throw Switch 8 - 12GHz

Absolute Maximum Ratings

Biasing	+5V±10%

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

Ordering Information

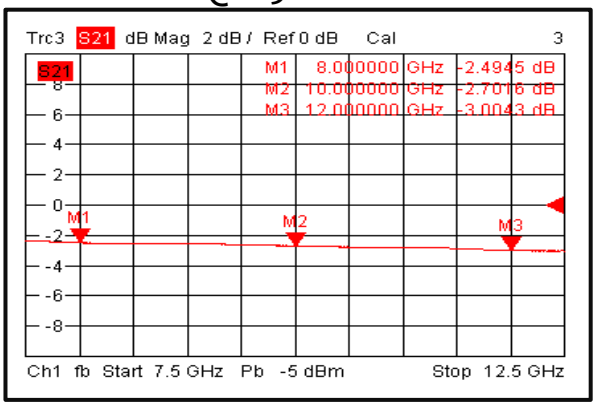
Part No.	Description
RFSP10TA0812G	SP10T 8-12GHz PIN Diode Switch

Environmental Specifications and Test Standards

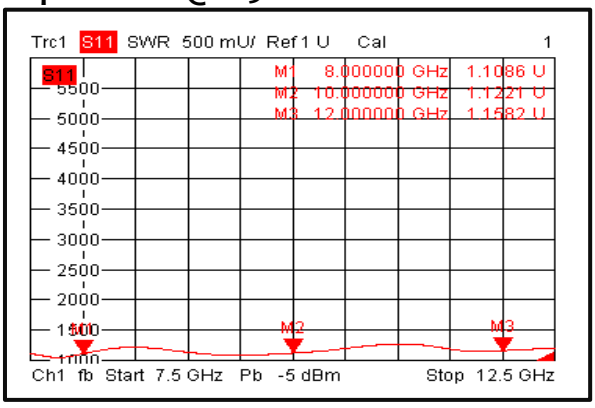
Parameter	Description
Operational Temperature	-40℃~+85℃ (Case Temperature)
Storage Temperature	-50℃~+105℃
Thermal Shock	-40℃ → +85℃ (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85℃ for 72 Hours
Shock	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)

Typical Performance Plots

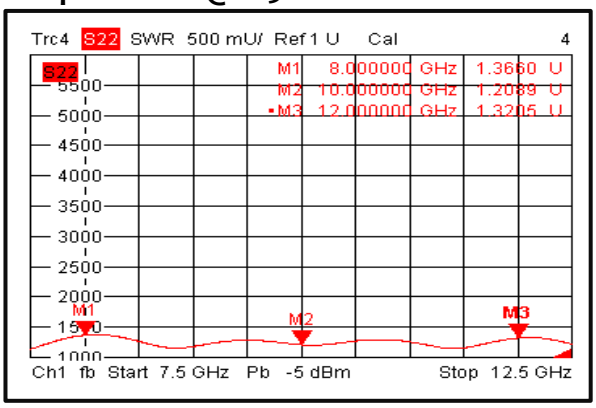
Insertion Loss @+25℃



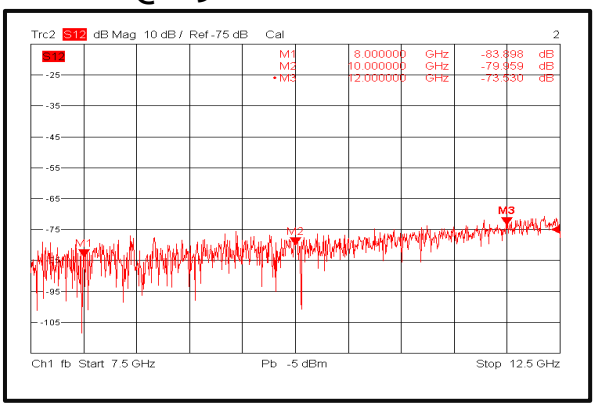
Input VSWR @+25℃



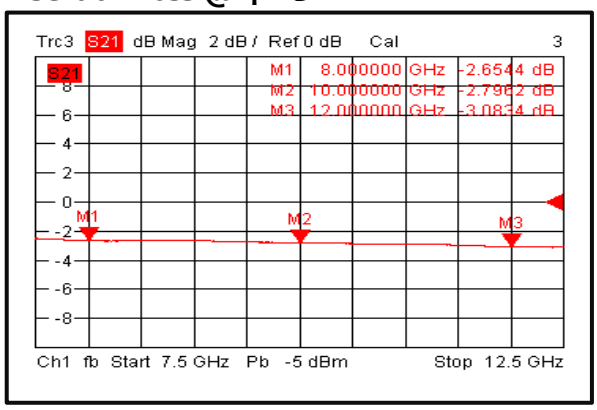
Output VSWR @+25℃



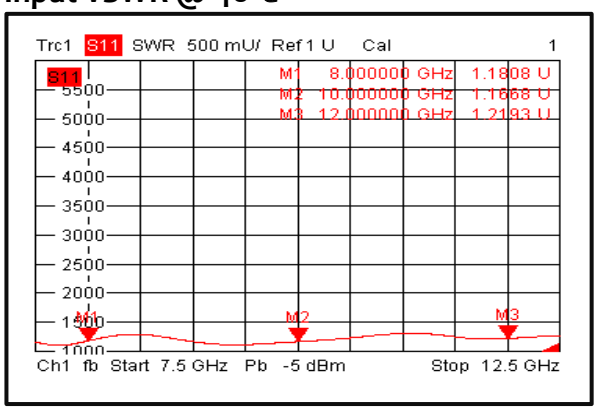
Isolation @+25℃



Insertion Loss @-40℃



Input VSWR @-40℃



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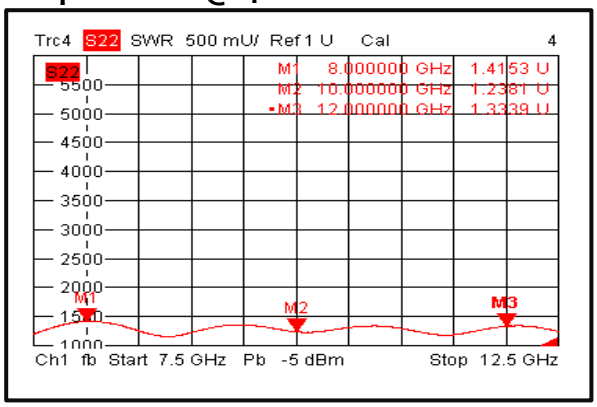
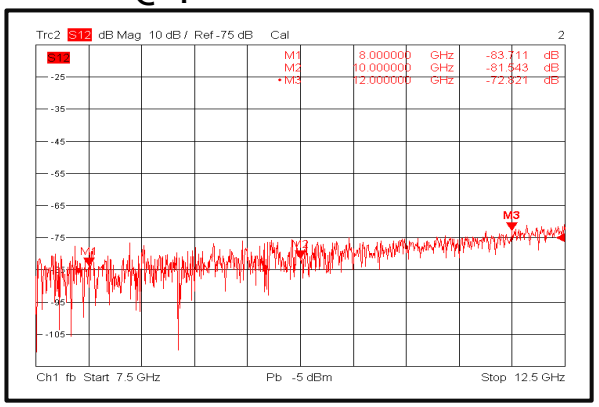
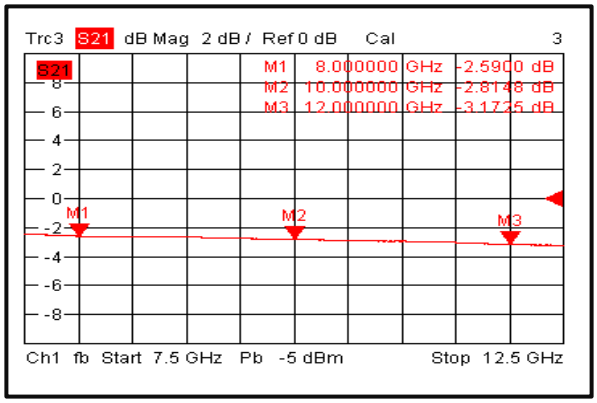
Output VSWR @-40℃



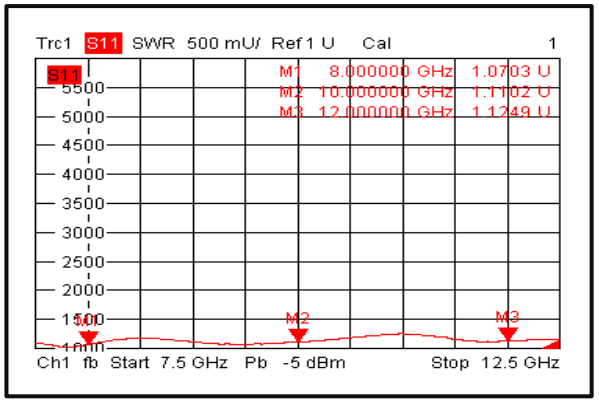
Isolation @-40℃



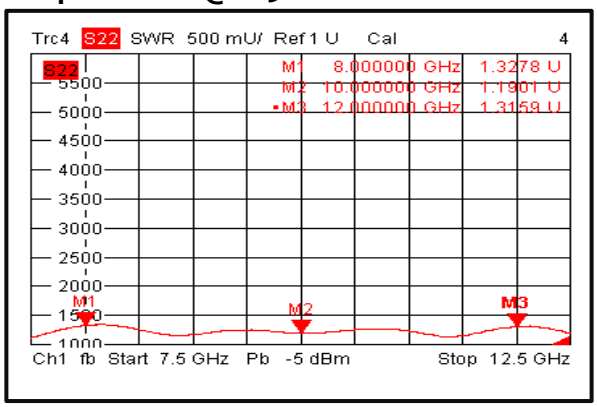
Insertion Loss @+85℃



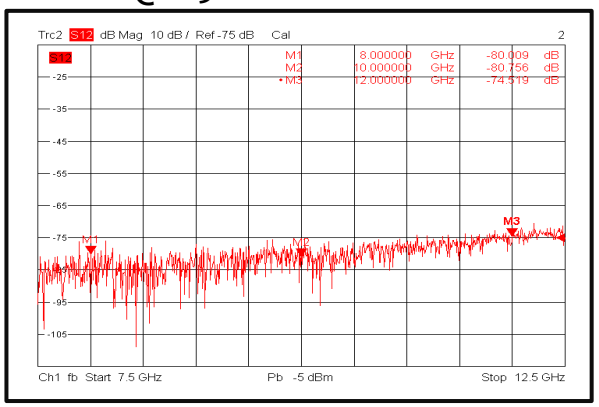
Input VSWR @+85℃



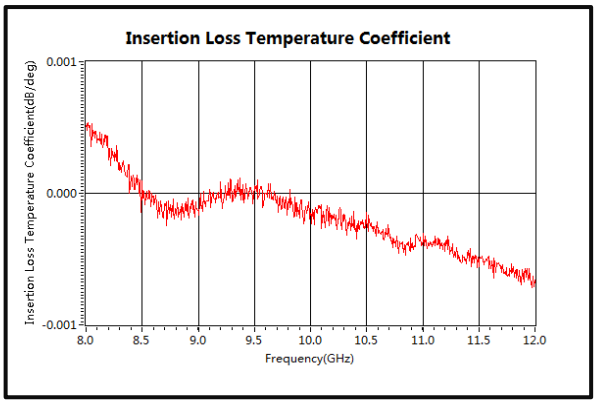
Output VSWR @+85℃



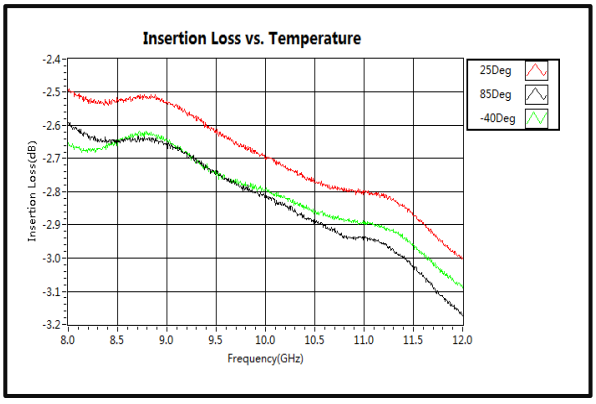
Isolation @+85℃



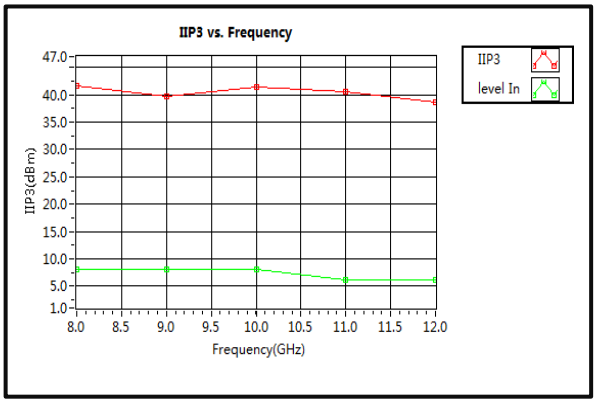
Insertion Loss Temperature Coefficient



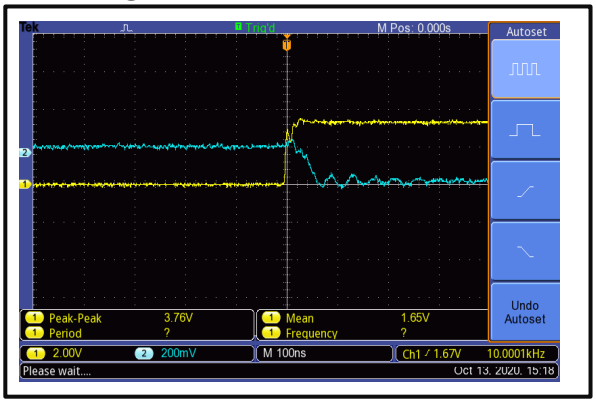
Insertion Loss vs. Temperature



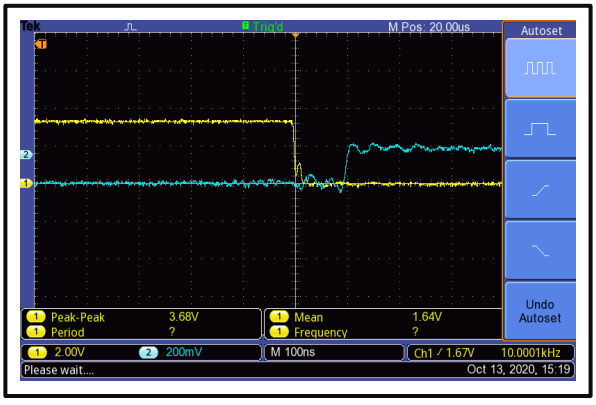
IIP3



Switching Speed



Switching Speed



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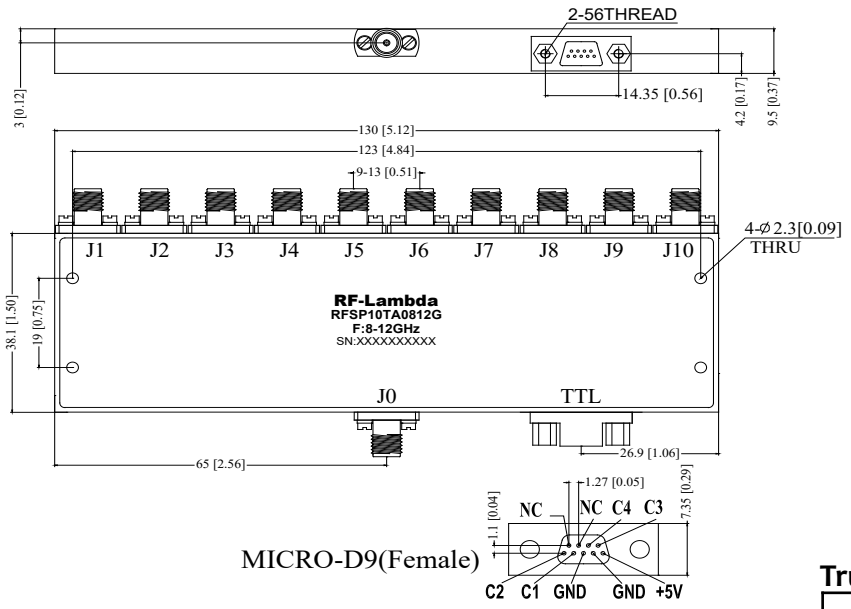
Outline Drawing:

All Dimensions in mm [inches]
Housing Tolerances ±0.2 [0.008]



Truth Table

TTL Control Voltage THRESHOLD				Low(0)=0~0.8V
				High(1)=2.8~5V
Control Input TTL				State
C1	C2	c3	c4	
0	0	0	0	J0-J1
1	0	0	0	J0-J2
0	1	0	0	J0-J3
1	1	0	0	J0-J4
0	0	1	0	J0-J5
1	0	1	0	J0-J6
0	1	1	0	J0-J7
1	1	1	0	J0-J8
0	0	0	1	J0-J9
1	0	0	1	J0-J10
Control Pin Customization available upon request				

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