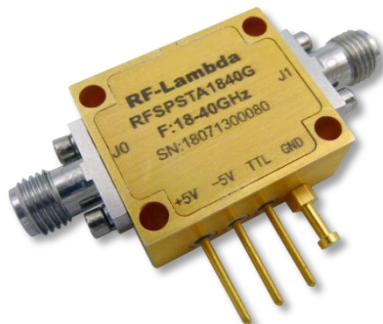


Absorptive Coaxial SPST Switch 18 - 40GHz



Features

- Wide Band Operation 18-40GHz
- 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, $T_A = +25\text{ }^\circ\text{C}$, $V_{dd} = +5\text{V}/-5\text{V}$, $TTL = 0 / +5\text{V}$

Description	PN: RFSPSTA1840G						
	SPST Absorptive Switch J0: Reflective Port J1: Absorptive Port						
	Low Power Cold Switching						
Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	18-30		30-40				GHz
Insertion Loss		3	3.8		3.6	4.5	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/ °C
Isolation (J0→J1)	75	80		70	80		dB
Input VSWR		1.3	2.5		1.8	2.2	:1
Output VSWR		1.3	2.5		1.8	2.2	:1
RF Input Power			23			23	dBm
Power Dissipation (CW)		0.25			0.25		W
0.1dB Compression Point (Po.1dB)		23			23		dBm
IIP3		40			36		dBm
Switching Speed	50						ns
Weight	0.65 Max.						ounces
Impedance	50						Ω
Bias Current (+5V/-5V)	70/50						mA
Input / Output Connectors	2.92mm-Female						
Finish	Gold Plated						
Material	Aluminum						
Sealing	Hermetically Sealed (Optional)						

Absolute Maximum Ratings

Biasing	+5V±10% / -5V±10%
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Note: TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

Ordering Information

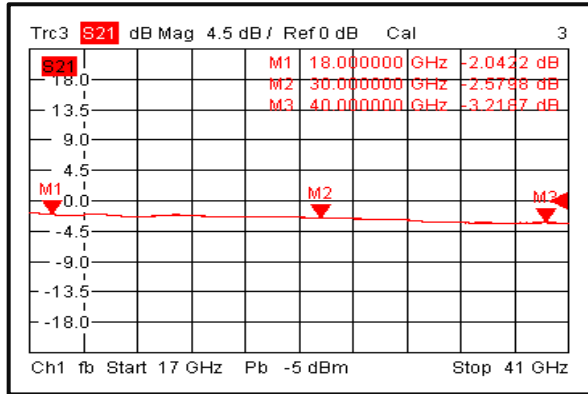
Part No.	Description
RFSPSTA1840G	SPST 18-40GHz PIN Diode Switch

Environmental Specifications and Test Standards

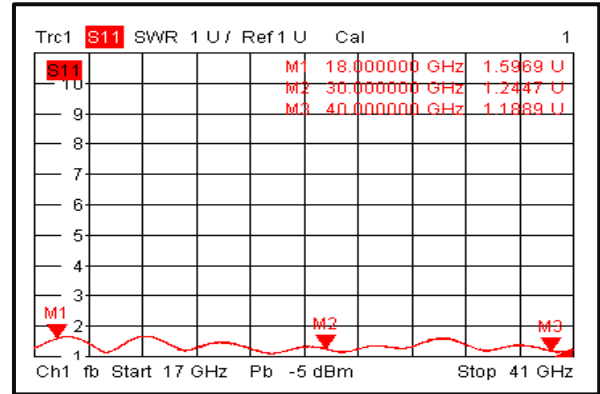
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours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

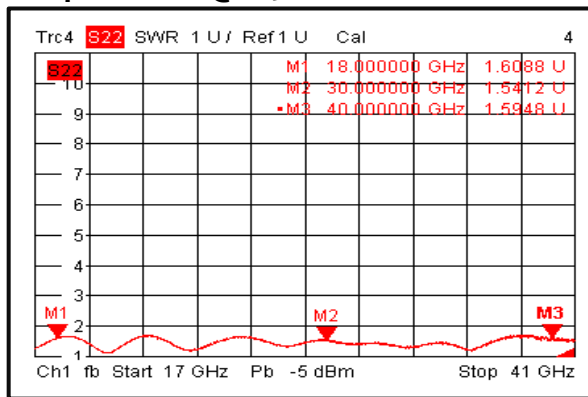
Insertion Loss @+25°C



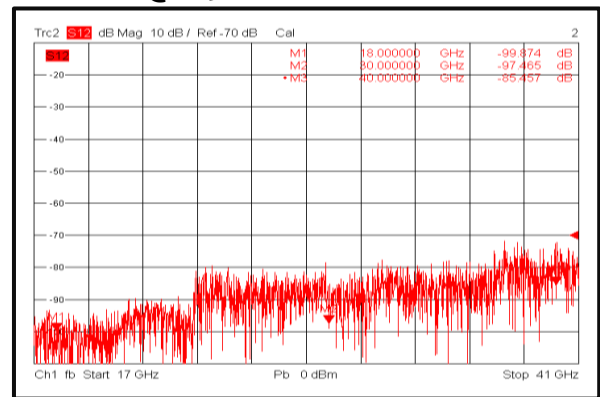
Input VSWR @+25°C



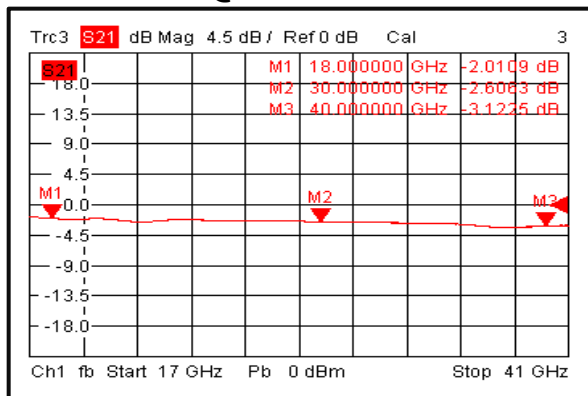
Output VSWR @+25°C



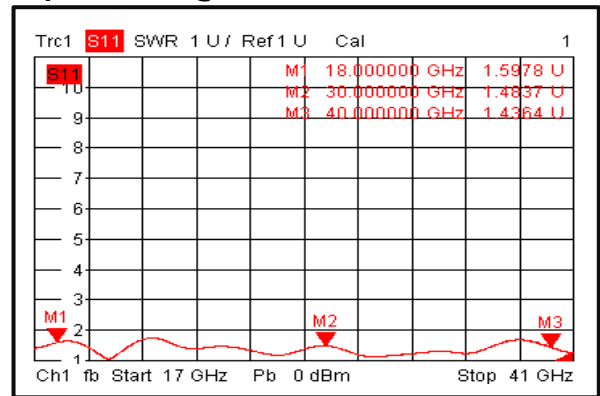
Isolation @+25°C



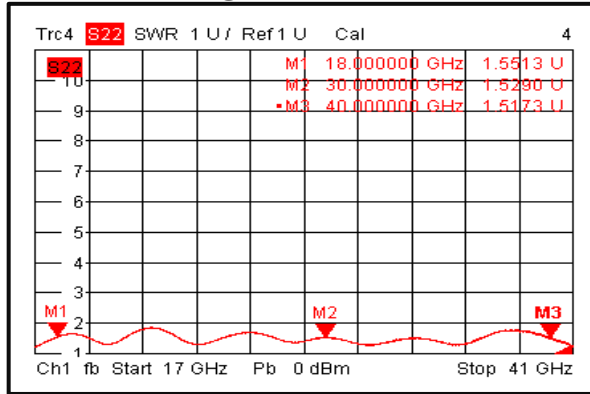
Insertion Loss @-40°C



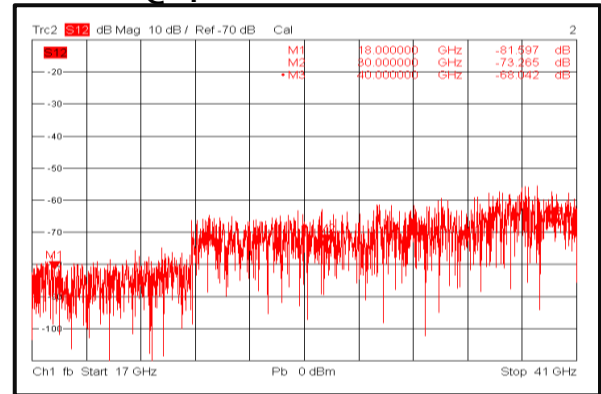
Input VSWR @-40°C



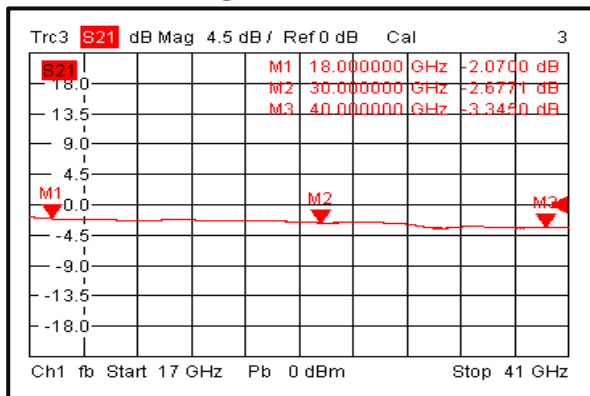
Output VSWR @-40°C



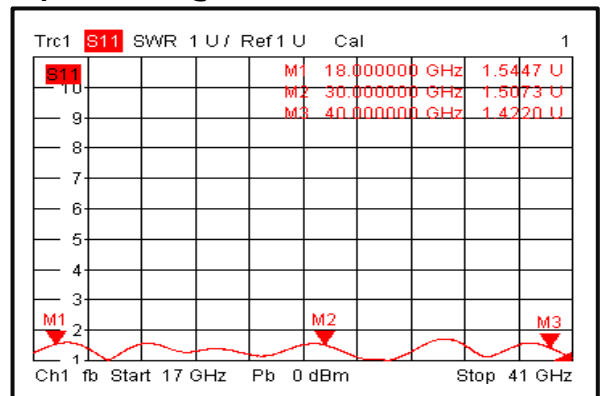
Isolation @-40°C



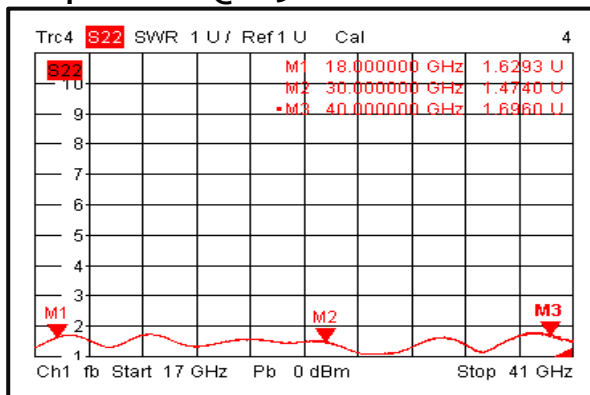
Insertion Loss @+85°C



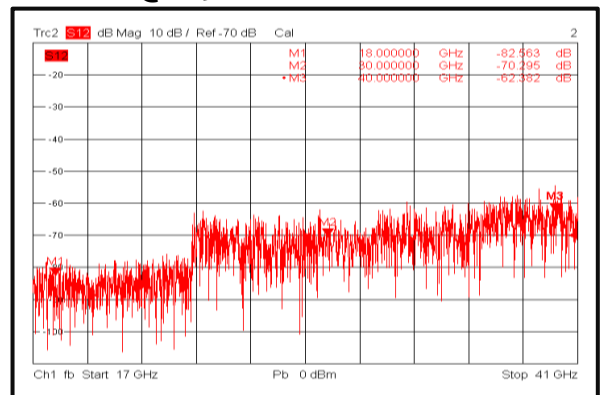
Input VSWR @+85°C



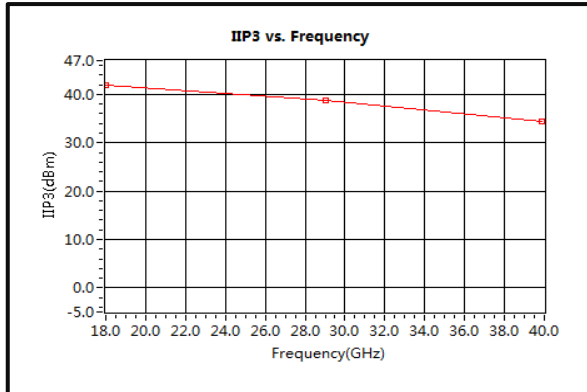
Output VSWR @+85°C



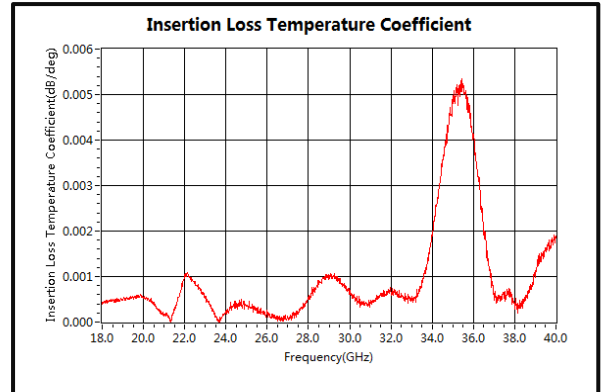
Isolation @+85°C



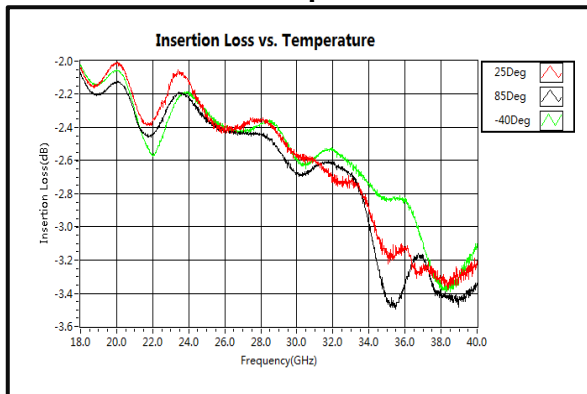
IIP3



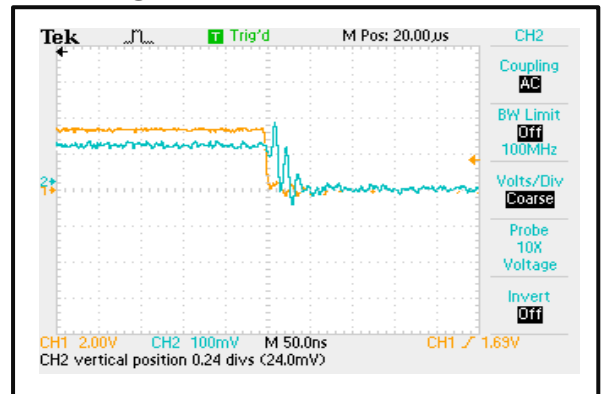
Insertion Loss Temperature Coefficient



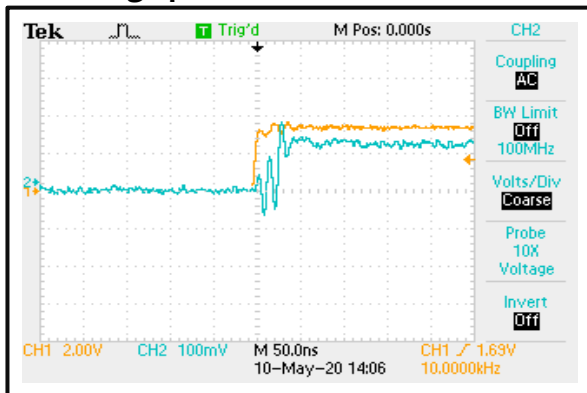
Insertion Loss vs. Temperature



Switching Speed

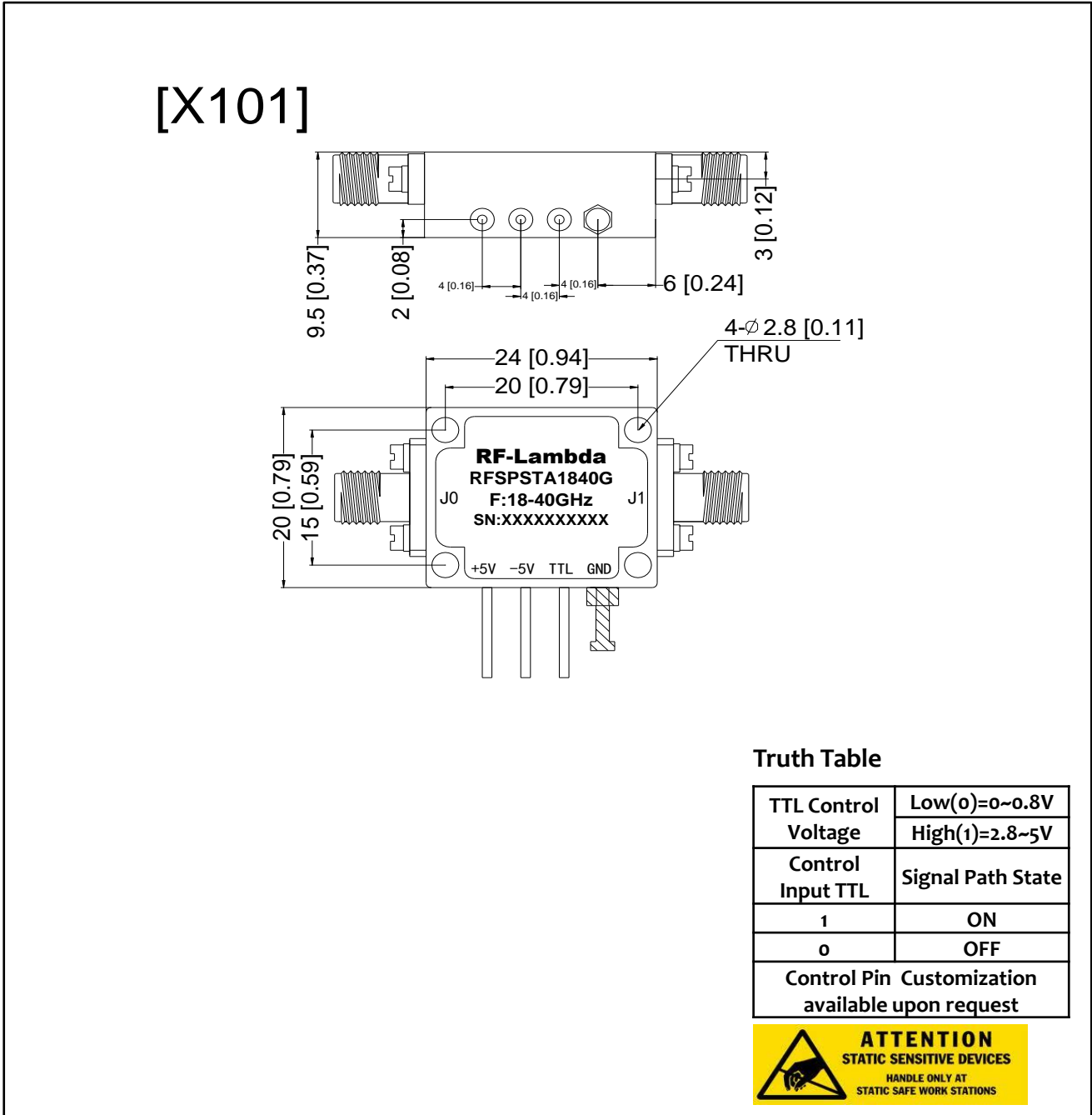


Switching Speed



Outline Drawing:

All Dimensions in mm [inches]



Truth Table

TTL Control Voltage	Low(0)=0~0.8V High(1)=2.8~5V
Control Input TTL	Signal Path State
1	ON
0	OFF
Control Pin Customization available upon request	



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