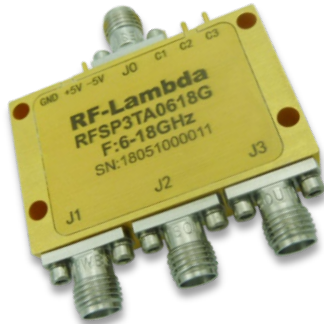


## Absorptive Coaxial SP3T Switch 6 – 18GHz



### Features

- Wide Band Operation 6-18GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation

### Typical Applications

- Wireless Infrastructure
- Test and Measurement
- Military and Aerospace

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

Description	PN: RFSP3TA0618G						
	SP3T Absorptive Switch						
	Low Power Cold Switching						
Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	6		12	12		18	GHz
Insertion Loss		1.8	2.2		2.5	3.2	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/°C
Isolation	60	70		60	65		dB
Input VSWR		1.3	1.5		1.5	1.8	:1
Output VSWR		1.3	1.5		1.5	1.8	:1
RF Input power			30			30	dBm
Power Dissipation		0.5			0.5		W
0.1dB Compression Point (Po.1dB)		30			30		dBm
IIP3		40			38		dBm
Switching Speed	100 Max.						ns
Weight	1.5 Max.						ounces
Impedance	50						Ω
Biasing (+5V/-5V)	120/50 Max.						mA
Input /Output Connectors	SMA-Female						
Finish	Gold Plated						
Material	Aluminum						
Sealing	Hermetically Sealed (Optional)						

**Absolute Maximum Ratings**

Biassing	+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**

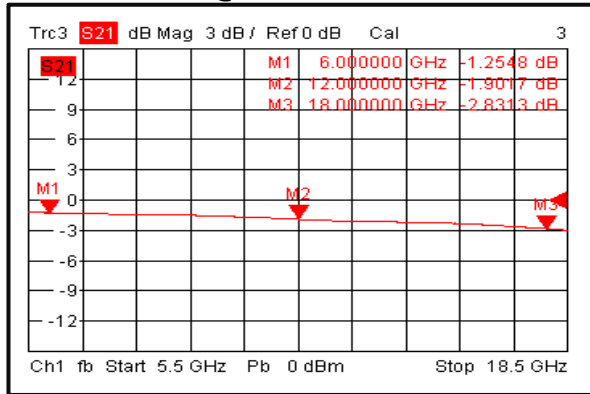
Part No	Description
RFSP3TA0618G	SP3T 6-18GHz PIN Diode Switch

**Environmental Specifications and Test Standards**

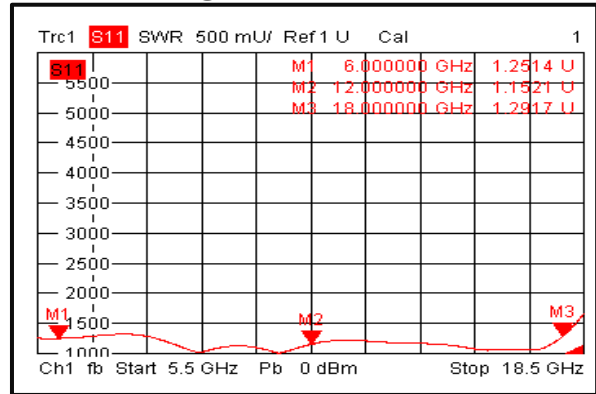
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours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

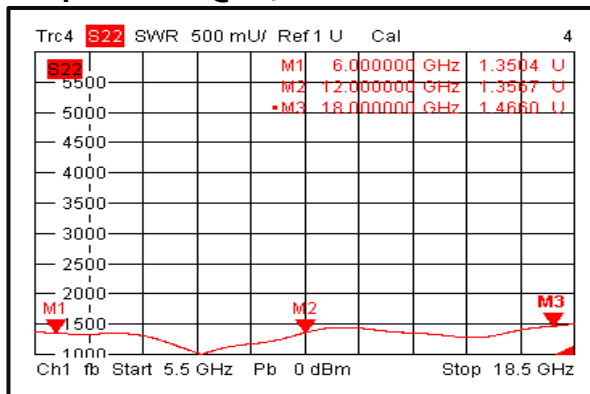
**Insertion Loss @+25°C**



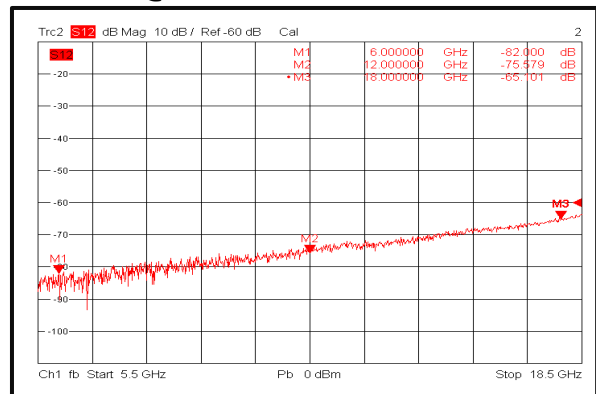
**Input VSWR @+25°C**



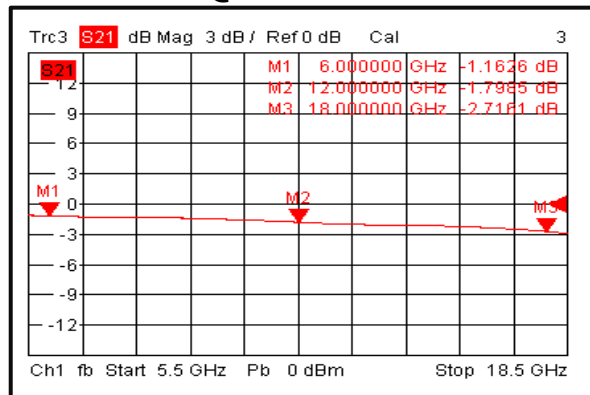
**Output VSWR @+25°C**



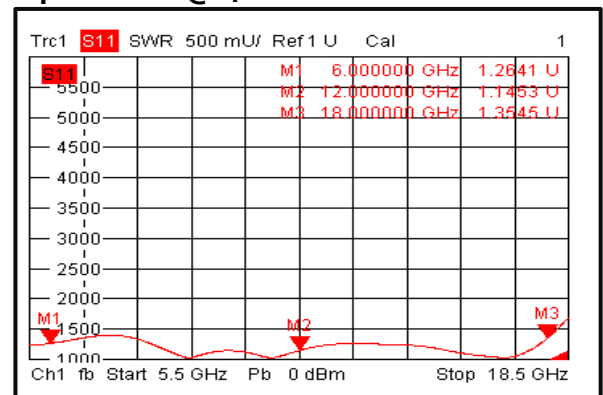
**Isolation @+25°C**



**Insertion Loss @-40°C**

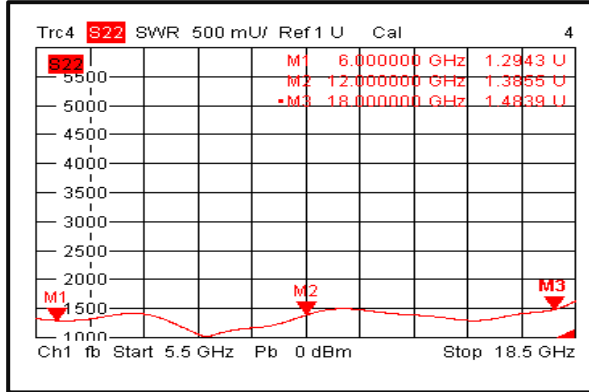


**Input VSWR @-40°C**

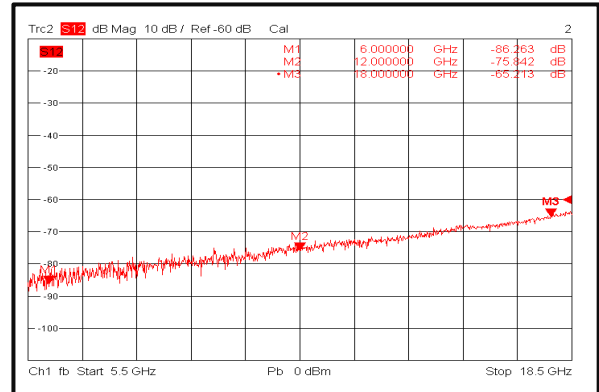


**Absorptive Coaxial Single Pole Three Throw Switch 6-18GHz**

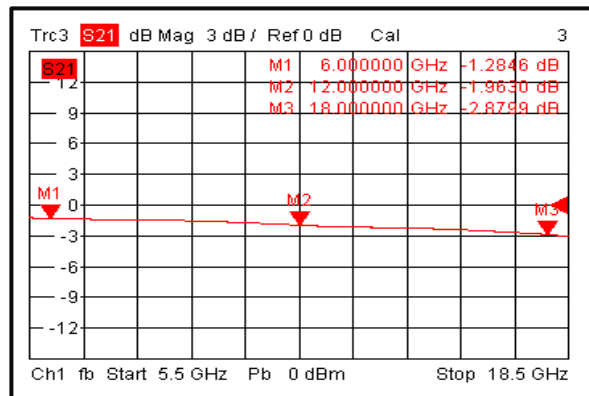
**Output VSWR @-40°C**



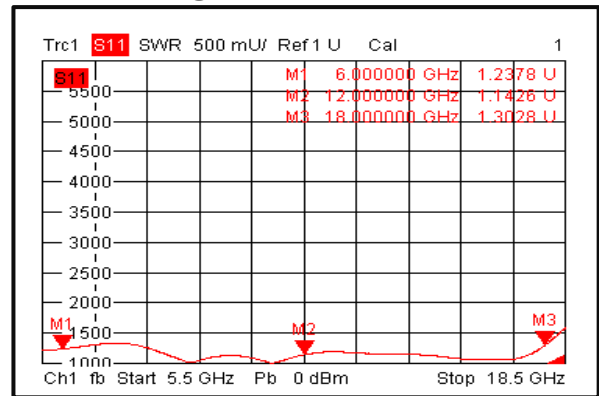
**Isolation @-40°C**



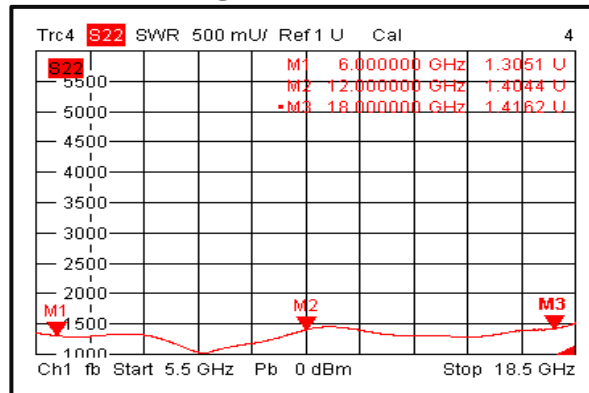
**Insertion Loss @+85°C**



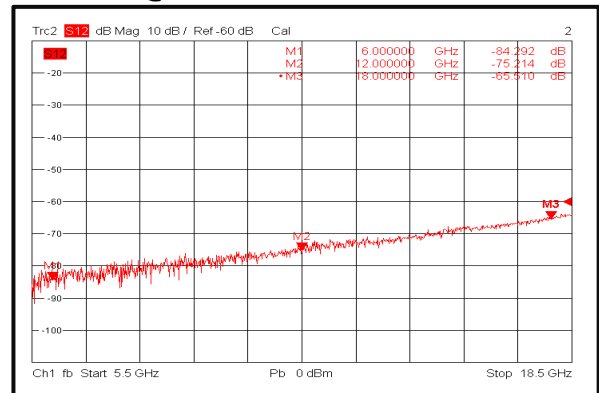
**Input VSWR @+85°C**



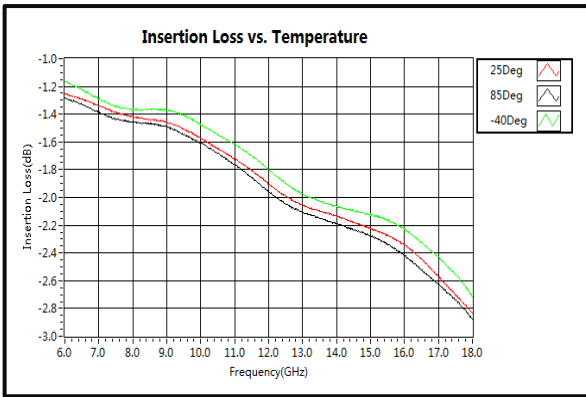
**Output VSWR @+85°C**



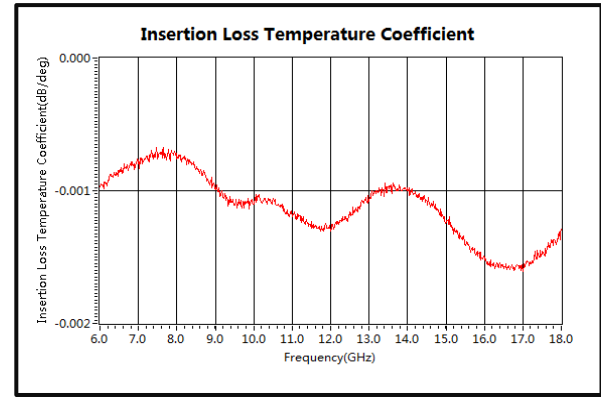
**Isolation @+85°C**



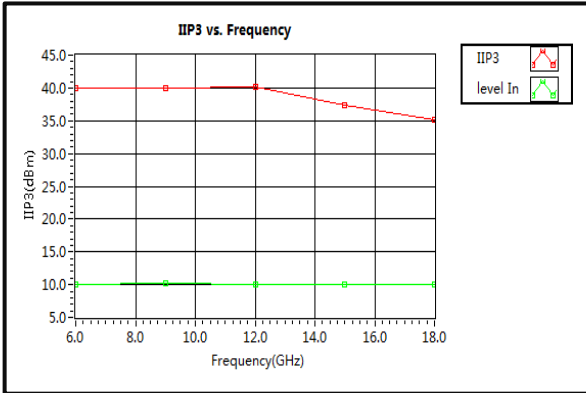
**Insertion Loss Temperature Coefficient**



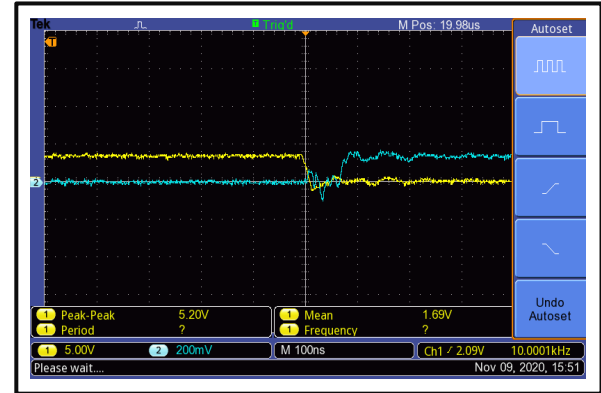
**Insertion Loss vs. Temperature**



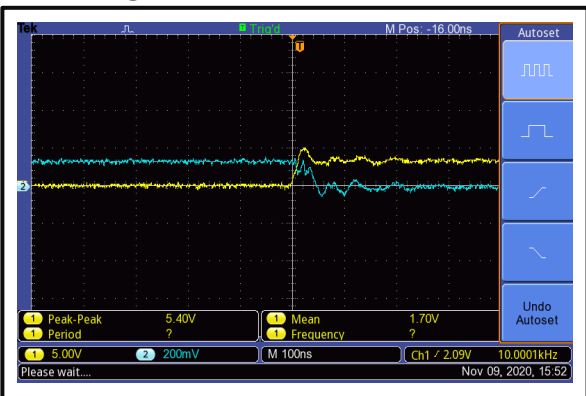
**IIP3**



**Switching Speed**



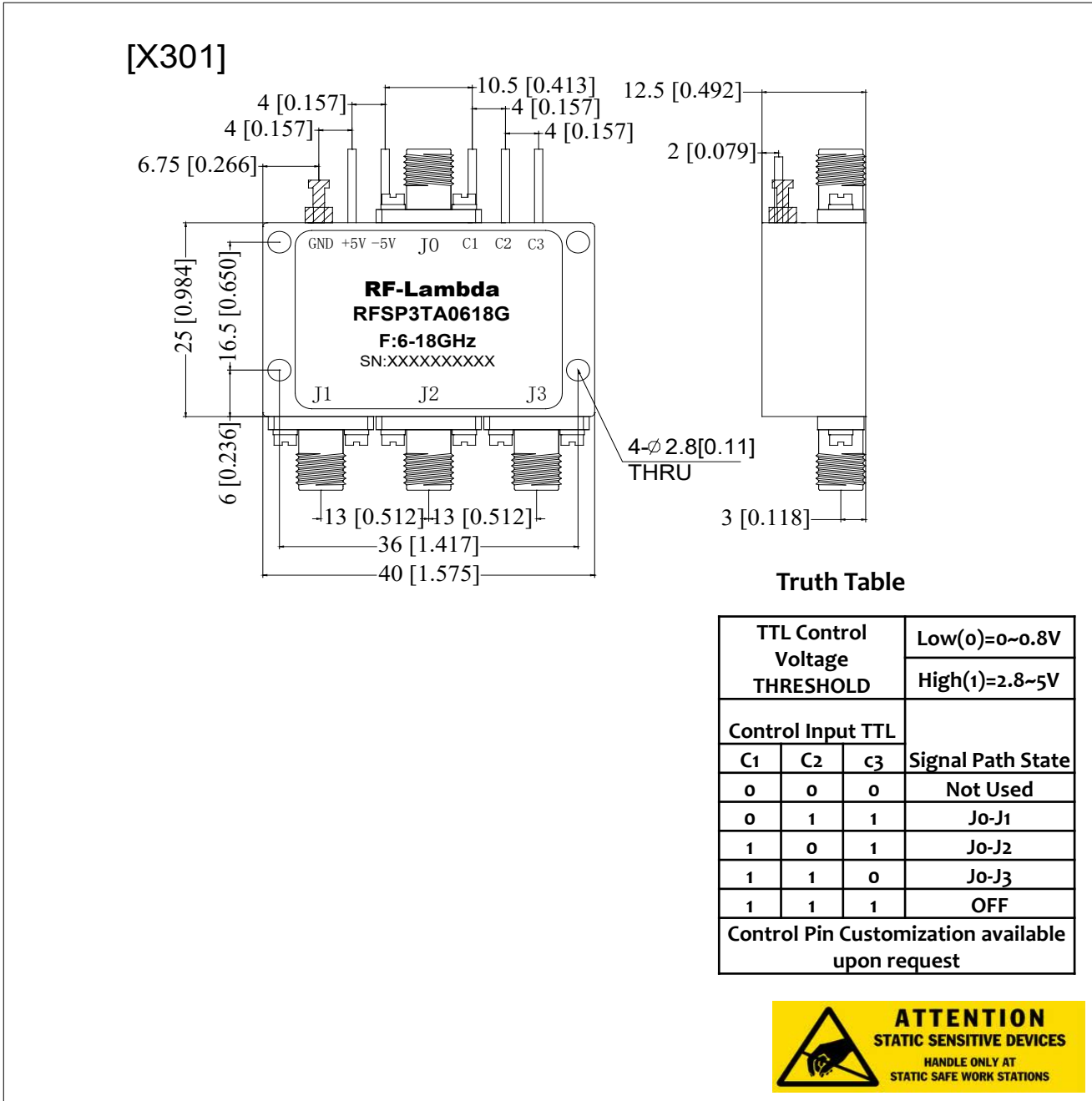
**Switching Speed**



**Absorptive Coaxial Single Pole Three Throw Switch 6-18GHz**

**Outline Drawing:**

All Dimensions in mm [inches]  
Housing Tolerances  $\pm 0.1$  [0.004]



**Absorptive Coaxial Single Pole Three Throw Switch 6-18GHz**

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