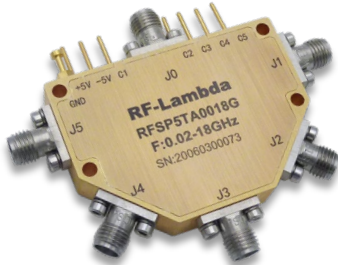


## Absorptive Coaxial SP5T Switch 0.02 - 18GHz



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

### Features

- Ultra Wide Band Operation 0.02-18GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation

### Typical Applications

- Wireless Infrastructure
- Military and Aerospace
- Test and Measurement

Absorptive Coaxial Single Pole Five Throw Switch 0.02 - 18GHz

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

Description	RFSP5TA0018G-C3									
	SP5T Absorptive Switch									
	Low Power Cold Switching									
Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.02-6			6-12			12-18			GHz
Insertion Loss		2.2	3.0		3.0	4.0		4.0	5.0	dB
Insertion Loss Temperature Coefficient		0.003			0.003			0.003		dB/°C
Isolation	60	75		60	70		60	65		dB
Input VSWR		1.6	2.0		1.6	2.0		1.8	2.0	: 1
Output VSWR		1.6	2.0		1.6	2.0		1.8	2.0	: 1
RF Input Power			30			30			30	dBm
DC Power Dissipation		1.2			1.2			1.2		W
0.1dB Compression Point ( $P_{o.1dB}$ )		30			30			30		dBm
IIP3		45			43			42		dBm
Switching Speed	250 Max.									ns
Weight	1.35 Typ.									Ounces
Impedance	50									$\Omega$
Bias Current ( +5V )	250 Max.									mA
Input / Output Connectors	SMA-Female									
Finish	Gold Plated									
Material	Aluminum									
Sealing	Hermetically Sealed (optional)									

**Absolute Maximum Ratings**

Biasing	+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**

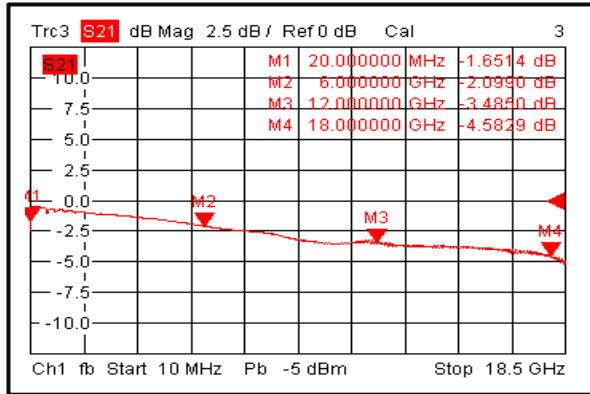
Part No.	Description
RFSP5TA0018G-C3	SP5T 0.02-18GHz PIN Diode Switch

**Environmental Specifications and Test Standards**

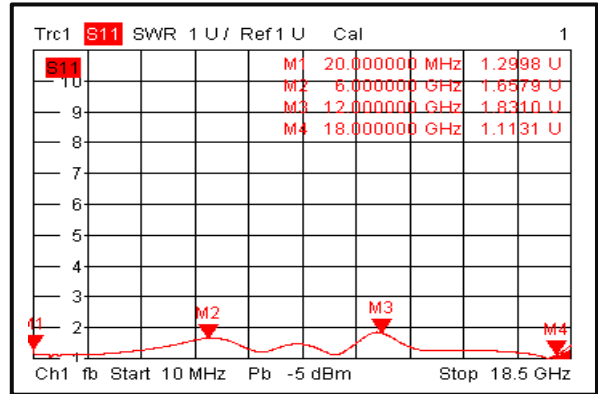
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours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

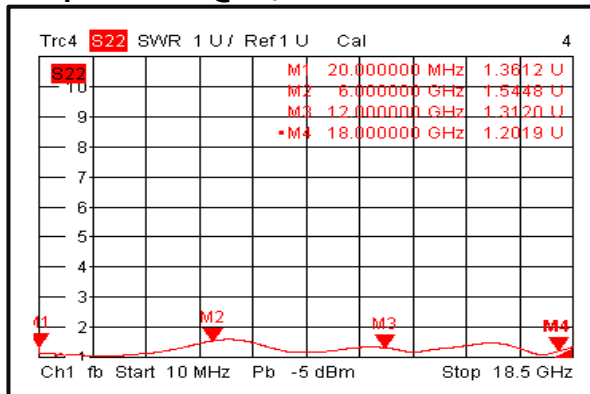
**Insertion Loss @+25°C**



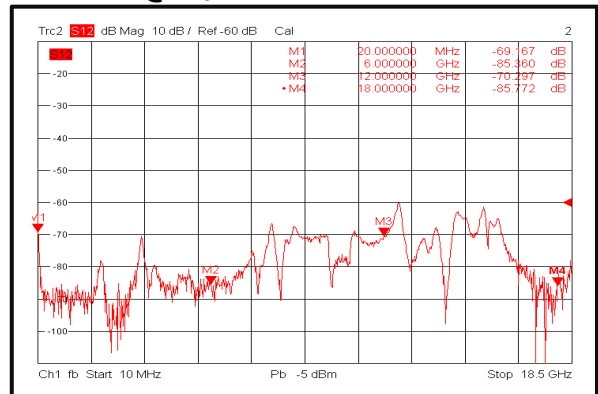
**Input VSWR @+25°C**



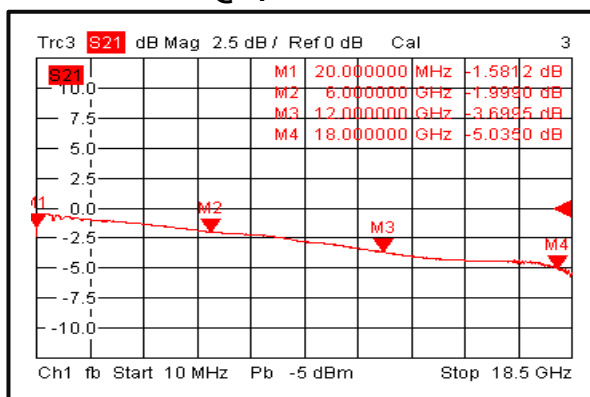
**Output VSWR @+25°C**



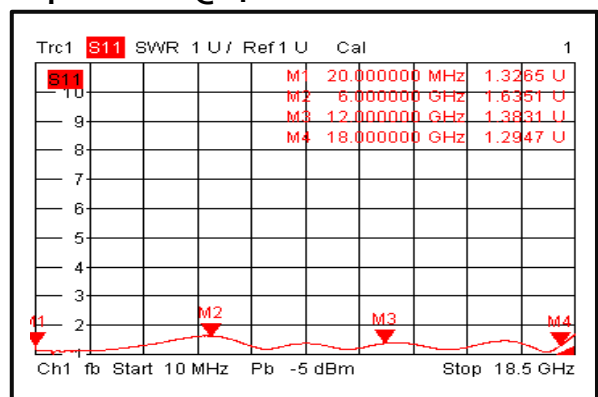
**Isolation @+25°C**



**Insertion Loss @-40°C**

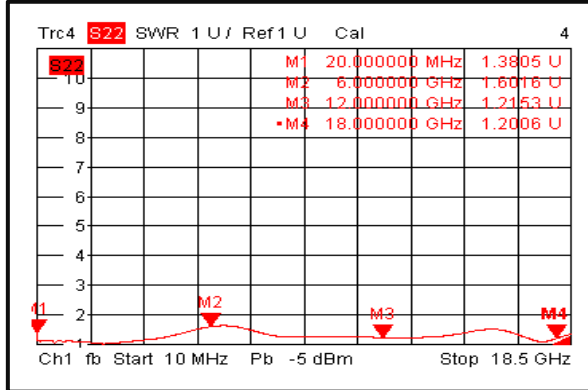


**Input VSWR @-40°C**

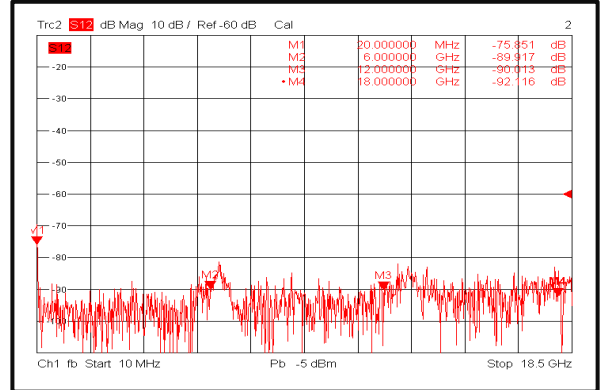


**Absorptive Coaxial Single Pole Five Throw Switch 0.02 - 18GHz**

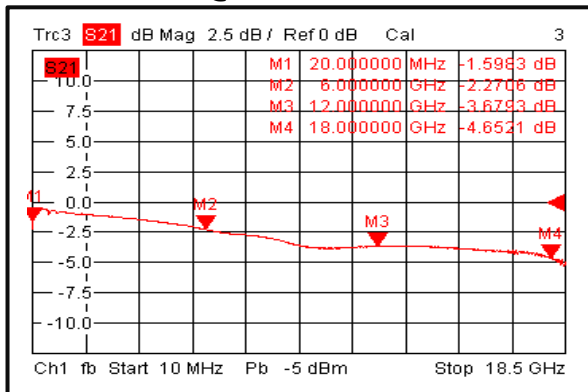
**Output VSWR @-40°C**



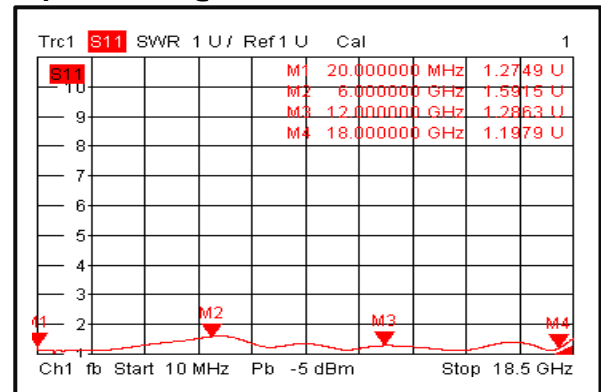
**Isolation @-40°C**



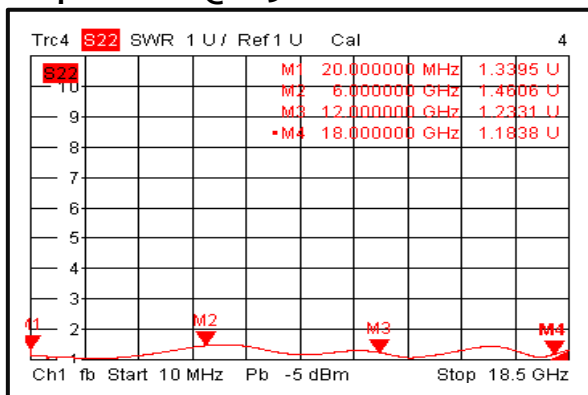
**Insertion Loss @+85°C**



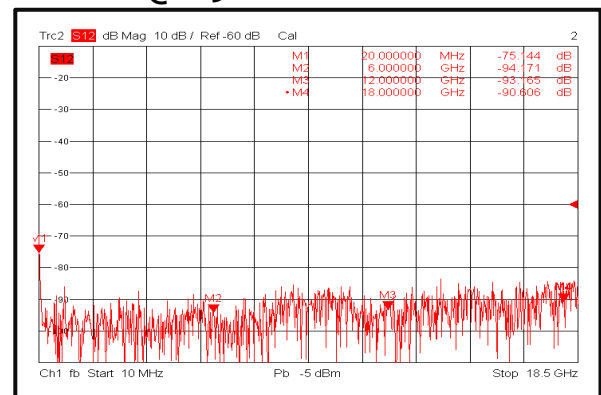
**Input VSWR @+85°C**



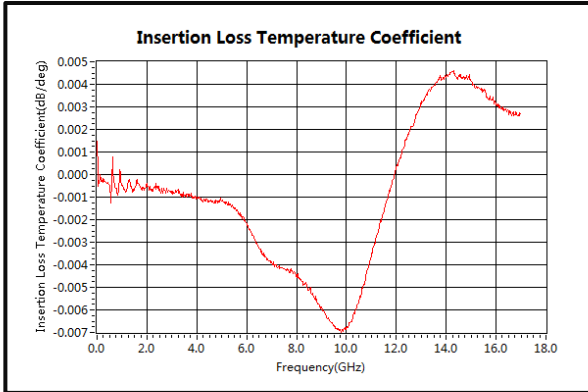
**Output VSWR @+85°C**



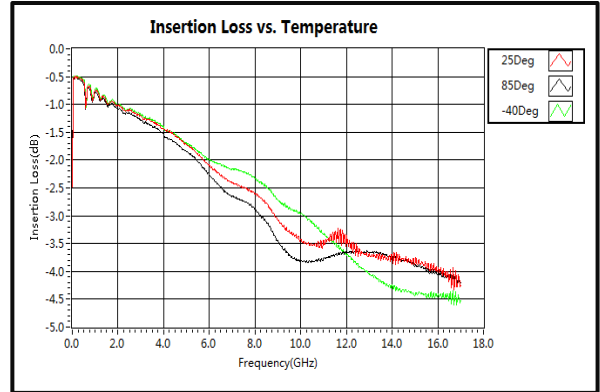
**Isolation @+85°C**



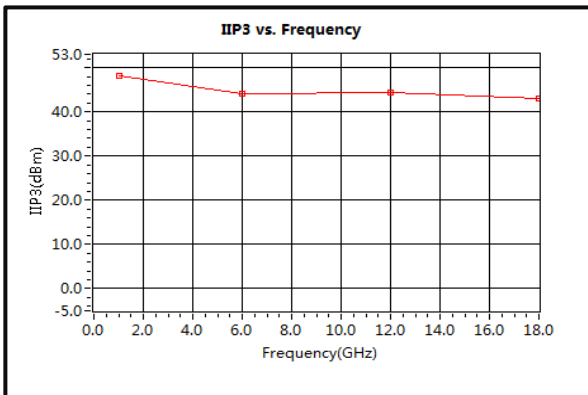
**Insertion Loss Temperature Coefficient**



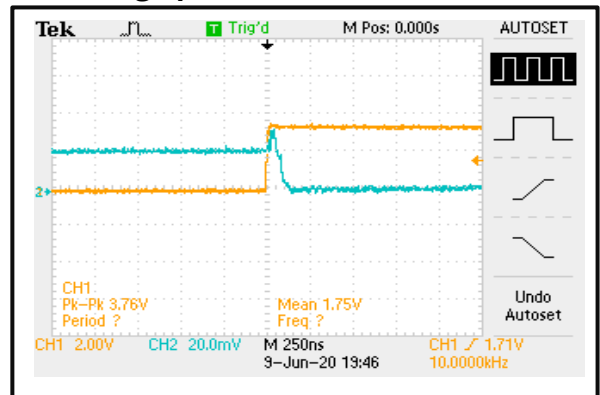
**Insertion Loss vs. Temperature**



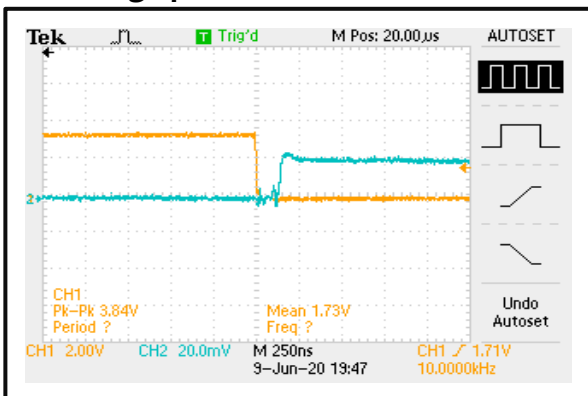
**IIP3**



**Switching Speed**



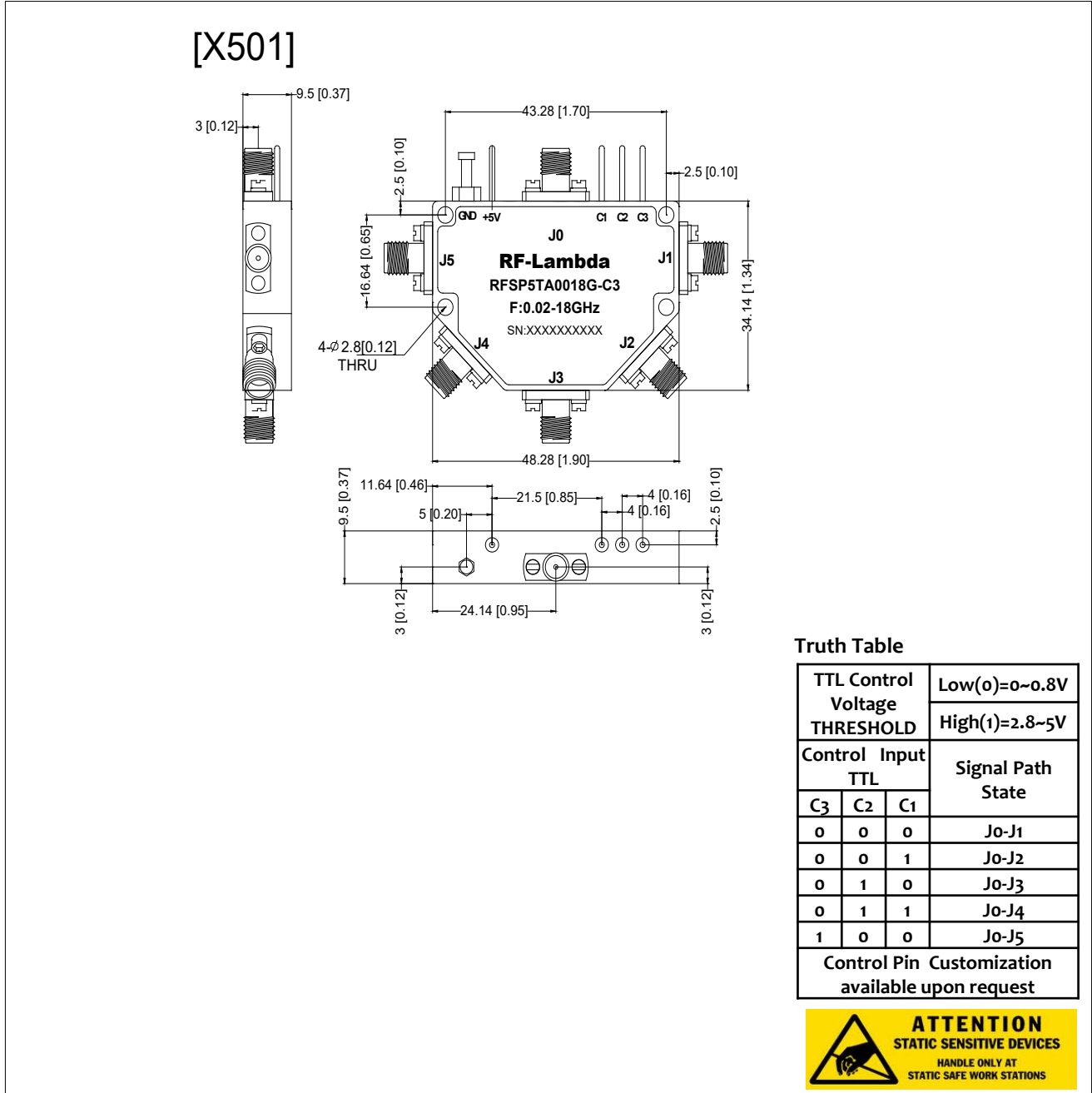
**Switching Speed**



**Outline Drawing:**

All Dimensions in mm [inches]

Tolerances  $\pm 0.1$  [0.004]



**Absorptive Coaxial Single Pole Five Throw Switch 0.02 - 18GHz**

**Important Notice**

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