

Reflective Coaxial SP8T Switch 1 – 18GHz



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

Features

- Ultra Wide Band Operation 1-18GHz
- 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, $T_A = +25^{\circ}\text{C}$, $V_{dd} = +12\text{V}$, $TTL = 0 / +5\text{V}$

Description	PN: RFSP8TR0118GW20			
	SP8T Reflective Switch			
	High Power Cold Switching			
Parameters	Min.	Typ.	Max.	Units
Frequency Range	1-18			GHz
Insertion Loss			6.5	dB
Insertion Loss Temperature Coefficient		0.003		dB/ $^{\circ}\text{C}$
Isolation	45			dB
Input VSWR			2.0	: 1
Output VSWR			2.0	: 1
RF Input Power (CW)			20	W
RF Input Power (Pulsed, 10% Duty Cycle, 10us pulse width)			250	W
DC Power Dissipation		7.2		W
0.1dB Compression Point (Po.1dB)		43		dBm
IIP3		55		dbm
Switching Speed			800	ns
Weight	/			Ounces
Impedance	50			Ω
Bias Current (+12V)	600			mA
Input / Output Connectors	SMA-Female			
Finish	Gold Plated			
Material	Aluminum / Copper			
Sealing	Epoxy Sealed (Standard)			
	Hermetically Sealed (Optional)			

Absolute Maximum Ratings

Biasing	+5V±10%
---------	---------

Ordering Information

Part No.	Description
RFSP8TR0118GW20	SP8T 1-18GHz PIN Diode Switch

Notes:

1. If the device operates in high power state, case temperature must be lower than 60°C.
2. Cold Switching: Before changing any TTL signal(s), the RF input power must be blanked or the switch could be damaged.

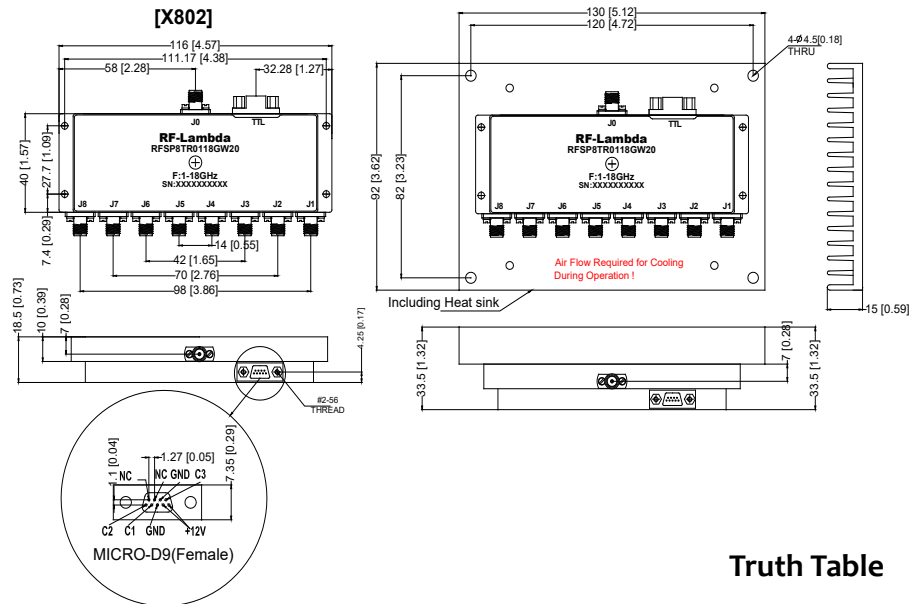
Environmental Specifications and Test Standards

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)

Outline Drawing:

All Dimensions in mm [inches]

Housing Tolerances ± 0.2 [0.008]



Notes:

- Heatsink Included - Mandatory for Operation.

Truth Table

TTL Control Voltage THRESHOLD			Low(0)=0~0.8 V
			High(1)=2.8~5V
Control Input TTL			Signal Path State
C ₃	C ₂	C ₁	
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			



Important Notice

The information contained herein is believed to be reliable. RF-Lambda makes no warranties regarding the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for any of the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for the use of the information contained herein. The information contained herein is provided "AS IS, WHERE IS" and with all faults, and the entire risk associated with such information is entirely with the user. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for RF-Lambda products. The information contained herein or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information. RF-Lambda products are not warranted or authorized for use as critical components in medical, life-saving, or life sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.