



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFSP3TA0843G

Absorptive Coaxial SP3T Switch 8 - 43.5GHz



Features

- Wide Band Operation 8-43.5GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

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

Description	PN: RFSP ₃ TA0843G						
	SP ₃ T Absorptive Switch						
	Low Power Cold Switching						
	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Parameters							
Frequency Range	8-26			26-43.5			GHz
Insertion Loss		3	3.5		3.5	4	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/°C
Isolation	50	53		42	50		dB
Input VSWR		2	2.5		2	2.5	:1
Output VSWR		2	2.5		2	2.5	:1
RF Input Power Pulse 10% Duty cycle (10us)			+23			+23	dBm
DC Power Dissipation		0.9			0.9		W
0.1dB Compression Point (P _{o.1dB})		23			23		dBm
IIP ₃		50			45		dBm
Switching Speed		50	100		50	100	ns
Weight	0.71						Ounces
Impedance	50						Ω
Bias Current (+5V / -5V)	130/50						mA
Input / Output Connectors	2.92mm-Female						
Finish	Gold Plated						
Material	Aluminum						
Sealing	Hermetically Sealed (Optional)						

Absorptive Coaxial Single Pole Three Throw Switch 8 – 43.5GHz



Absolute Maximum Ratings

Biasing	+5V±10%/-5V±10%
TTL Control Voltage	0~0.8V / 2.8~5V

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

Ordering Information

Part No.	ECCN	Description
RFSP3TA0843G	EAR99	SP3T 8-43.5GHz PIN Diode Switch

Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C (Case Temperature)
Storage Temperature		-50°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & 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	MIL-STD-883	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)



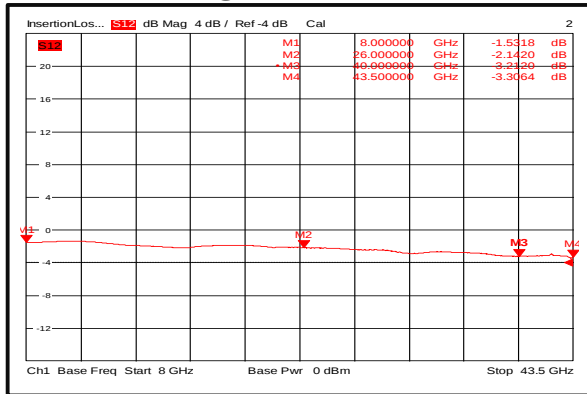
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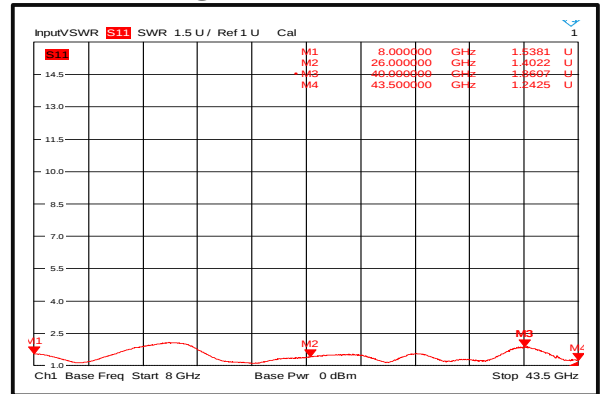
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Typical Performance Plots

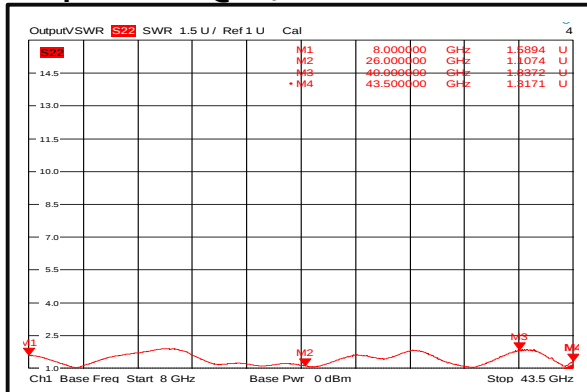
Insertion Loss @+25°C



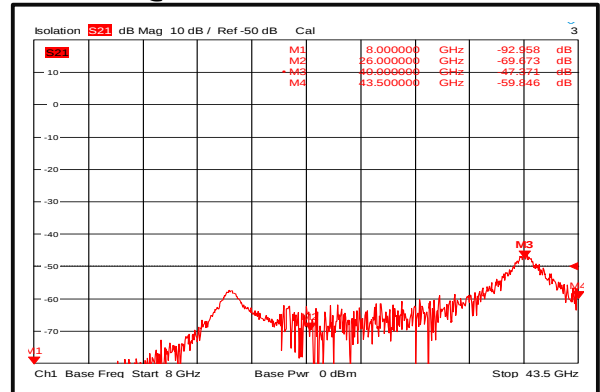
Input VSWR @+25°C



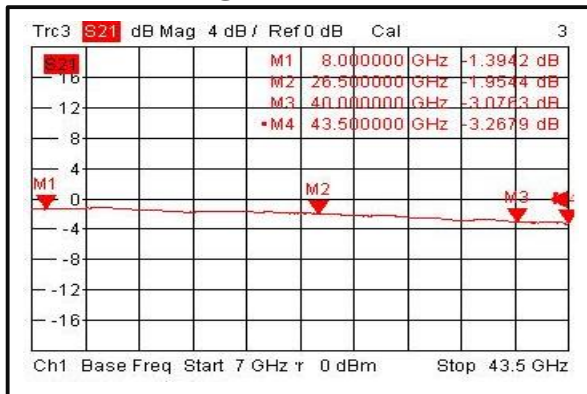
Output VSWR @+25°C



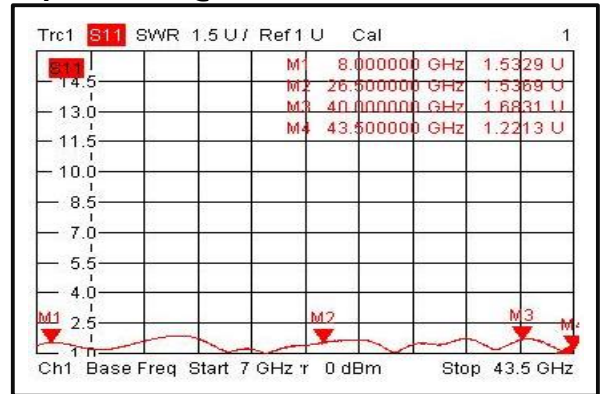
Isolation @+25°C



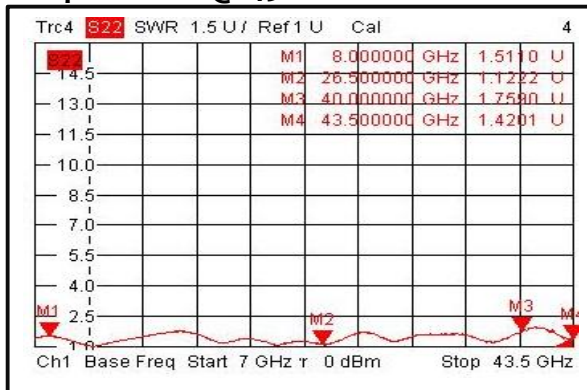
Insertion Loss @-45°C



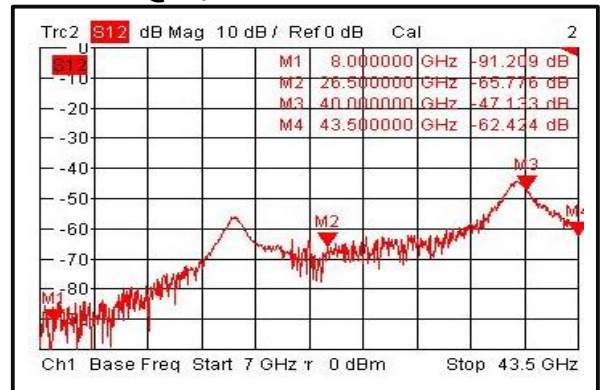
Input VSWR @-45°C



Output VSWR @-45°C



Isolation @-45°C



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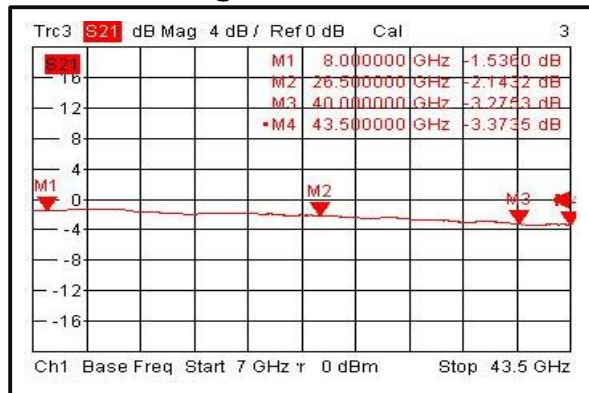
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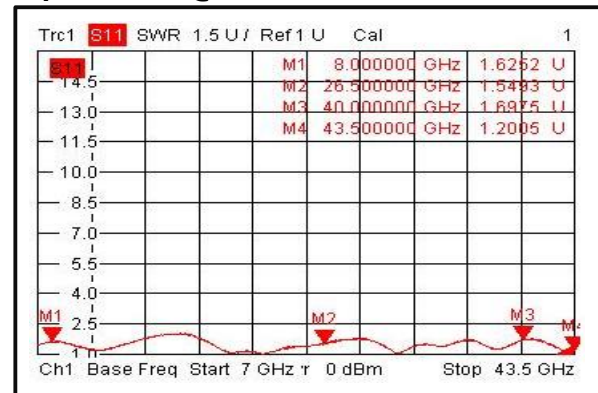
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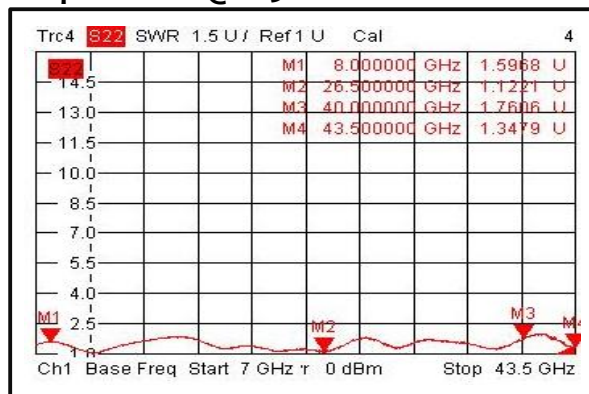
Insertion Loss @+85°C



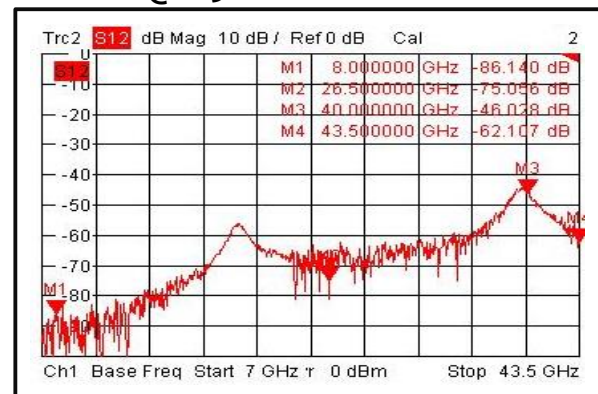
Input VSWR @+85°C



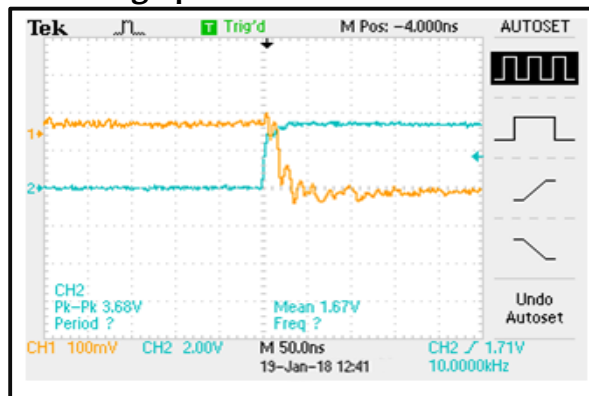
Output VSWR @+85°C



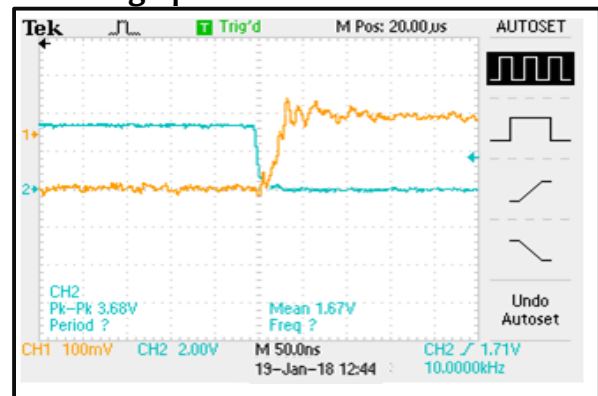
Isolation @+85°C



Switching Speed



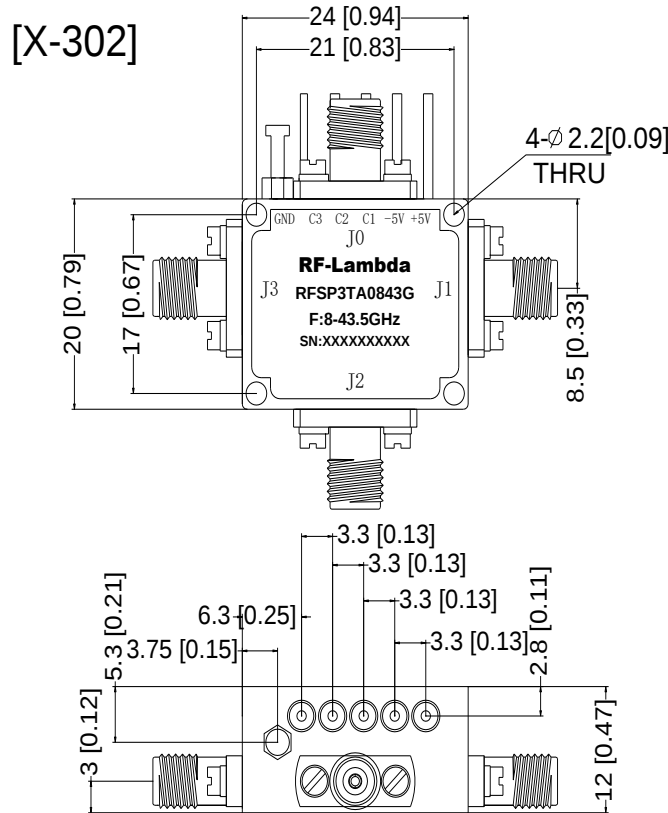
Switching Speed





Outline Drawing:

All Dimensions in mm [inches]



Truth Table

Control Input TTL			Signal Path State
C3	C2	C1	
1	1	0	J0-J1
1	0	1	J0-J2
0	1	1	J0-J3
0	0	0	Undefined
1	1	1	All OFF

Control Pin Customization available upon request



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