



# RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

## RFVAT0050A30V

### Absorptive Voltage Control Attenuator 0.01 - 50GHz



#### Features

- Ultra Wide Band Operation 0.01-50GHz
- Wide Attenuation Range: 34dB
- Absorptive Topology
- Double Negative Control Operation
- Customization available upon request

#### Electrical Specifications, TA = +25 °C

Description	PN: RFVAT0050A30V									
	Absorptive Voltage Attenuator									
Parameters	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range	0.01 ~ 18			18~ 34			34~50			GHz
Attenuation Range	25	30		28	34		30	34		dB
Insertion Loss		4.0	4.5		5.0	6.0		7.0	7.3	dB
Insertion Loss Temperature Coefficient		0.01			0.01			0.01		dB/°C
Input VSWR @ Insertion Loss state		1.6	2.2		1.8	2.2		1.8	2.2	:1
Output VSWR @ Insertion Loss state		1.6	2.2		1.8	2.2		1.8	2.2	:1
0.1dB Compression Point (Po.1dB)		27			27			26		dBm
Input Ip3		33			33			32		dBm
Control Voltage		-1	0.5		-1	0.5		-1	0.5	V
Weight	0.35									ounces
Impedance	50									Ω
Current	40									mA
Input / Output Connectors	2.4mm-Female									
Finish	Gold Plated									
Material	Aluminum									
Sealing	Hermetically Sealed (Optional)									

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**Absolute Maximum Ratings**

Control Voltage	-3V ~ +0.5V
RF Input Power	+27dBm

**Ordering Information**

Part No.	ECCN	Description
RFVAT0050A30V	EAR99	0.01-50GHz Voltage Control Attenuator

**Environmental Specifications and Test Standards**

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-55°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		Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883	MIL-STD-883 (For Hermetically Sealed Units)

**Absorptive Voltage Control Attenuator 0.01 - 50GHz**



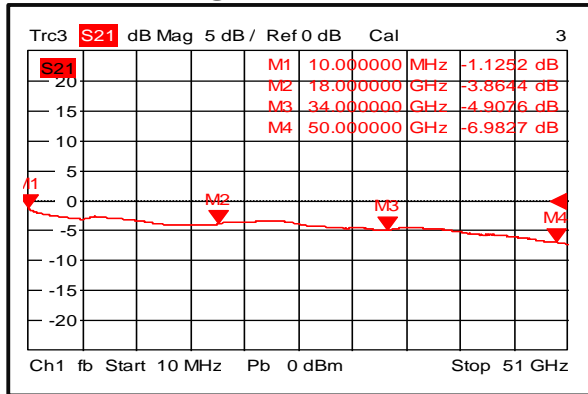
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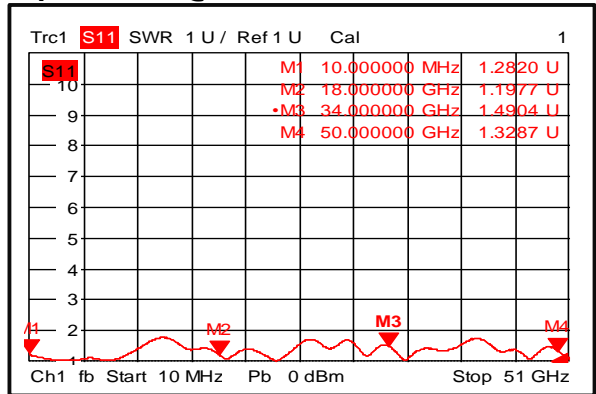
## RFVAT0050A30V

### Typical Performance Plots

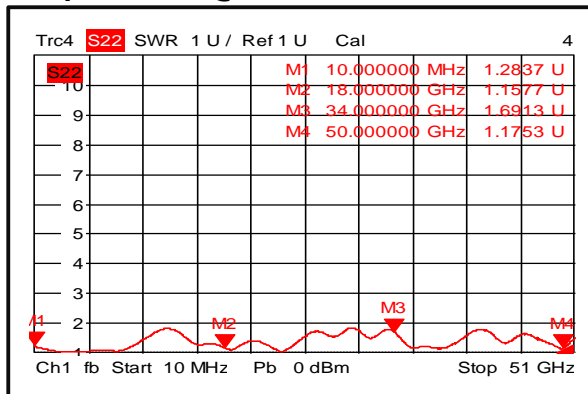
#### Insertion Loss@+25°C



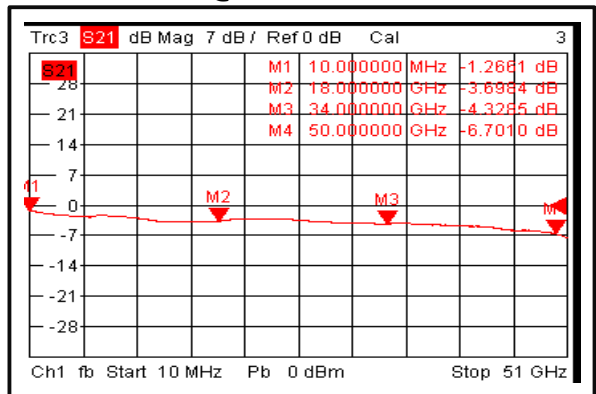
#### Input VSWR @+25°C



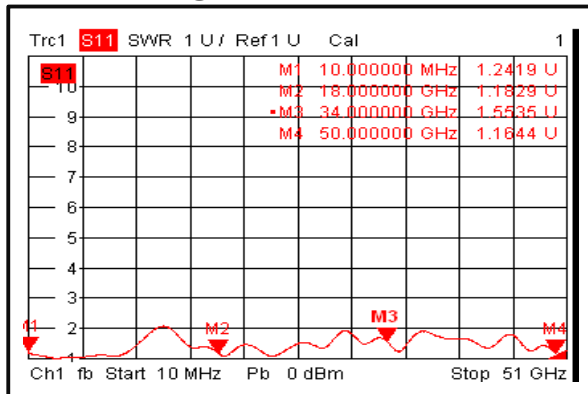
#### Output VSWR @+25°C



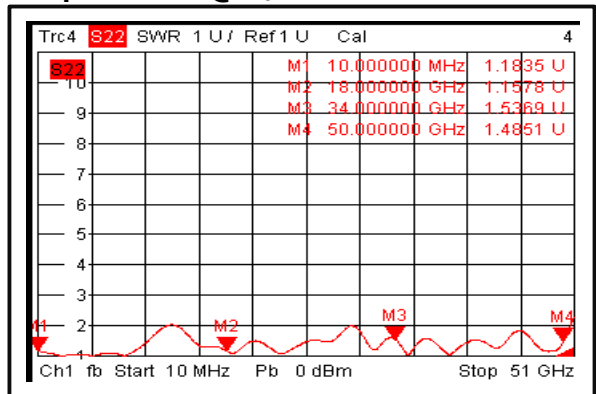
#### Insertion Loss @-45°C



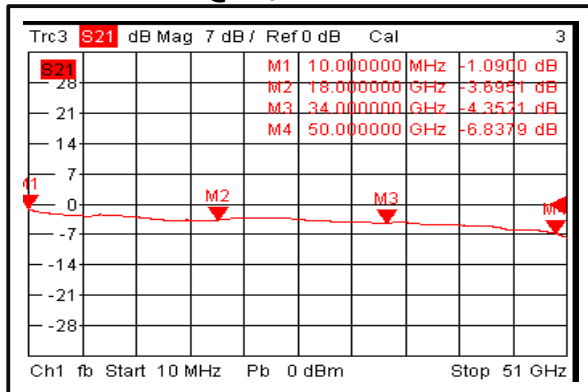
#### Input VSWR @-45°C



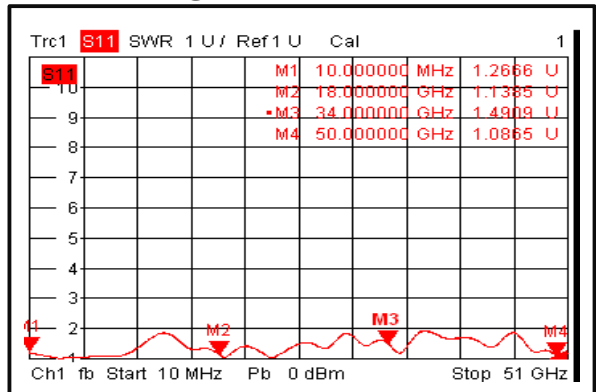
#### Output VSWR @-45°C



#### Insertion Loss@+85°C



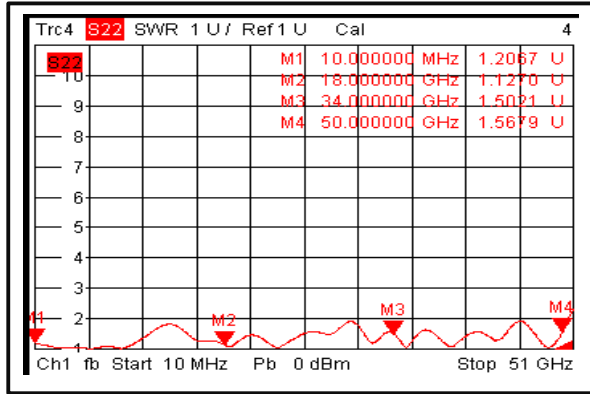
#### Input VSWR @+85°C



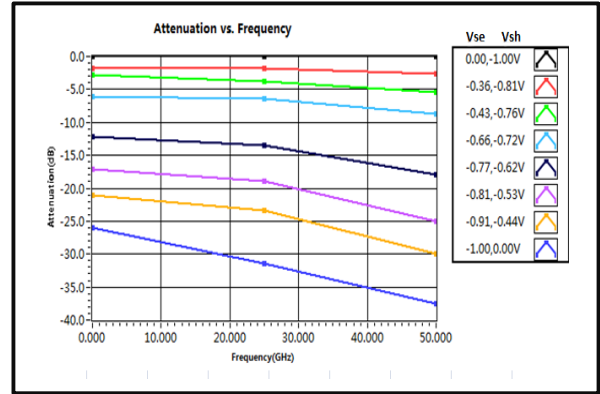
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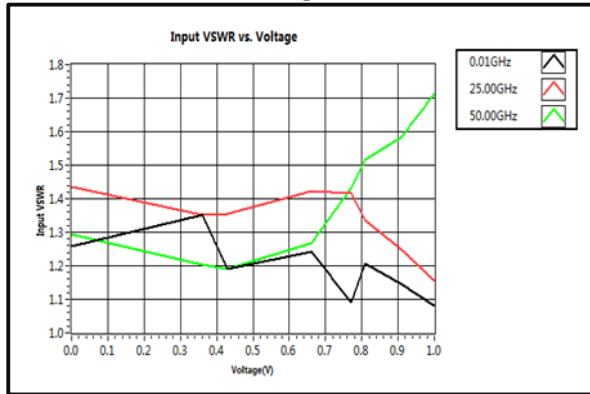
**Output VSWR @+85°C**



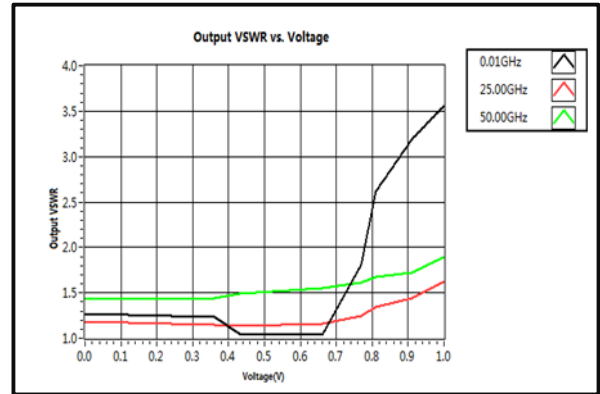
**Attenuation vs. Frequency**



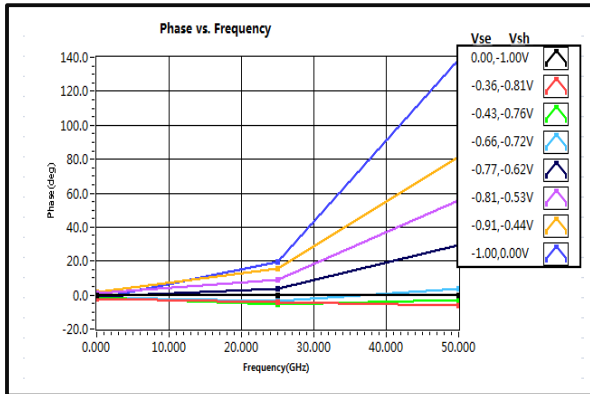
**Input VSWR vs. Voltage**



**Output VSWR vs. Voltage**



**Phase Shift vs. Frequency**

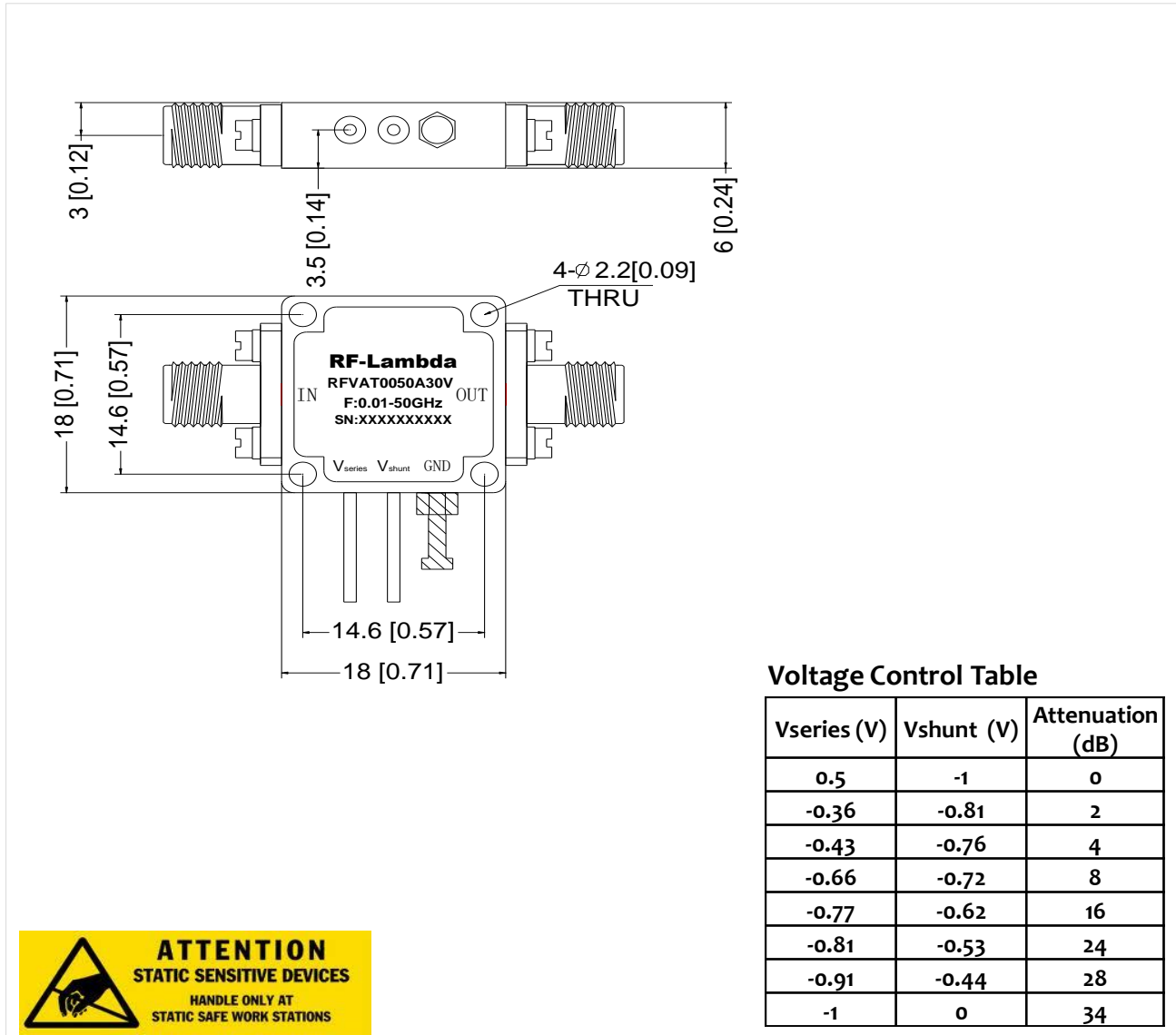


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**Outline Drawing:**

All Dimensions in mm [inches]



**Voltage Control Table**

Vseries (V)	Vshunt (V)	Attenuation (dB)
0.5	-1	0
-0.36	-0.81	2
-0.43	-0.76	4
-0.66	-0.72	8
-0.77	-0.62	16
-0.81	-0.53	24
-0.91	-0.44	28
-1	0	34



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