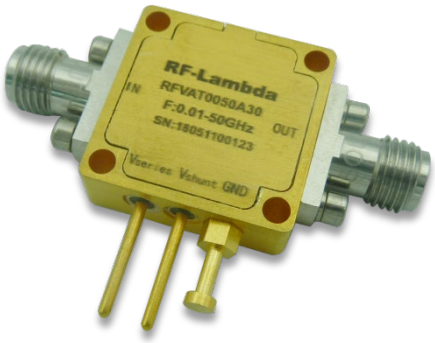
Absorptive Voltage Control Attenuator
0.01 - 50GHz



Features

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

Typical Applications

- Wireless Infrastructure
- Test and Measurement
- Military and Aerospace

Electrical Specifications, TA = +25° C

Description	PN: RFVAT0050A30									
	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		34			34			34		dB
Insertion Loss		4.0	4.5		5.0	5.5		7.0	7.5	dB
Insertion Loss Temperature Coefficient		0.01			0.01			0.01		dB/°C
Input VSWR		1.6			2.0			2.0		: 1
Output VSWR		1.6			2.0			2.0		: 1
0.1dB Compression Point (P0.1dB)		27			27			26		dBm
Input Ip3		33			33			32		dBm
Control Voltage		-1	0.5		-1	0.5		-1	0.5	V
Weight	0.4 Max.									ounces
Impedance	50									Ω
Current Consumption	40 Max.									mA
Input / Output Connectors	2.92mm-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

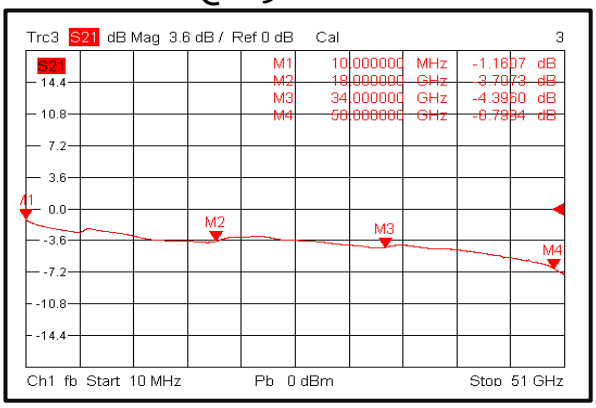
Part No.	Description
RFVAT0050A30	0.01-50GHz Voltage Control Attenuator

Environmental Specifications and Test Standards

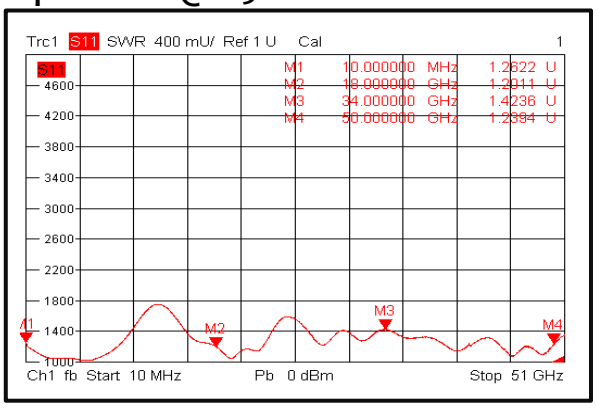
Parameter	Description
Operational Temperature	-40℃~+85℃ (Case Temperature)
Storage Temperature	-50℃~+105℃
Thermal Shock	-40℃ → +85℃ (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85℃ for 72 Hours
Shock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

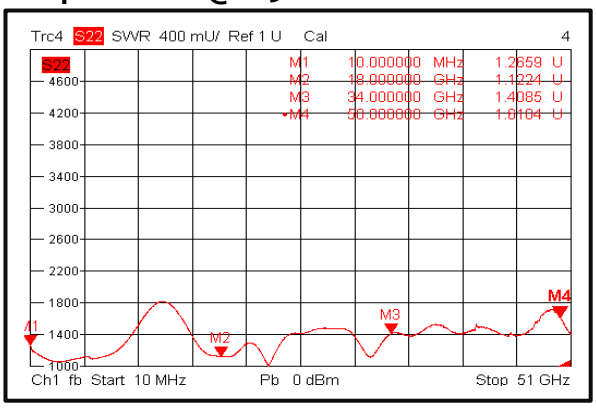
Insertion Loss@+25℃



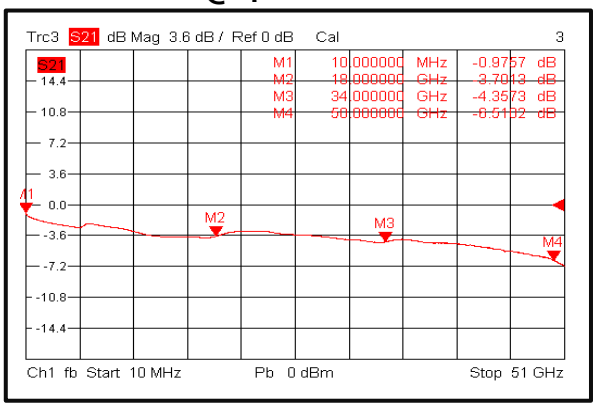
Input VSWR @+25℃



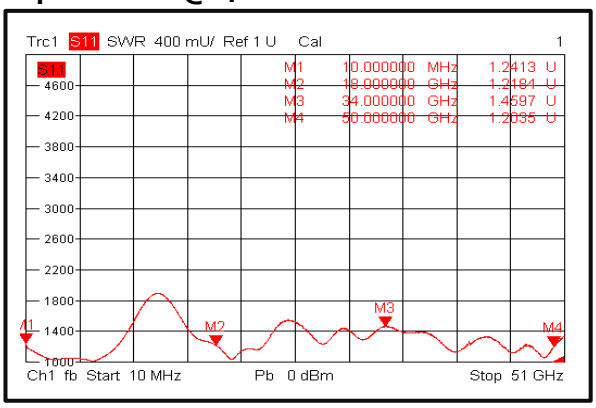
Output VSWR @+25℃



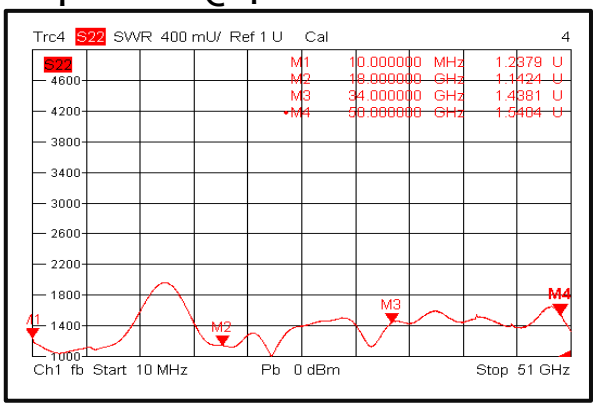
Insertion Loss @-40℃



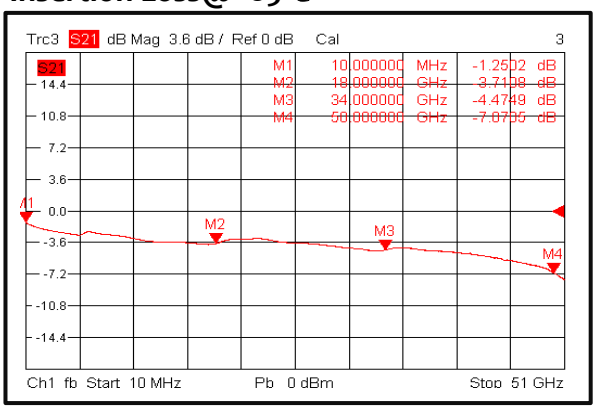
Input VSWR @-40℃



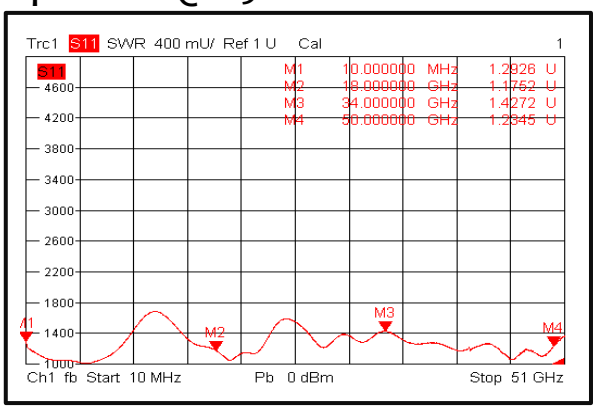
Output VSWR @-40℃



Insertion Loss@+85℃



Input VSWR @+85℃



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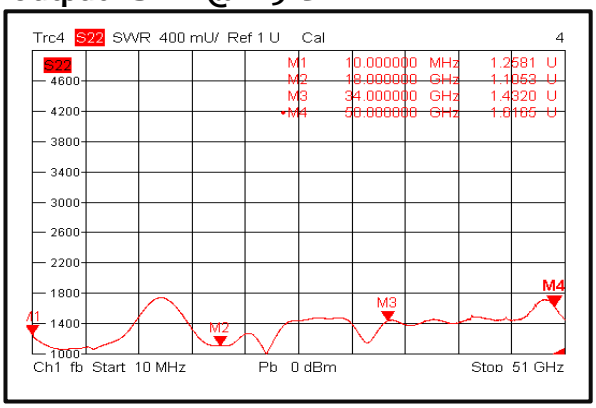
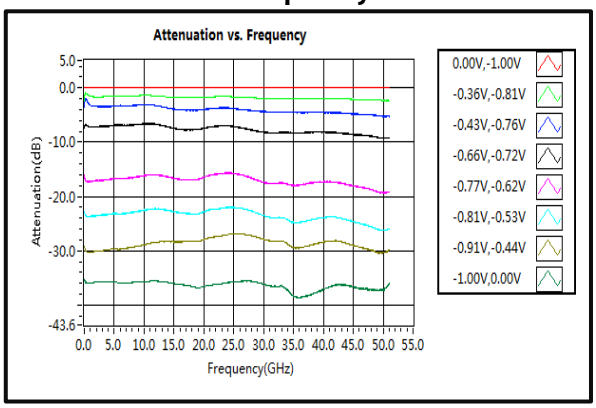
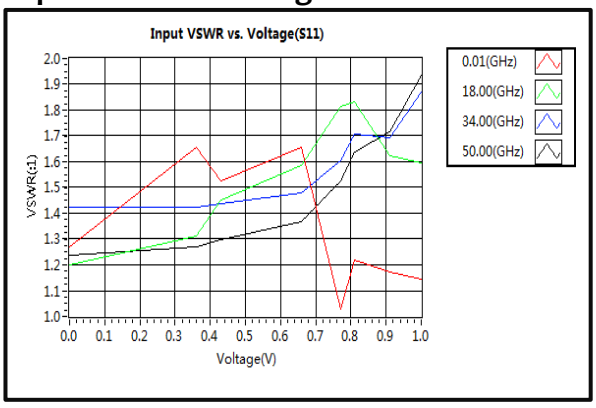
Output VSWR @+85℃



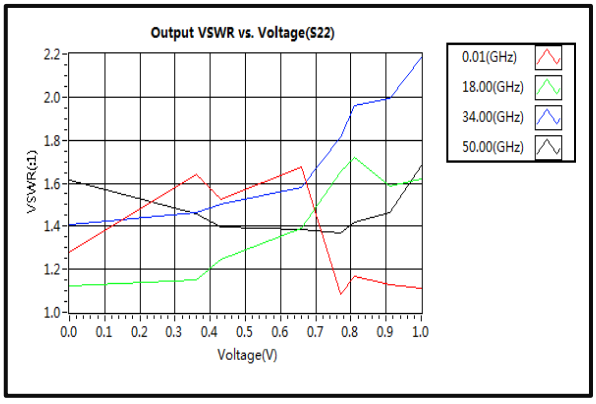
Attenuation vs. Frequency



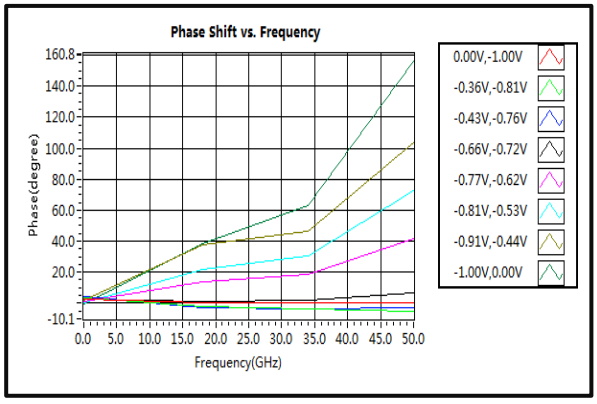
Input VSWR vs. Voltage



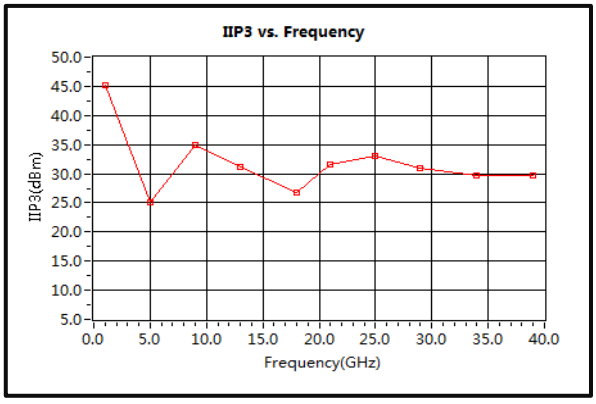
Output VSWR vs. Voltage



Phase Shift vs. Frequency



IIP3



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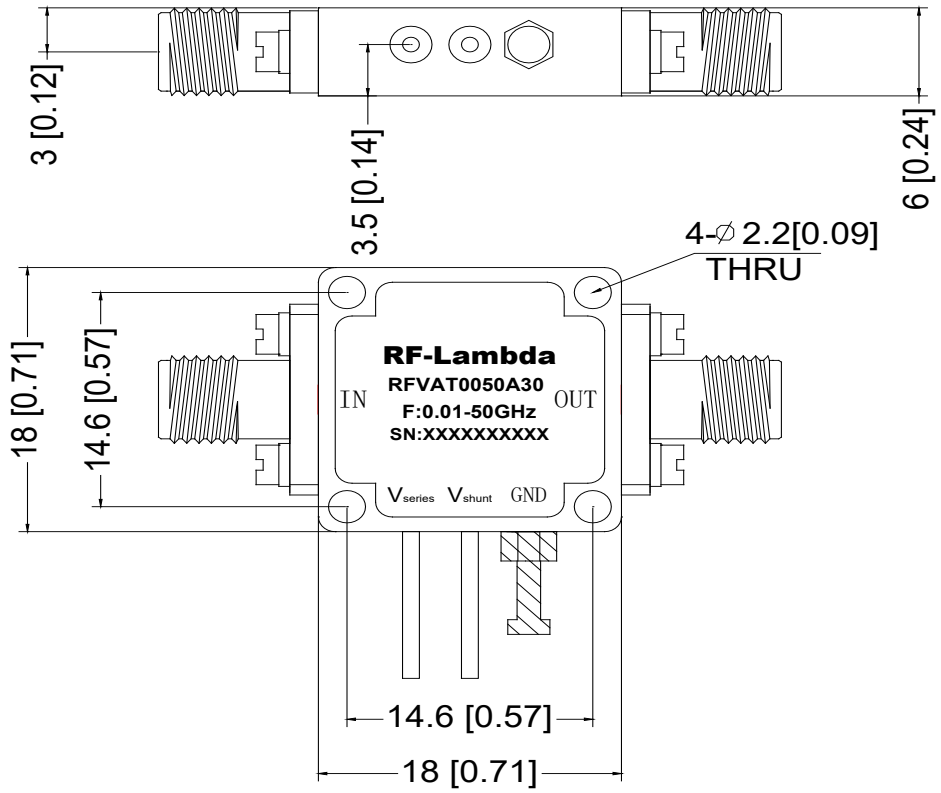
Outline Drawing:

All Dimensions in mm [inches]
Housing Tolerances ±0.1 [0.004]



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

Important Notice