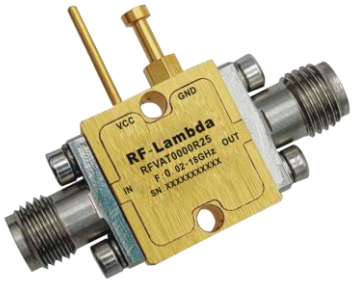
Reflective Voltage Control Attenuator 0.02GHz-18GHz



Product Description

RFVAT0000R25 is a reflective voltage control attenuator with a frequency range of 0.02 to 18GHz.

The power input of this attenuator is 25dBm. The insertion loss is 1.5dB with a typical attenuation range of 35dB.

The working temperature of this product is from -40℃ and +85℃.

Features

- Reflective Voltage Control Attenuator
- Wide Attenuation Range 35dB
- Insertion Loss 1.5 dB Typical
- RF input power 30dBm Max.
- Reflective Topology

Typical Applications

- Wireless Infrastructure
- Military and Aerospace Applications
- Test Instrumentation
- Radar Systems
- 5G Wireless Communications
- Microwave Radio Systems
- TR Modules
- Research and Development
- Cellular Base Stations

Electrical Specifications (T_A=+25ºC)

Parameter	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range		0.02 – 0.5			0.5-18		GHz
Attenuation Range	25	30		25	35		dB
Insertion Loss		0.5	1.0		1.5	1.8	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/ °C
Input VSWR		1.2	1.5		1.5	1.8	: 1
Output VSWR		1.2	1.5		1.5	1.8	: 1
0.1dB Compression Point(P0.1dB)		25			25		dBm
Input IP3		43			43		dBm
Switching Speed		2.5			2.5		us
Control Voltage	0	10		0	10		V
Current		35			35		mA
Weight			0.02 Max.				lbs.
Impedance			50				Ohms
Input / Output Connectors			SMA-Female (Input) – SMA-Female (Output)				
Package			Epoxy Sealed (Standard)				
			Hermetically Sealed (Optional)				

RF-LAMBDA USA LLC: www.rflambda.com
Sales: sales@rflambda.com Technical: support@rflambda.com

Absolute Maximum Ratings

Parameter	Rating
Control Voltage	0 to +13V
RF Input Power	+30dBm

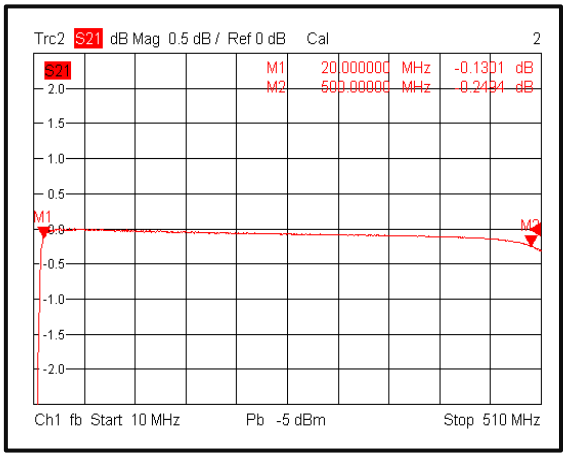
Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-40ºC to +85ºC (Case Temperature)
Storage Temperature	-50ºC to +105ºC
Thermal Shock	-40ºC → +85ºC (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 +85ºC 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)

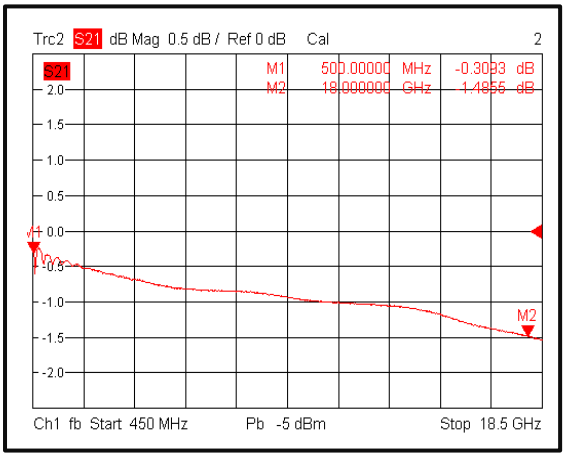
**For vibration testing details please see additional information section.

Typical Performance Plots

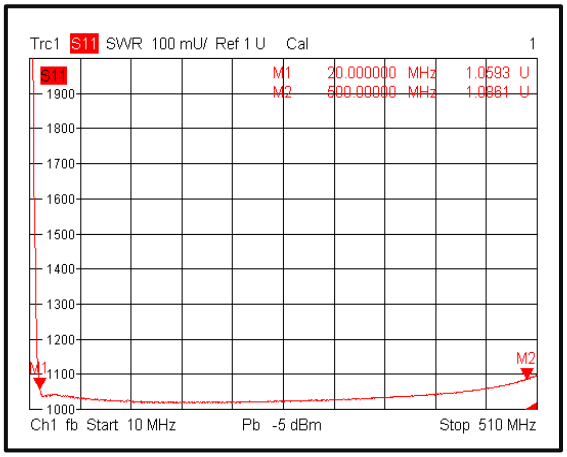
Insertion Loss (0.02-0.5GHz) @+25ºC



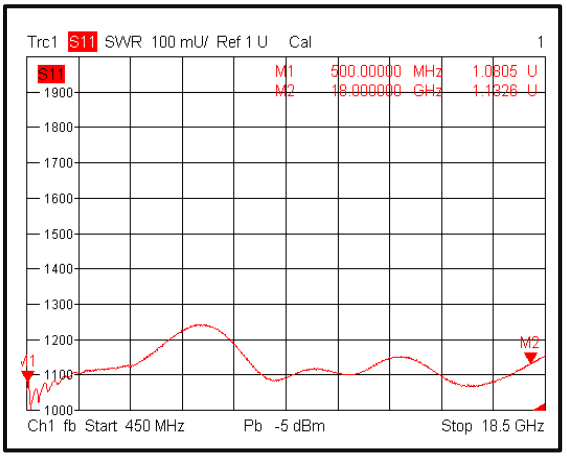
Insertion Loss (0.5-18GHz) @+25ºC



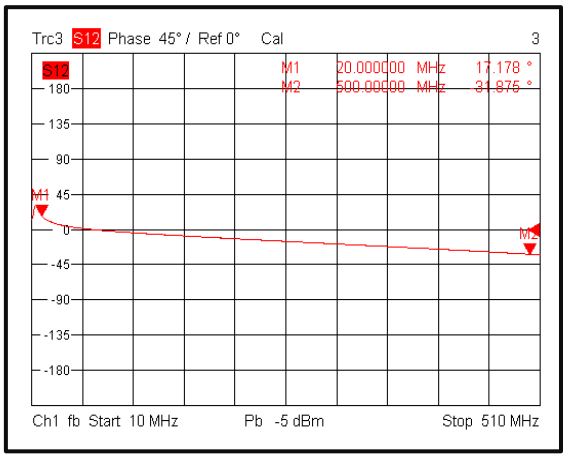
Input VSWR (0.02-0.5GHz) @+25ºC



Input VSWR (0.5-18GHz) @+25ºC



Output VSWR (0.02-0.5GHz) @+25ºC



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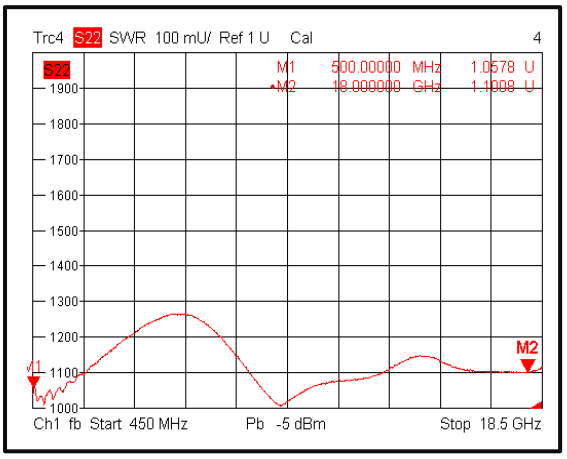
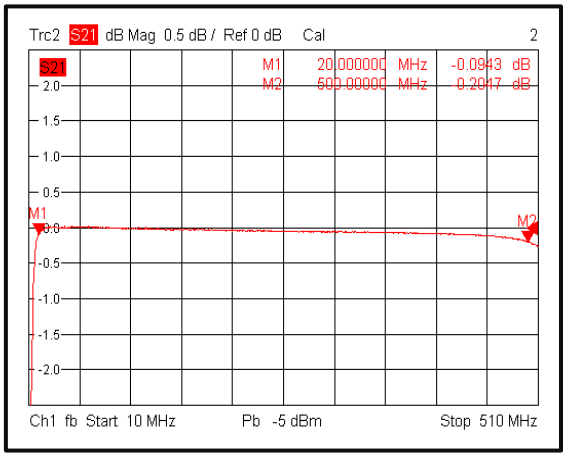
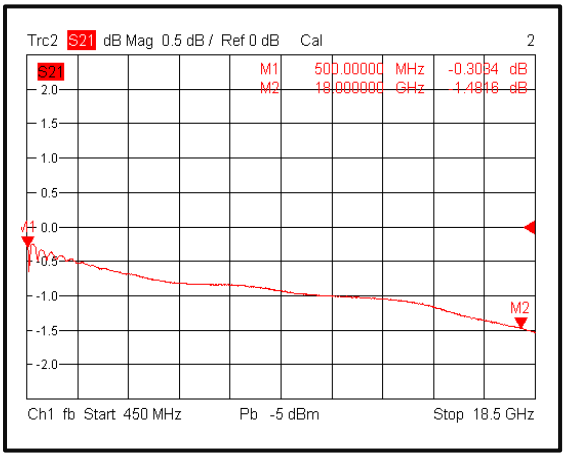


Typical Performance Plots

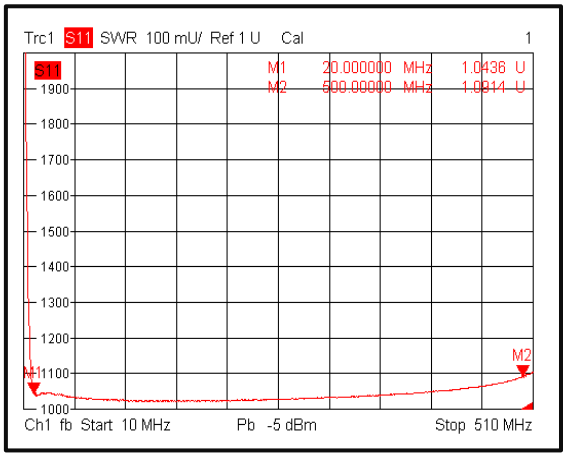
Insertion Loss (0.02-0.5GHz) @-40ºC



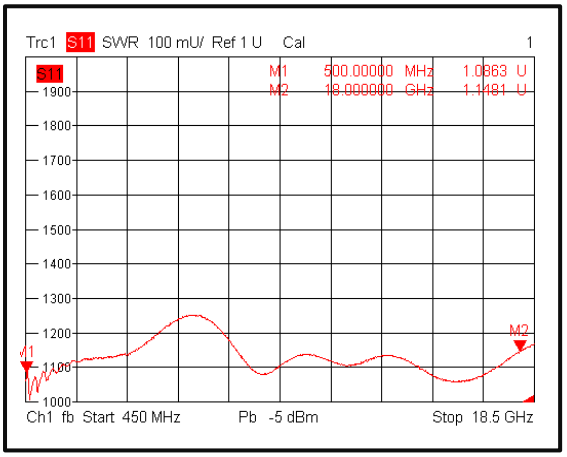
Insertion Loss (0.5-18GHz) @-40ºC



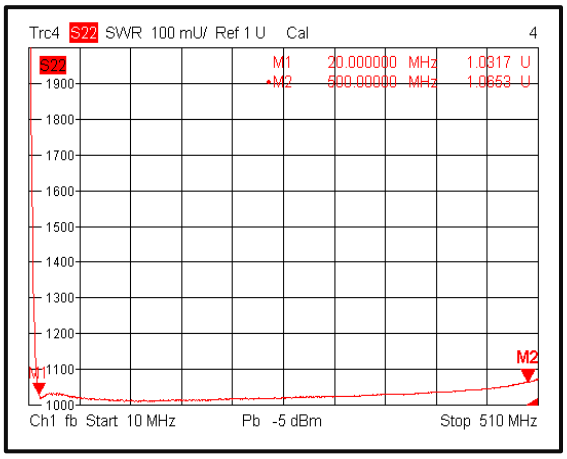
Input VSWR (0.02-0.5GHz) @-40ºC



Input VSWR (0.5-18GHz) @-40ºC



Output VSWR (0.02-0.5GHz) @-40ºC



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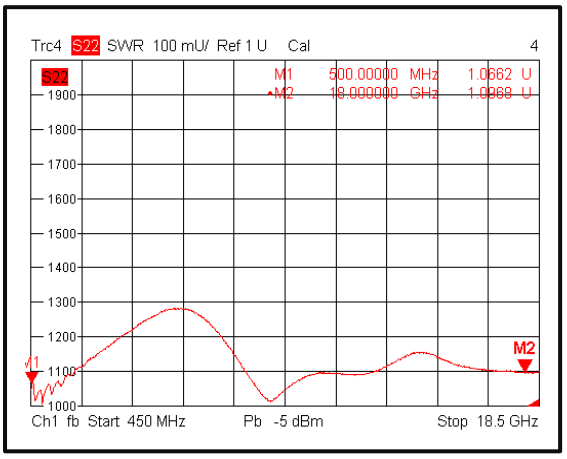
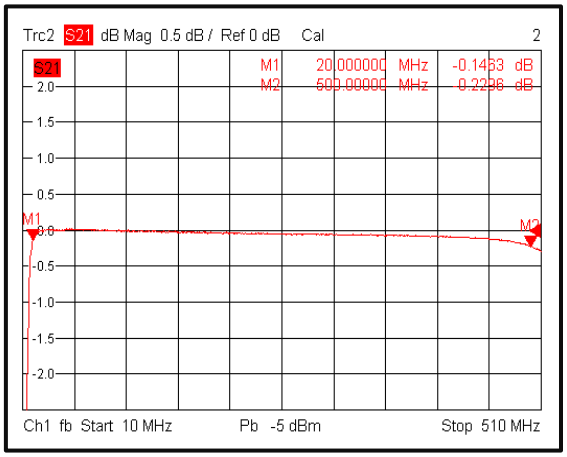
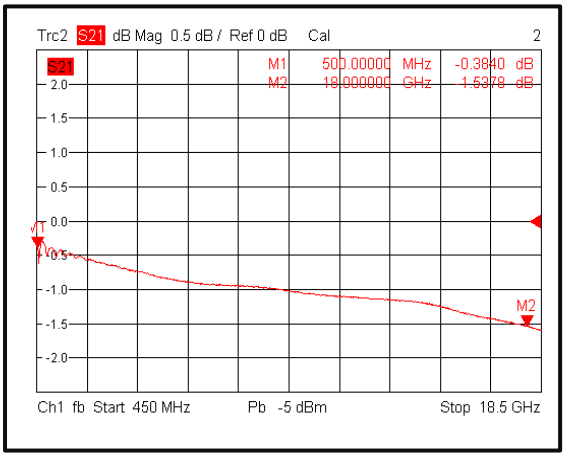


Typical Performance Plots

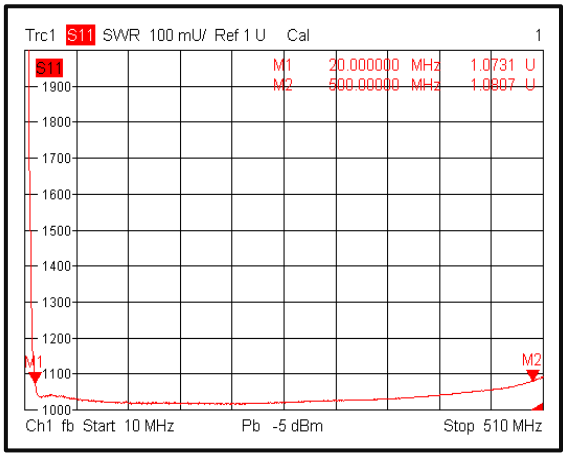
Insertion Loss (0.02-0.5GHz) @+85ºC



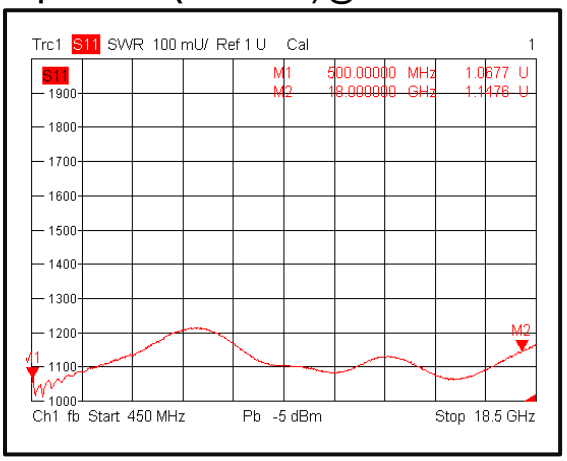
Insertion Loss (0.5-18GHz) @+85ºC



Input VSWR (0.02-0.5GHz) @+85ºC



Input VSWR (0.5-18GHz) @+85ºC



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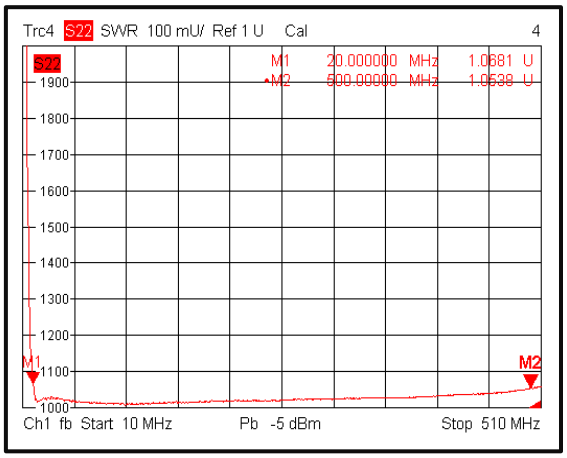

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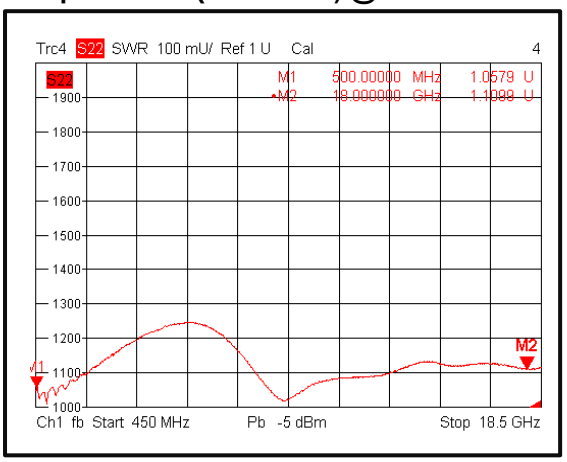
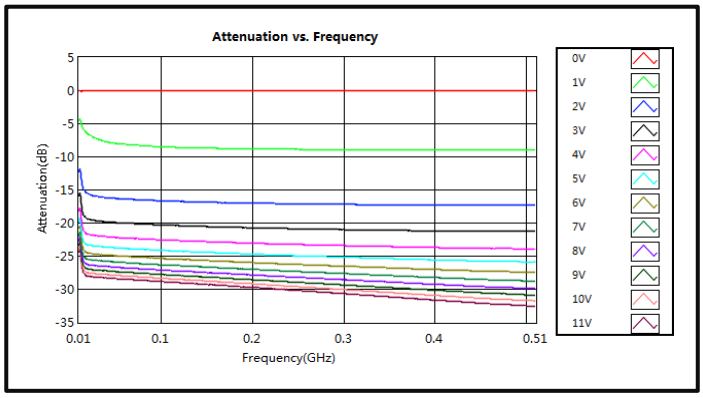
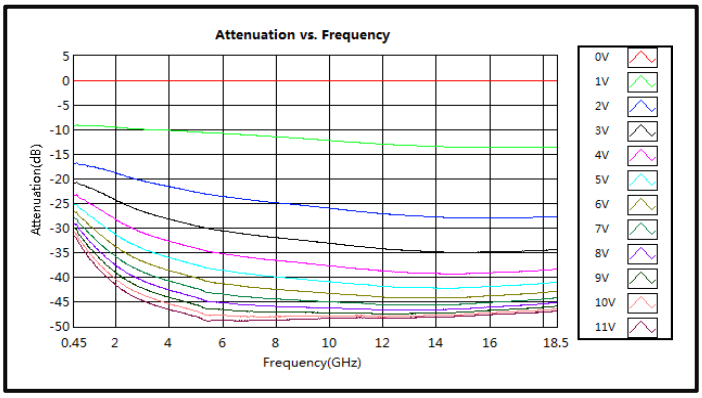


Typical Performance Plots

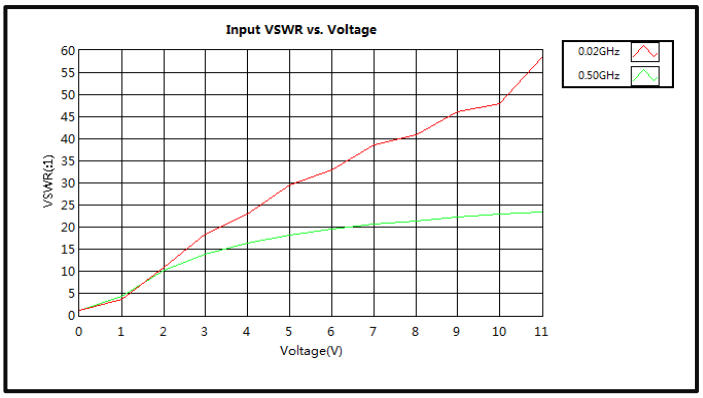
Attenuation vs. Frequency(Normalized loss) (0.02-0.5GHz)



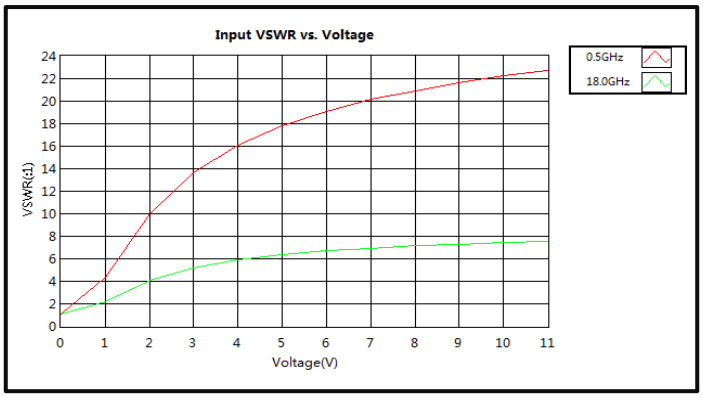
Attenuation vs. Frequency(Normalized loss) (0.5-18GHz)



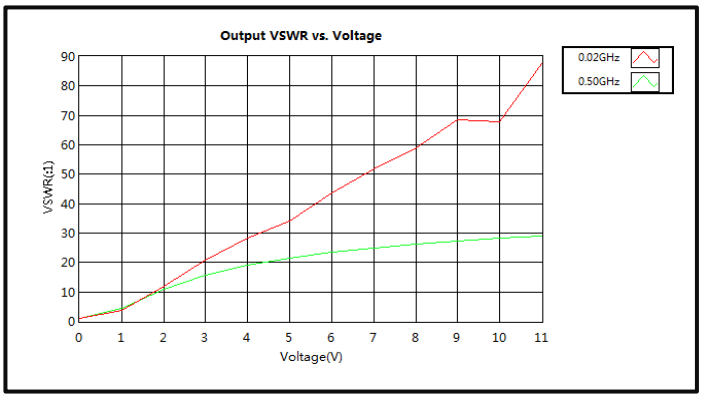
VSWR vs. Voltage (S11) (0.02-0.5GHz)



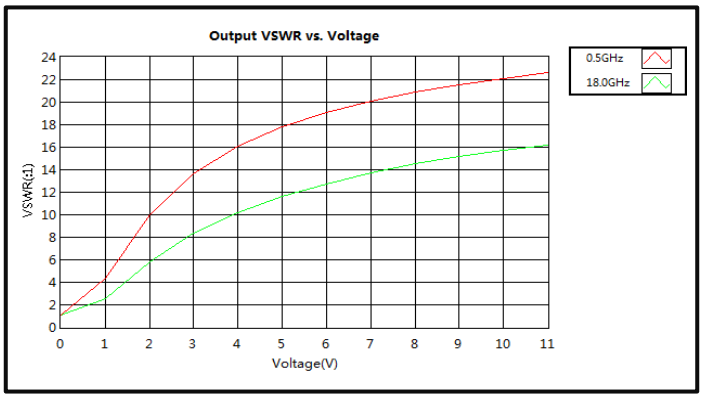
VSWR vs. Voltage (S11) (0.5-18GHz)



VSWR vs. Voltage (S22) (0.02-0.5GHz)

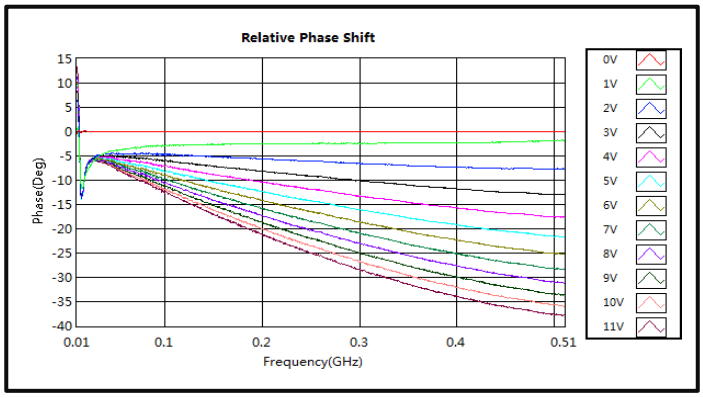


VSWR vs. Voltage (S22) (0.5-18GHz)

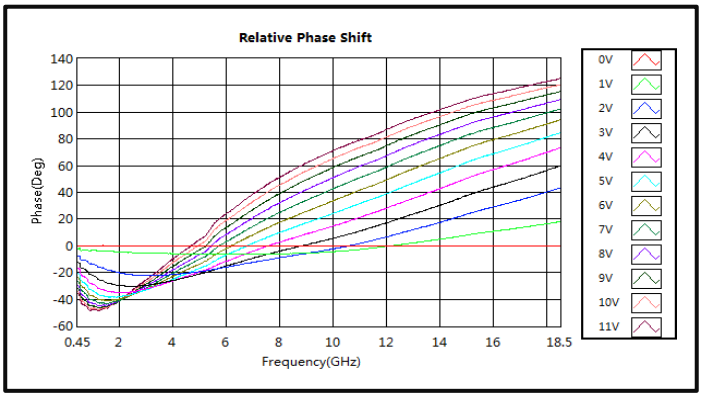


Typical Performance Plots

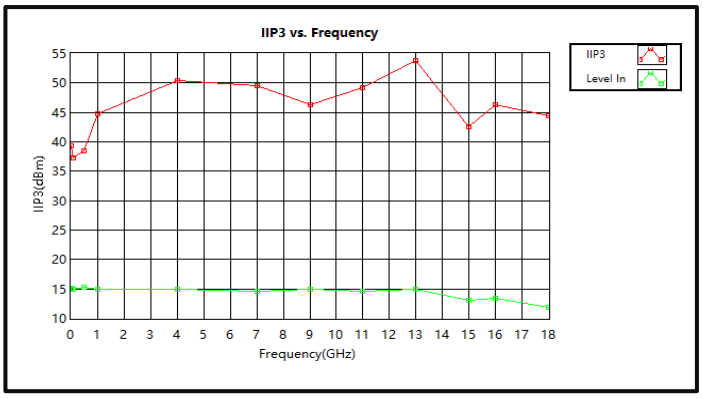
Phase Shift vs. Frequency (0.02-0.5GHz)



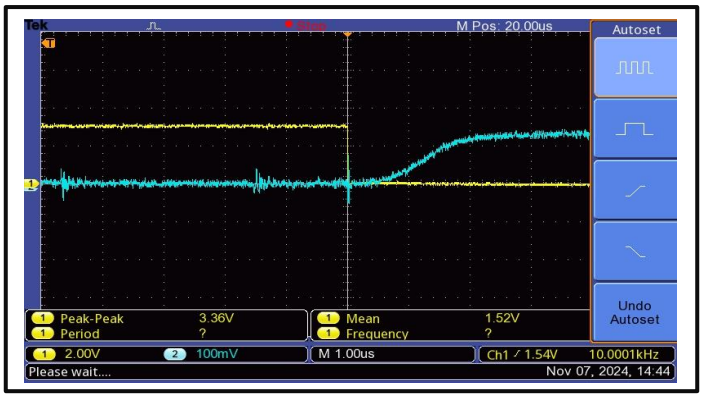
Phase Shift vs. Frequency (0.5-18GHz)



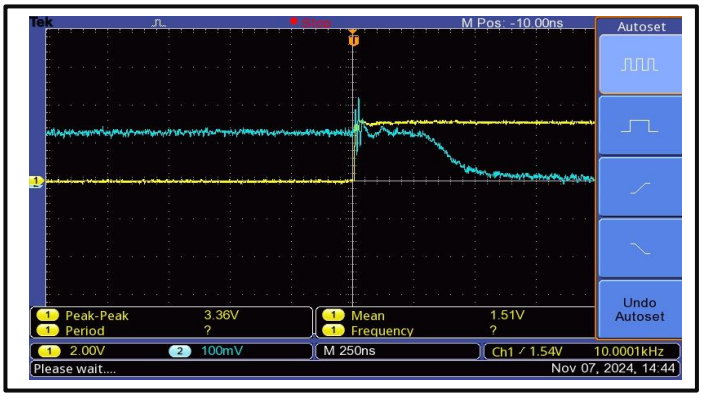
IIP3



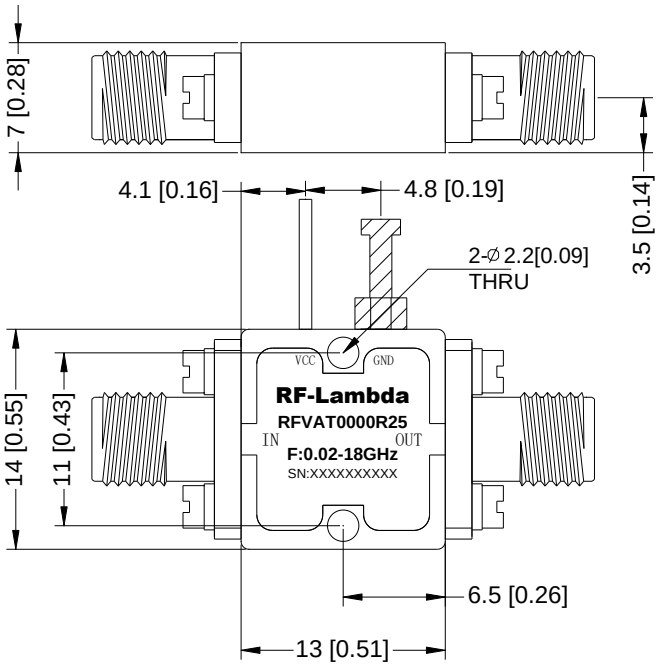
Speed



Speed



Outline Drawing



Notes:
1. Package Material: Aluminum
2. Finish: Gold Plated
3. All dimensions are in millimeters [inches].
4. Housing Tolerances ±0.1 [0.004]unless otherwise specified.
5. Standard torque wrench must be used to secure RF connectors.

Additional Information

Documentation	Webpage
ESD Policy	https://rflambda.com/pdf/rflambda_esd_control.pdf
Connector Torque Specifications	https://www.rflambda.com/pdf/Torque_Specifications.pdf
Random Vibration Test Standard	https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf

Ordering Information

Part Number	Modification	Description
RFVAT0000R25	Standard	0.02GHz-18GHz Voltage Control Attenuator

Important Notice

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Sales: sales@rflambda.com Technical: support@rflambda.com