



RF-LAMBDA

LEADER OF BROADBAND SOLUTIONS

RFDAT0618G6A

Absorptive Digital Control Attenuator 6-18GHz



Features

- Wide Band Operation 6-18GHz
- 1dB LSB Steps to 63dB
- Single Positive Control Line Per Bit
- Customization available upon request

Electrical Specifications, TA = +25° C, With Vdd = +5V, Vss = -5V & VCTL = 0/ +5V

Description	PN: RFDAT0618G6A						
	Absorptive Digital Attenuator						
Parameters	Min	Typ.	Max	Min	Typ.	Max	Units
Frequency Range	6		12	12		18	GHz
Insertion Loss		5.5	6.0		6.5	7.5	dB
Insertion Loss Temperature Coefficient		0.005			0.005		dB/°C
Attenuation Flatness: (Referenced to Insertion Loss)			±2			±3	dB
Input Return (All Atten. States)		13			14		dB
Output Return (All Atten. States)		15			15		dB
Input Power for 0.1 dB Compression		30			30		dBm
IIP3		/			/		dBm
Switching Speed			50			50	ns
Weight	/						ounces
Impedance	50						Ω
Biasing (+5v/-5v)	130/130						mA
Input /Output Connector	SMA-Female						
Control PIN	MICRO-D9						
Finishing	Gold Plating						
Material	Aluminum						
Seal	Hermetically Sealed (optional)						

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Absolute Maximum Ratings

Biasing	+5V±10%/-5V±10%
TTL Control Voltage	0~0.8V/2~5V
Operating Temperature (°C)	-45 ~ +85
Storage Temperature (°C)	-50 ~ +125

Ordering Information

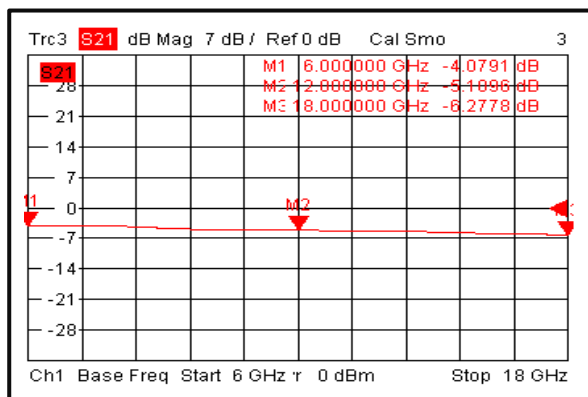
Part No	ECCN	Description
RFDAT0618G6A	EAR99	6-18GHz Digital Control Attenuator

Environment specifications

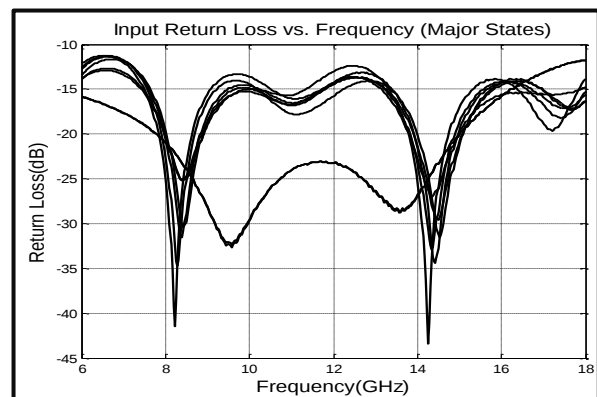
Operational Temperature (°C)	-45°C ~ +85°C
Storage Temperature (°C)	-50°C ~ +125°C
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40 deg c
Shock	20G for 11msc half sin wave, 3 axis both directions

Typical performance plots

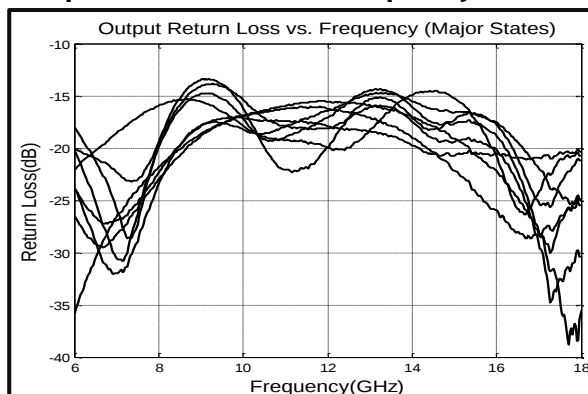
Insertion Loss



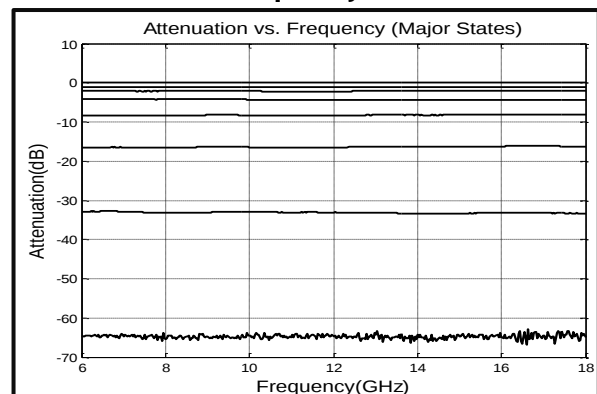
Input Return Loss vs. Frequency



Output Return Loss vs. Frequency



Attenuation vs. Frequency



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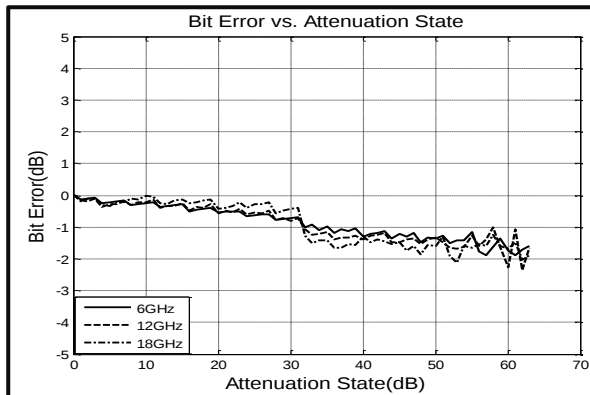


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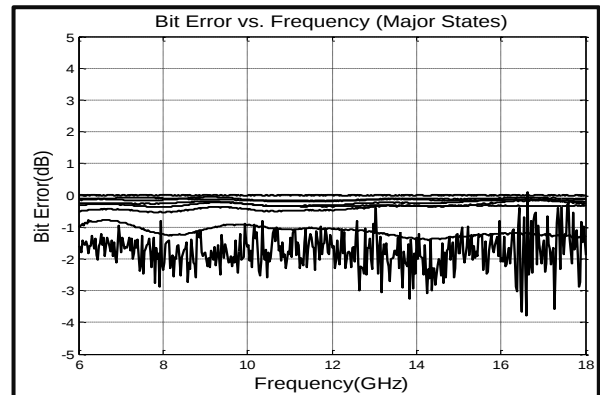
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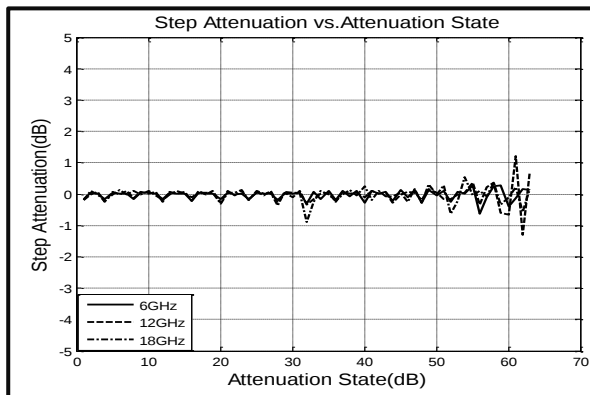
Bit Error vs. Frequency



Bit Error vs. Attenuation State



Step Attenuation vs. Attenuation State



Output Third Order Intercept (IP3)



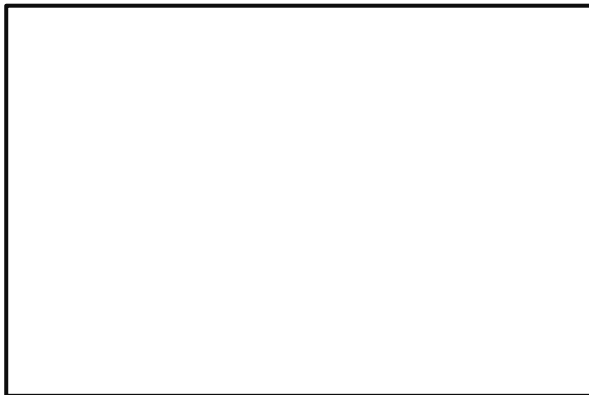
P1dB vs. Frequency



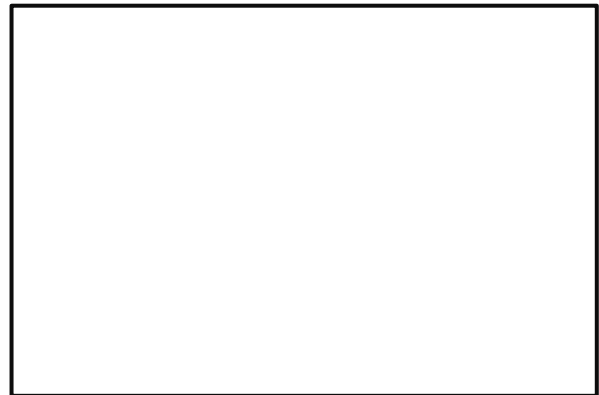
2nd Harmonic Wave output Power



3rd Harmonic Wave output Power



4th Harmonic Wave output Power



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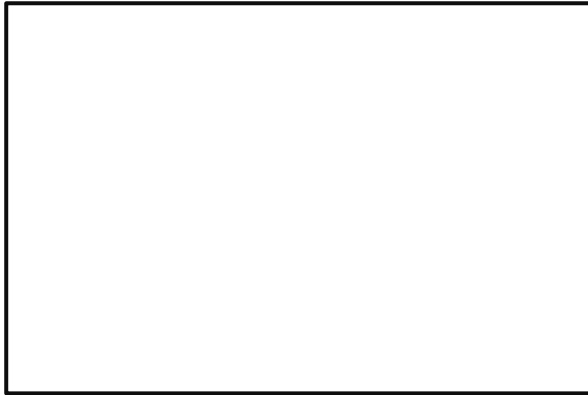


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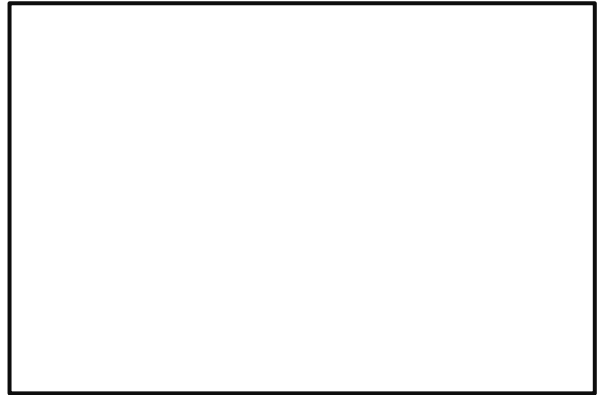
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The datasheet for test 1dB

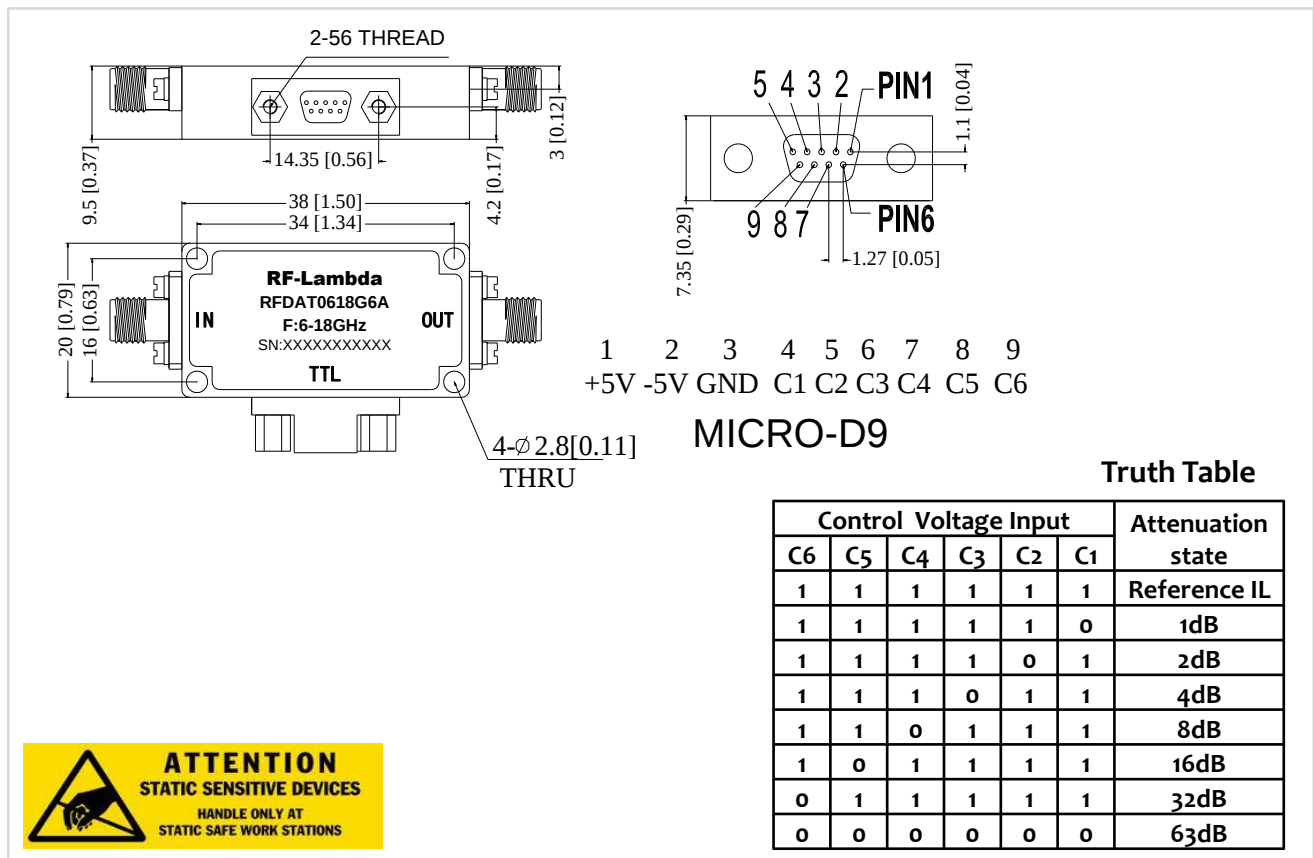


Speed



Outline Drawing:

All Dimensions in mm (inches)



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