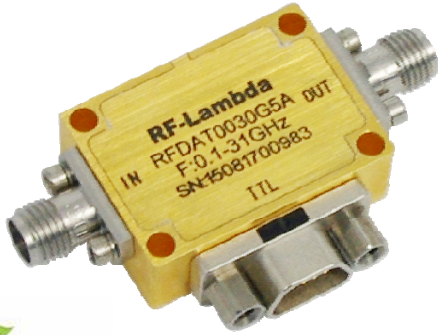




Absorptive Digital Control Attenuator 0.1-31GHz



Features

- Wide Band Operation 0.1-31GHz
- 0.5dB LSB Steps to 15.5dB
- Single Positive Control Line Per Bit
- Customization available upon request

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

Description	PN: RFDAT0030G5A						
	Absorptive Digital Attenuator						
Parameters	Min	Typ.	Max	Min	Typ.	Max	Units
Frequency Range	0.1		15	15		31	GHz
Insertion Loss		3.2	3.5		5.5	6	dB
Attenuation Range			15.5			15.5	dB
Attenuation Error			2.4			2.4	dB
LSB Attenuation		0.5			0.5		dB
Input Return Loss(All Atten. States)	12	15		10	12		dB
Output Return Loss (All Atten. States)	10	12		9	11		dB
IIP3(Δf= 1.0 MHz, PIN/Tone = 5 dBm, 14 GHz, all states)	30			26			dBm
Input Power			30			30	dBm
Switching Speed			30			30	ns
Weight	1.2						ounces
Impedance	50						Ω
Biasing (-5v)	10						mA
Input /Output Connector	2.92mm-Female						
Control PIN	MICRO-D9						
Finishing	Gold Plating						
Material	Aluminum						
Seal	Hermetically Sealed (optional)						



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RFDAT0030G5A

Absolute Maximum Ratings

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

Ordering Information

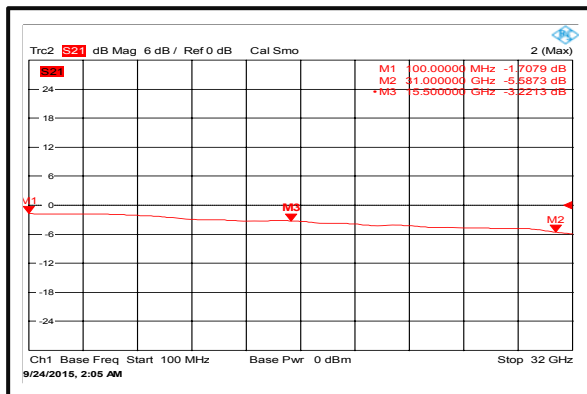
Part No	ECCN	Description
RFDAT0030G5A	EAR99	0.1-31GHz Digital Control Attenuator

Environment specifications

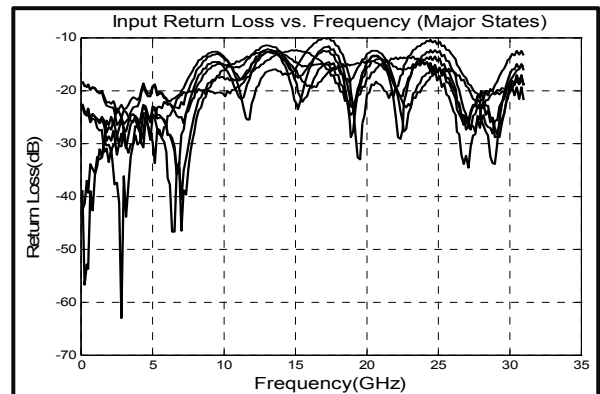
Operational Temperature (°C)	-45 ~ +85
Storage Temperature (°C)	-50 ~ +125
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH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

Typical performance plots

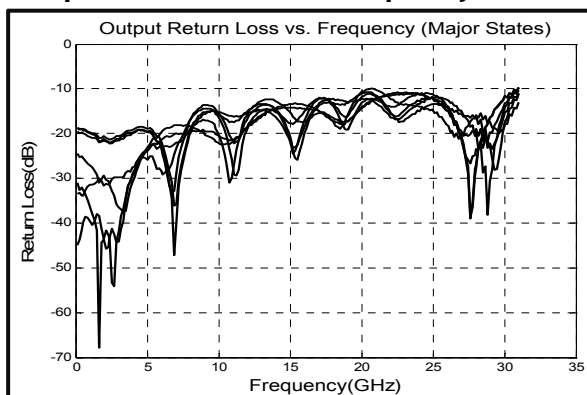
Insertion Loss



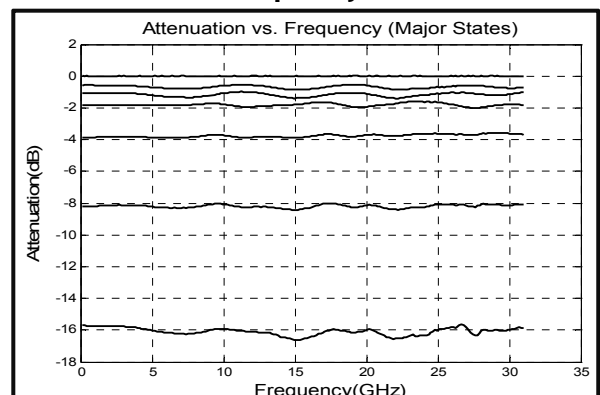
Input Return Loss vs. Frequency



Output Return Loss vs. Frequency



Attenuation vs. Frequency



Absorptive Digital Control Attenuator 0.1-31GHz

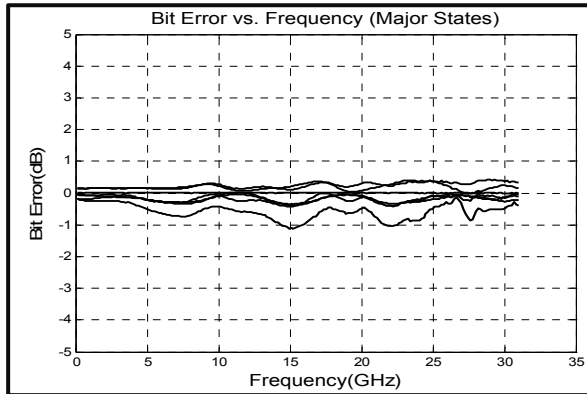


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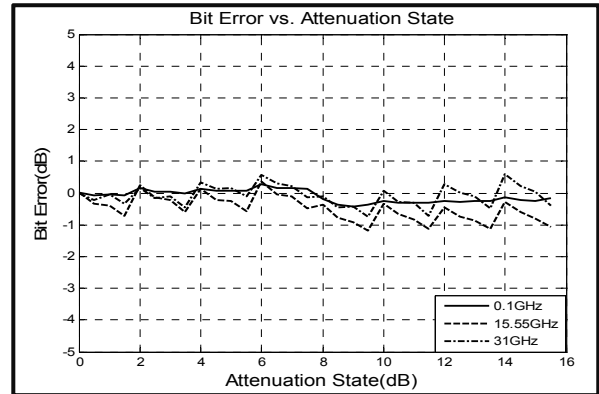
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RFDAT0030G5A

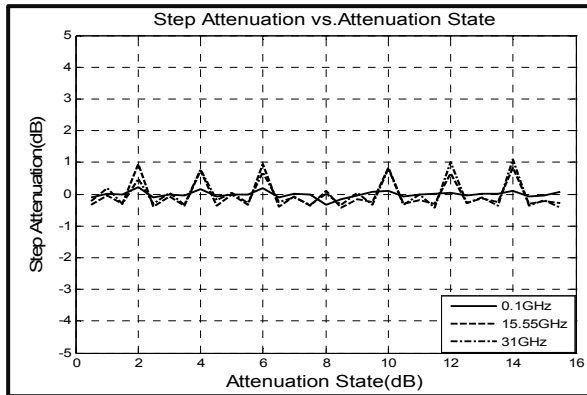
Bit Error vs. Frequency



Bit Error vs. Attenuation State



Step Attenuation vs. Attenuation State



Absorptive Digital Control Attenuator 0.1-31GHz



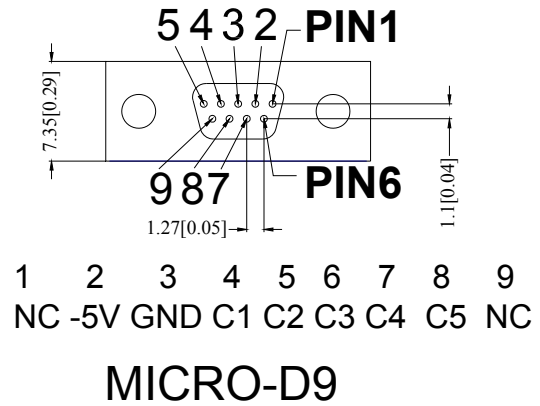
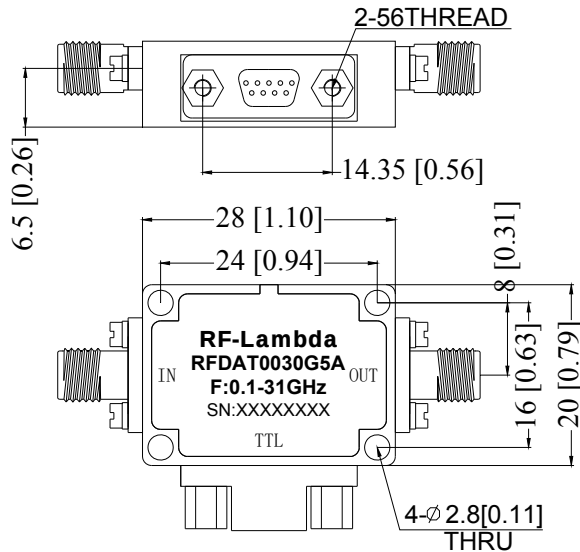
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RFDAT0030G5A

Outline Drawing:

All Dimensions in mm (inches)



Truth Table

Control Voltage Input					Attenuation state
C5	C4	C3	C2	C1	
0	0	0	0	0	Reference IL
0	0	0	0	1	0.5dB
0	0	0	1	0	1dB
0	0	1	0	0	2dB
0	1	0	0	0	4dB
1	0	0	0	0	8dB



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