Absorptive Digital Control Attenuator 8-12GHz

RoHS Compliant

Features

- Wide Band Operation 8-12GHz
- 1dB LSB Steps to 63dB
- Single Positive Control Line Per Bit
- Customization available upon request

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

Description	PN: RFDAT0812G6A			
	Absorptive Digital Attenuator			
Parameters	Min	Typ	Max	Units
Frequency Range	8		12	GHz
Attenuation Range			63	dB
Attenuation Flatness: (Referenced to Insertion Loss)		±2		dB
Control Bits			6	Bit
Control Step size	1			dB
Insertion Loss		5.0	6.5	dB
Insertion Loss Temperature Coefficient		0.005		dB/°C
Input VSWR (All States)		1.4	1.8	: 1
Output VSWR (All States)		1.4	1.8	: 1
Input 0.1 dB Compression Point	30			dBm
IP3 Input	45			dBm
Switching Speed	150			ns
Weight	1.41			ounces
Impedance	50			Ω
Bias Current (+5V/-5V)	130/130			mA
Input / Output Connectors	SMA - Female			
Interface and Control Connector	MICRO-D9(Female)			
Finishing	Gold Plating			
Material	Aluminum			
Sealing	Hermetically Sealed（optional）			

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Absolute Maximum Ratings

Biasing	+5V±10%/-5V±10%
TTL Control Voltage	0~0.8V / 2~5V
RF Input Power	+30dBm

Ordering Information

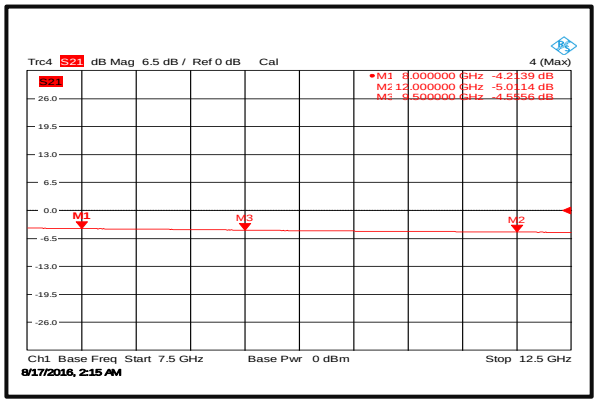
Part No.	ECCN	Description
RFDAT0812G6A	EAR99	8-12GHz Digital Control Attenuator

Environmental Specifications

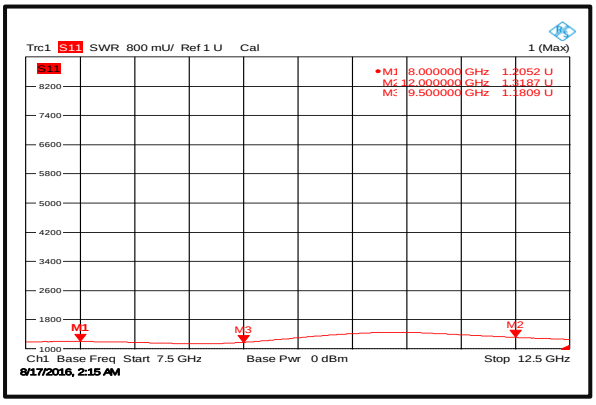
Operational Temperature (°C)	-45 ~ +85
Storage Temperature (°C)	-50 ~ +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

Typical Performance Plots

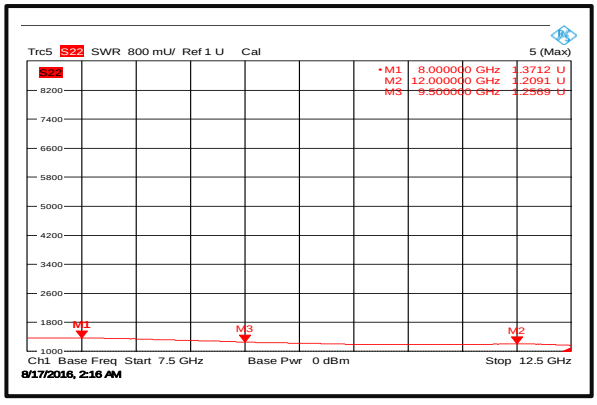
Insertion Loss



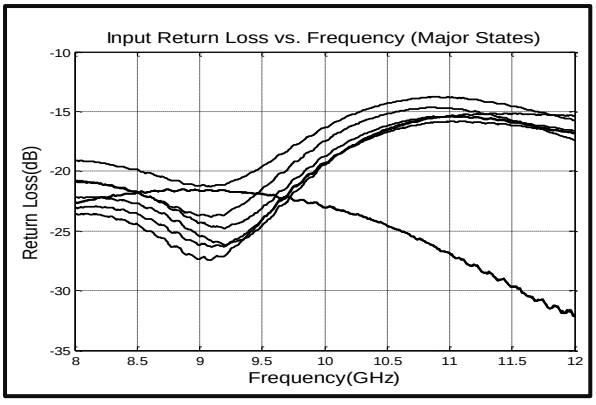
Input VSWR



Output VSWR



Input Return Loss vs. Frequency



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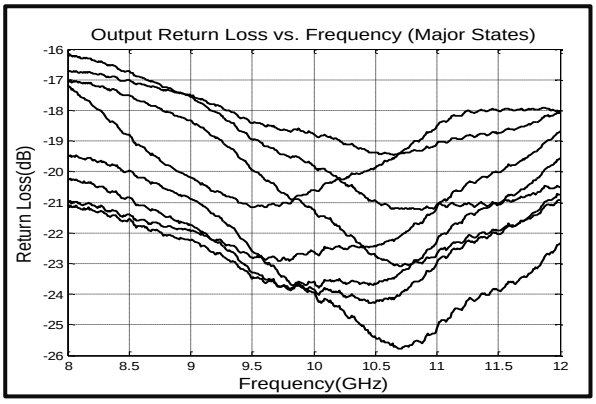
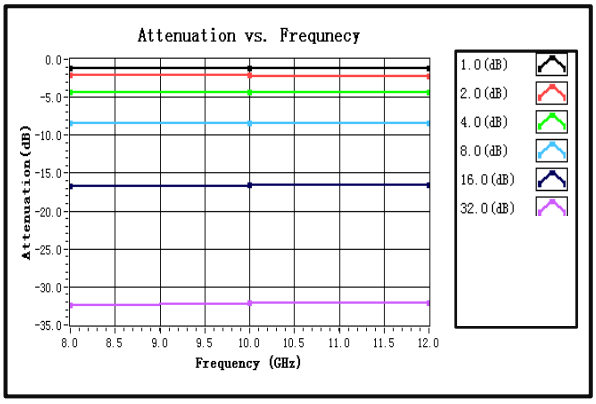
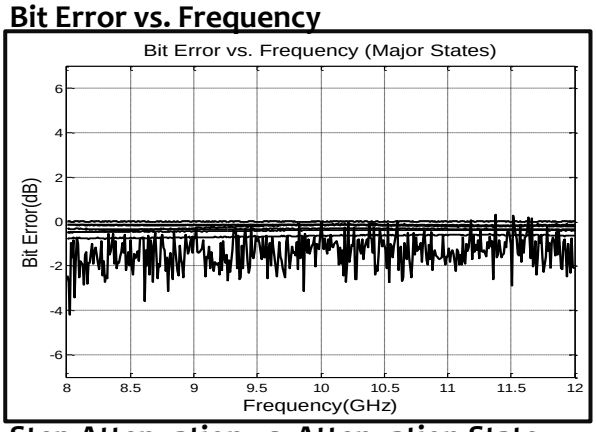
Output Return Loss vs. Frequency



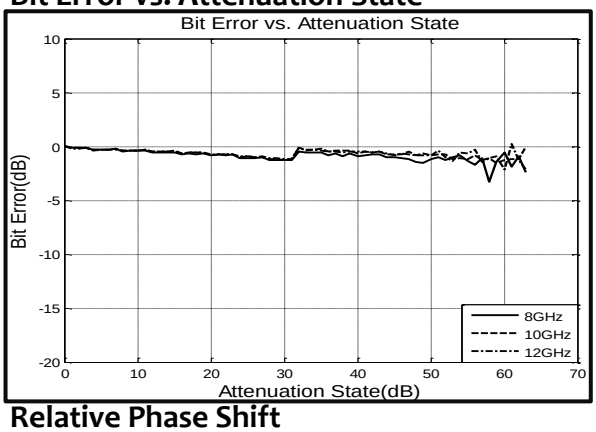
Attenuation Flatness vs.Frequnecy



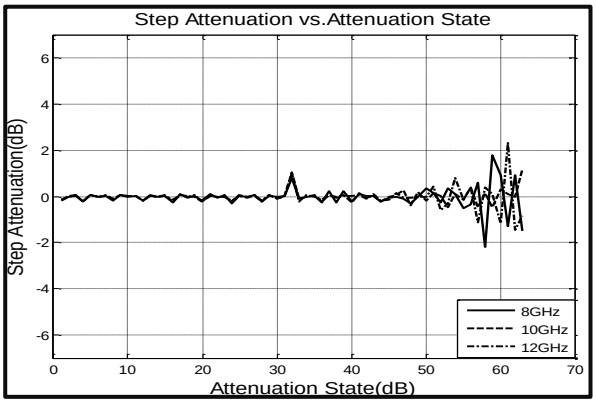
Bit Error vs. Frequency



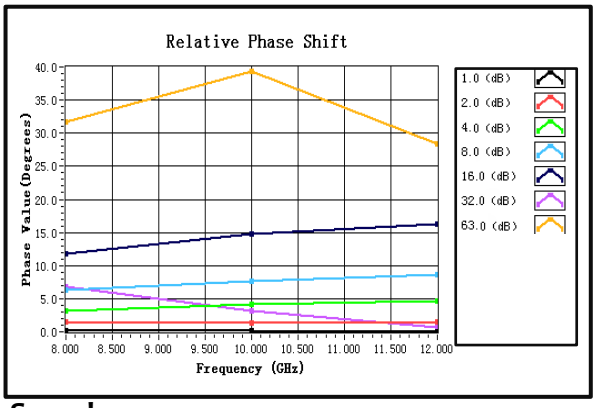
Bit Error vs. Attenuation State



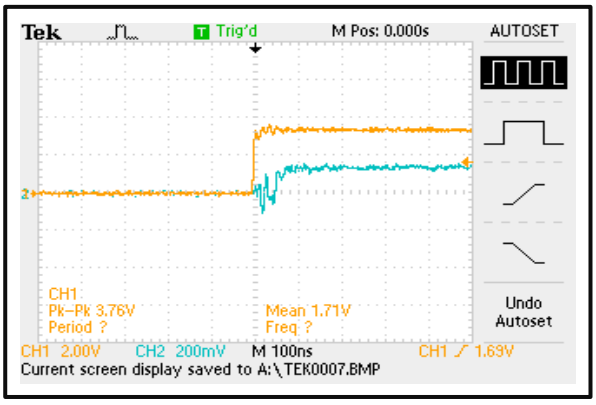
Step Attenuation vs. Attenuation State



Relative Phase Shift



Speed



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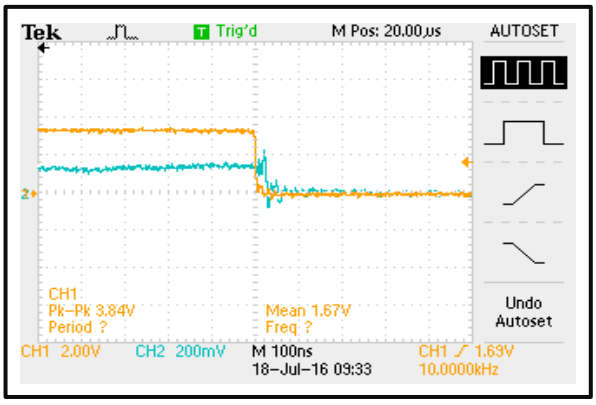

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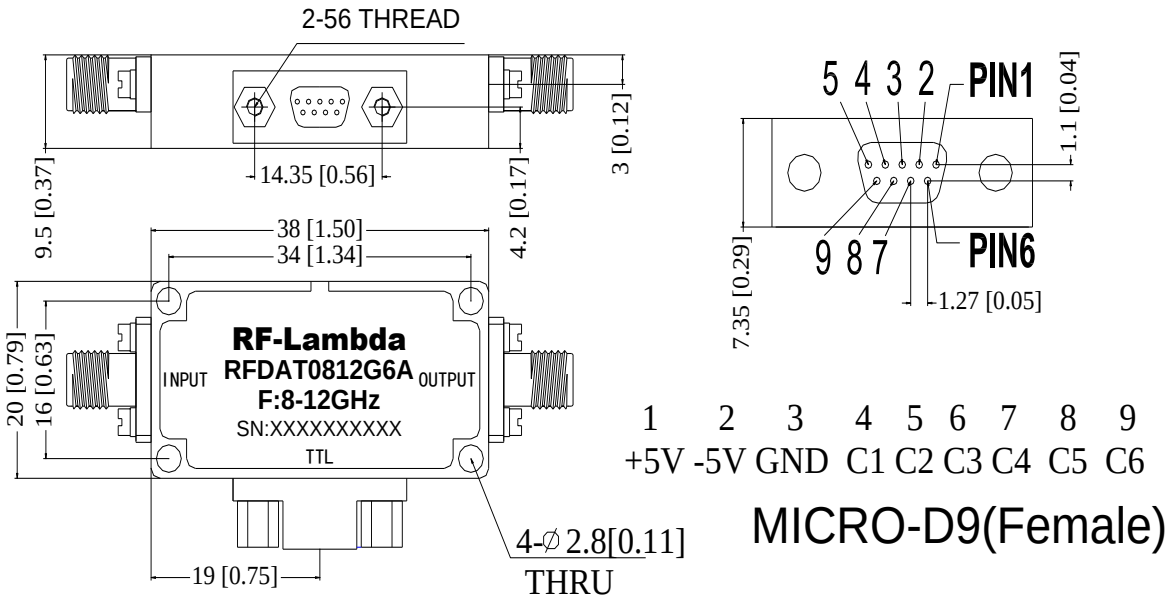
Outline Drawing:

All Dimensions in mm [inches]



TruthTable

Control Voltage Input						Attenuation state
C6	C5	C4	C3	C2	C1	
1	1	1	1	1	1	Reference IL
1	1	1	1	1	0	1dB
1	1	1	1	0	1	2dB
1	1	1	0	1	1	4dB
1	1	0	1	1	1	8dB
1	0	1	1	1	1	16dB
0	1	1	1	1	1	32dB
0	0	0	0	0	0	63dB

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Important Notice