

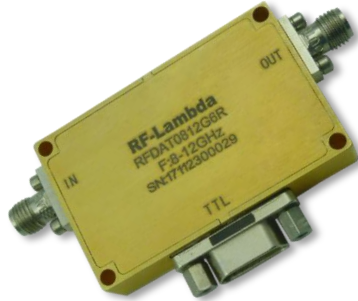


RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFDAT0812G6R

Reflective Digital Control Attenuator 8-12GHz



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 = +12V, VCTL = 0 / +5V

Description	PN: RFDAT0812G6R			
	Reflective Digital Attenuator			
Parameter	Min	Typ	Max	Units
Frequency Range	8		12	GHz
Attenuation Range			63	dB
Attenuation Flatness: (Referenced to Insertion Loss)		±2.0		dB
Control Bits			6	Bit
Control Step size	1			dB
Insertion Loss		1.5	2	dB
Insertion Loss Temperature Coefficient		0.005		dB/°C
Input VSWR (All Atten. states)		1.5	2.0	: 1
Output VSWR (All Atten. states)		1.5	2.0	: 1
Input 0.1 dB Compression Point		30		dBm
IP3 Input		45		dBm
Switching Speed		50		us
Weight		1.41		ounces
Impedance		50		Ω
Bias Current (+12V)		80		mA
Input / Output Connectors	SMA - Female			
Interface and Control Connector	MICRO-D15 (Female)			
Finish	Gold Plated			
Material	Aluminum			
Sealing	Hermetically Sealed (Optional)			

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Absolute Maximum Ratings

Biasing	+15V
TTL Control Voltage	0~0.8V / 2.8~5V
RF Input Power	+30dBm

Ordering Information

Part No.	ECCN	Description
RFDAT0812G6R	EAR99	8-12GHz Digital Control Attenuator

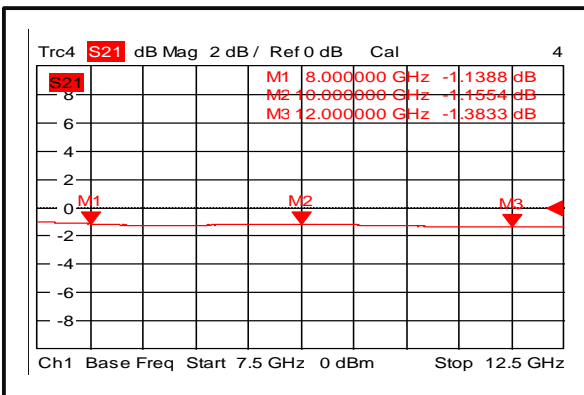
Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-40°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C 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	MIL-STD-883	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)

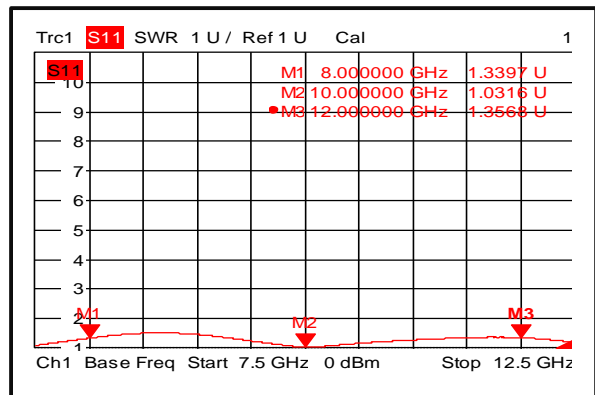
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Typical Performance Plots

Insertion Loss @+25°C

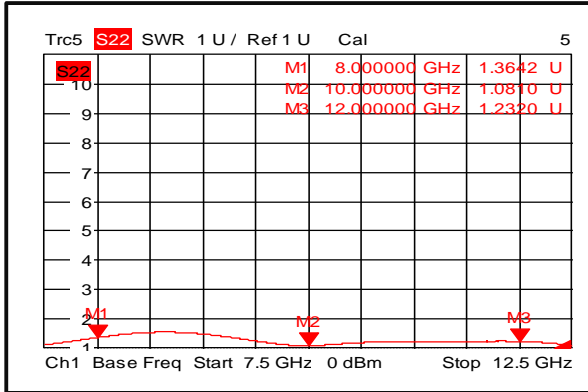


Input VSWR @+25°C

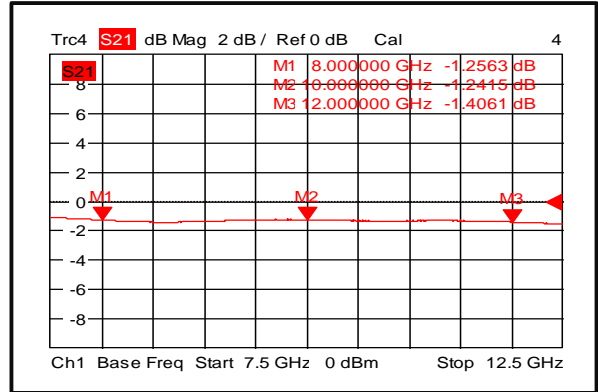




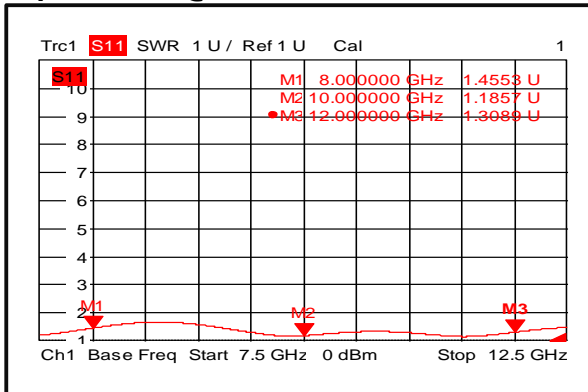
Output VSWR @+25°C



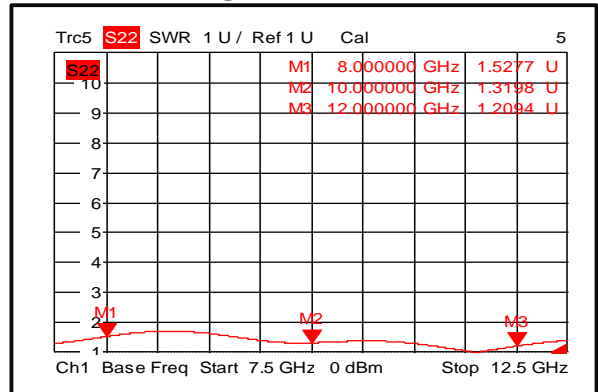
Insertion Loss @-45°C



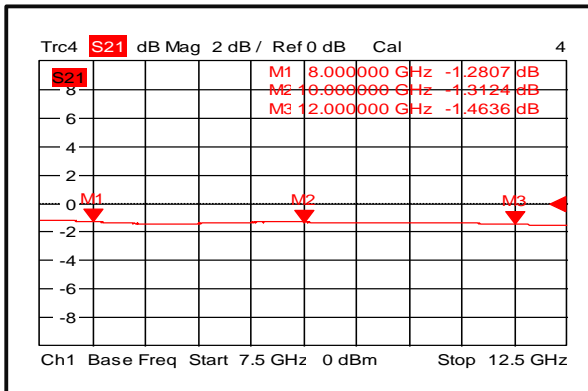
Input VSWR @-45°C



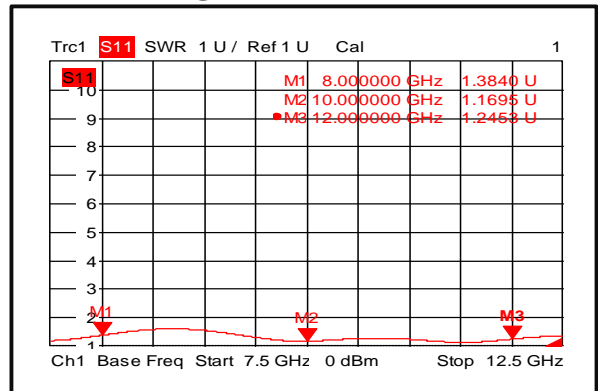
Output VSWR @-45°C



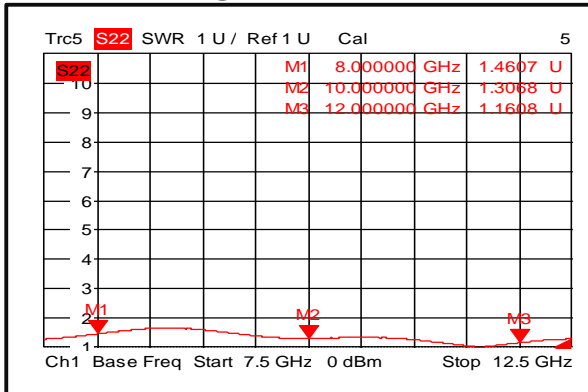
Insertion Loss @+85°C



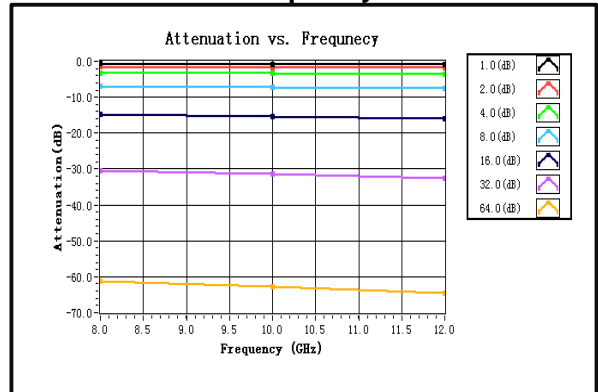
Input VSWR @+85°C



Output VSWR @+85°C

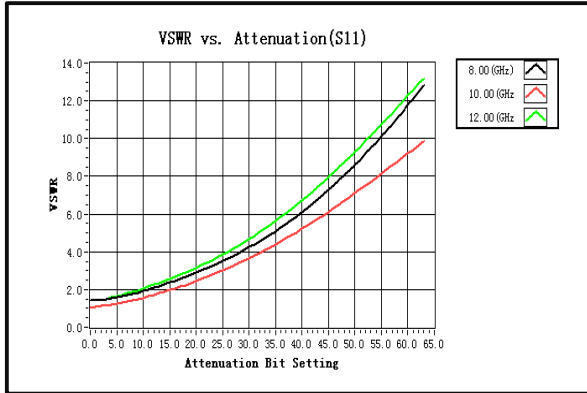


Attenuation vs. Frequency

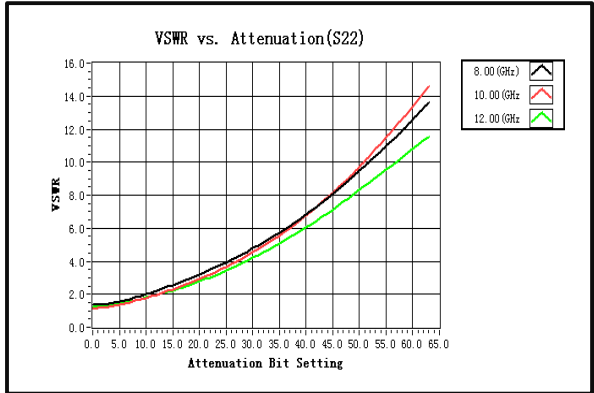




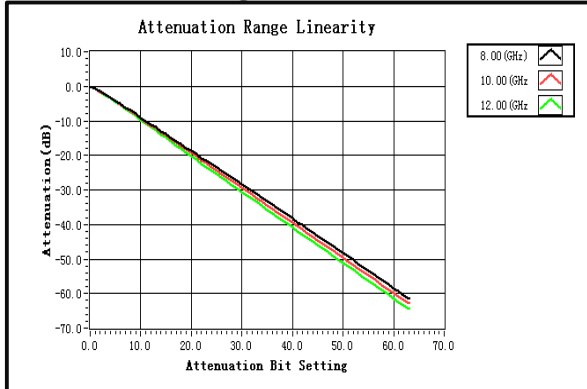
VSWR vs. Attenuation(S11)



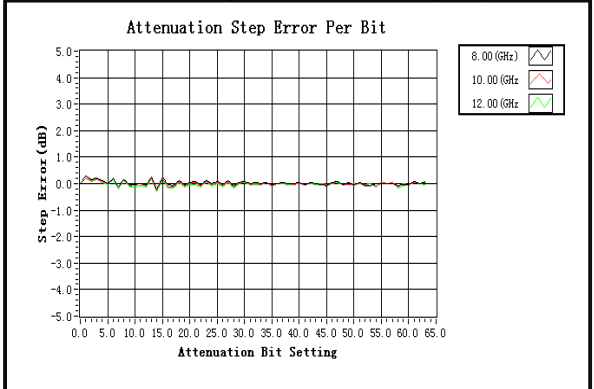
VSWR vs. Attenuation(S22)



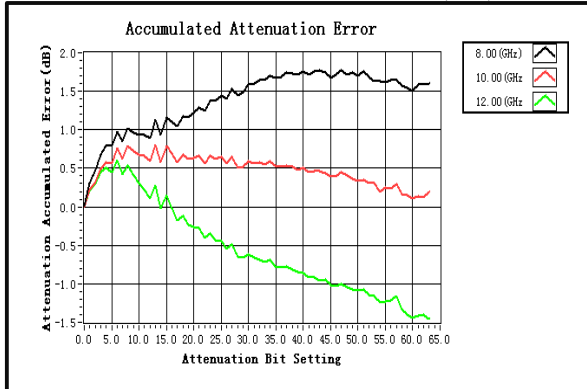
Attenuation Range Linearity



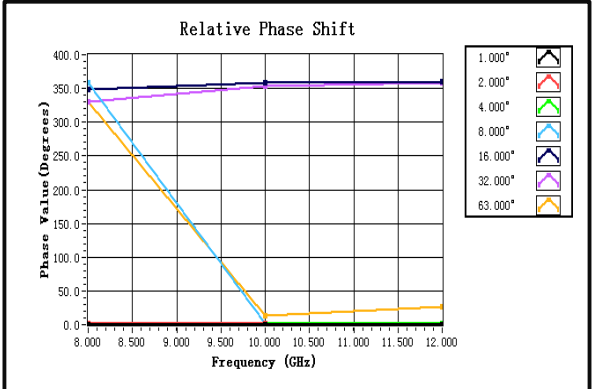
Attenuation Step Error Per Bit (dB)



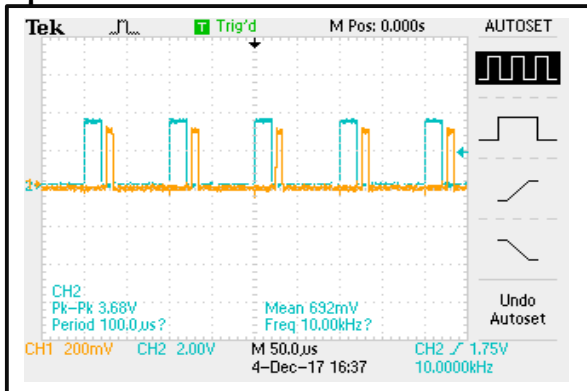
Accumulated Attenuation Error(dB)



Relative Phase Shift



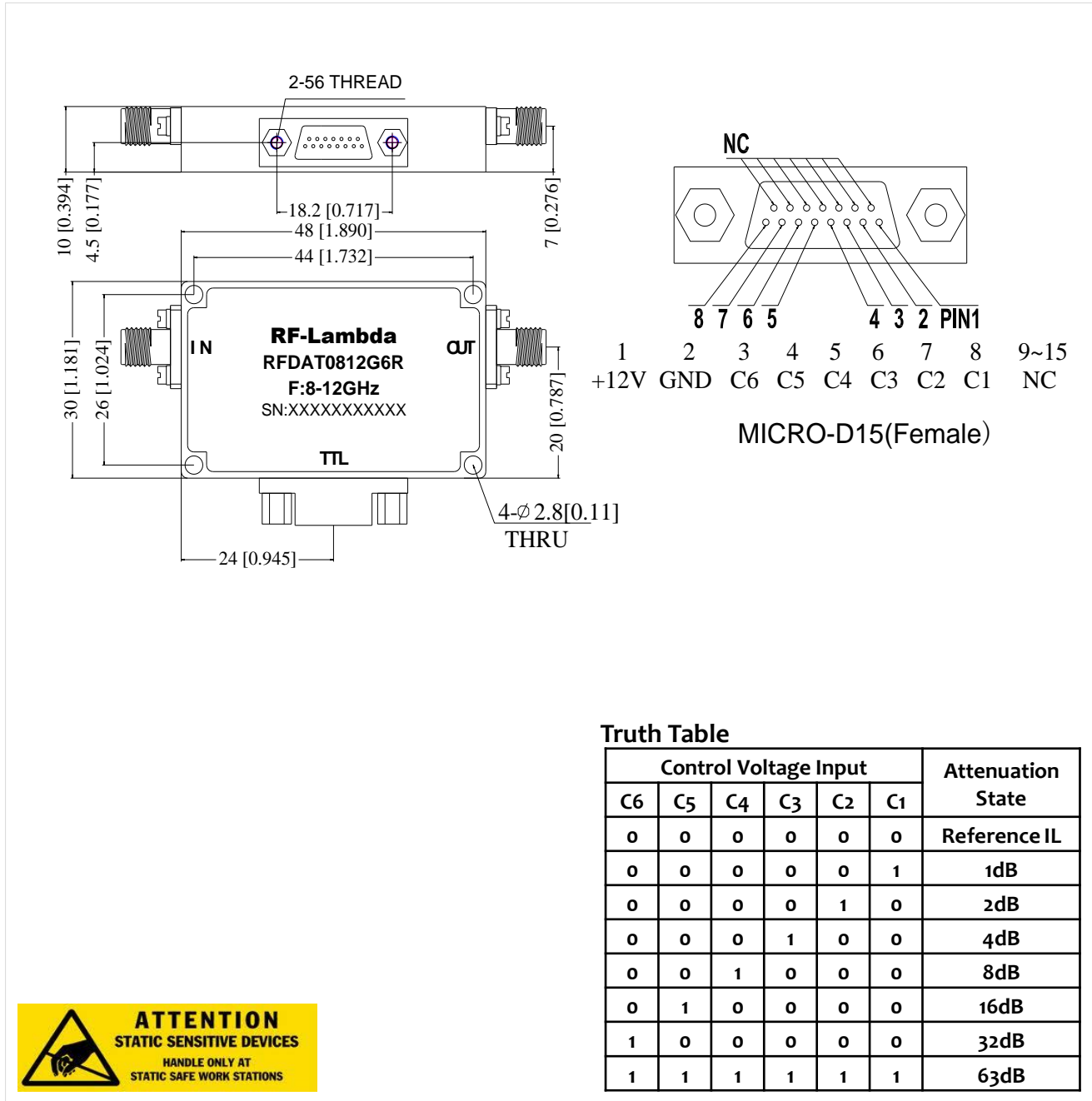
Speed





Outline Drawing:

All Dimensions in mm [inches]



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