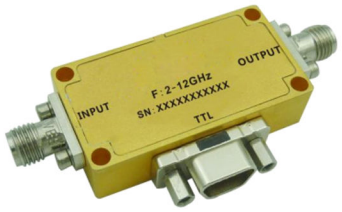
Absorptive Digital Control Attenuator 2 - 12GHz

Features

- Wide Band Operation 2-12GHz
- 1dB LSB Steps to 63dB
- Single Positive Control Line Per Bit
- Customization available upon request



Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	2		4	4		8	8		12	GHz
Attenuation Range			63			63			63	dB
Attenuation Flatness: (Referenced to Insertion Loss)		±2.0			±2.0			±2.0		dB
Control Bits			6			6			6	Bit
Control Step size	1			1			1			dB
Insertion Loss		4.5	5		4.5	5.8		5.5	7	dB
Insertion Loss Temperature Coefficient		0.005			0.005			0.005		dB/ °C
Input VSWR (All States)		1.7	2.2		1.6	2.2		1.5	1.8	: 1
Output VSWR (All States)		1.7	2.2		1.6	2.2		1.5	1.8	: 1
Input 0.1 dB Compression Point (P0.1dB)	27									dBm
Input IP3	45									dBm
Switching Speed	150									ns
Weight	0.71									Ounces
Impedance	50									Ω
Bias Current (+5V/-5V)	50/50									mA
Input / Output Connectors	SMA - Female									
Interface and Control Connector	MICRO-D9-Female									
Finish	Gold Plated									
Material	Aluminum									
Sealing	Hermetically Sealed (Optional)									

Absolute Maximum Ratings

Biasing	+5v / -5v ± 10%
TTL Control Voltage	0~0.8V/2.8~5V
RF Input Power	+27dBm

Environmental Specifications

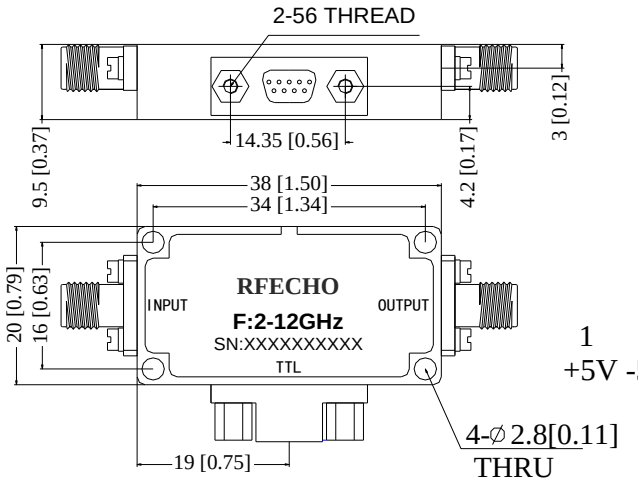
Operational Temperature	-40ºC~+85ºC
Storage Temperature	-50ºC~+105ºC
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35ºc, 95%RH at 40ºc
Shock	20G for 11msec half sine wave,3 axis both directions

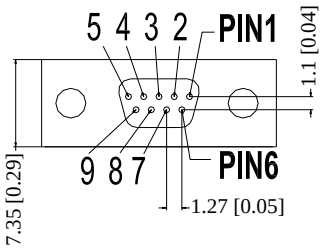
Ordering Information

Part No.	Description
DBDA0602001200A	2-12GHz Digital Control Attenuator

Outline Drawing:

All Dimensions in mm (inches)





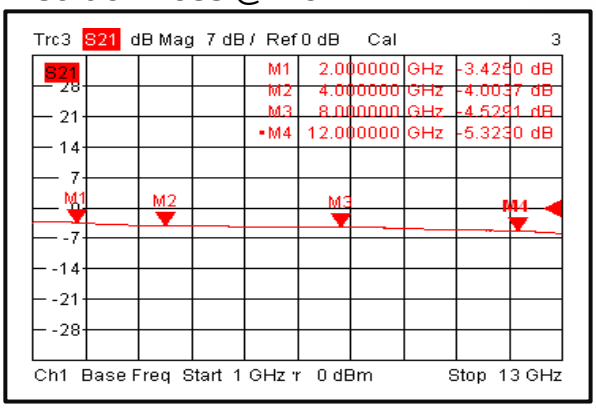
1 2 3 4 5 6 7 8 9
+5V -5V GND C1 C2 C3 C4 C5 C6

MICRO-D9(Female)

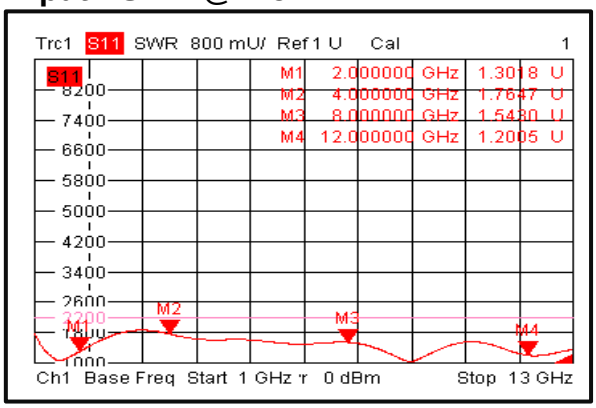
Truth Table

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

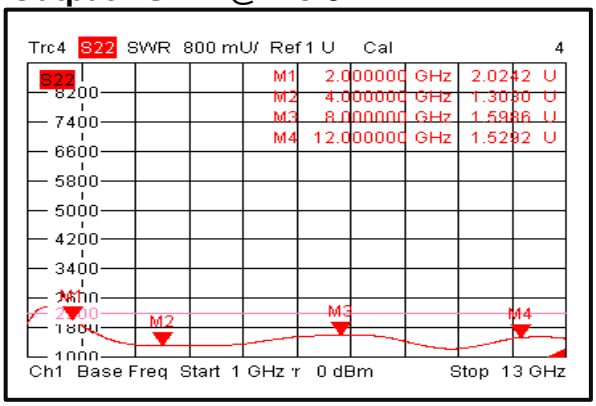
Insertion Loss @+25℃



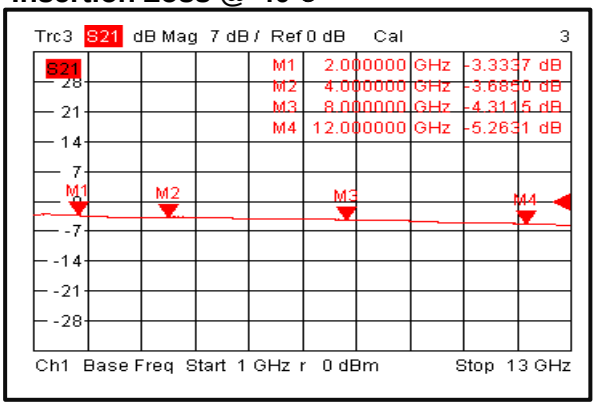
Input VSWR @+25℃



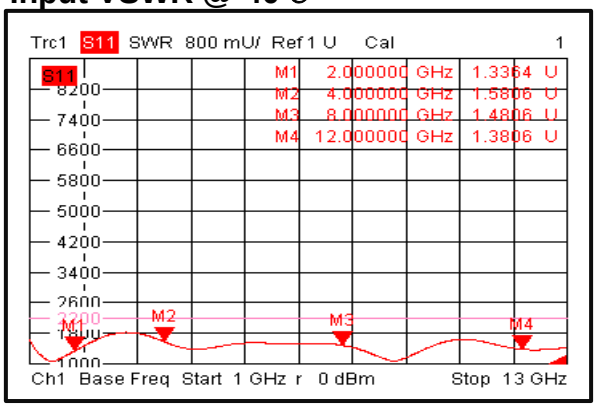
Output VSWR @+25℃



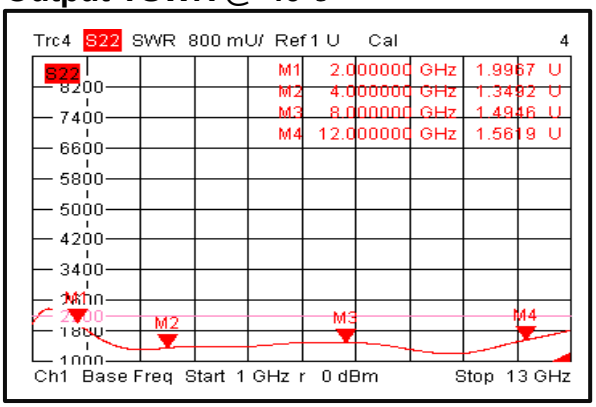
Insertion Loss @-40℃



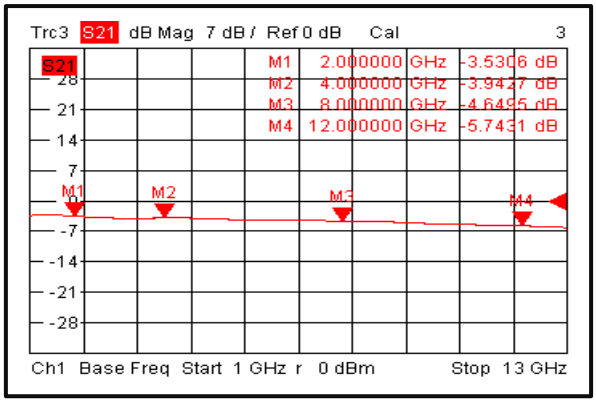
Input VSWR @-40℃



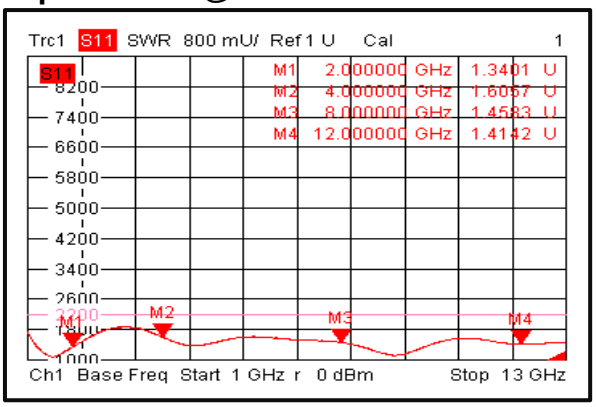
Output VSWR @-40℃



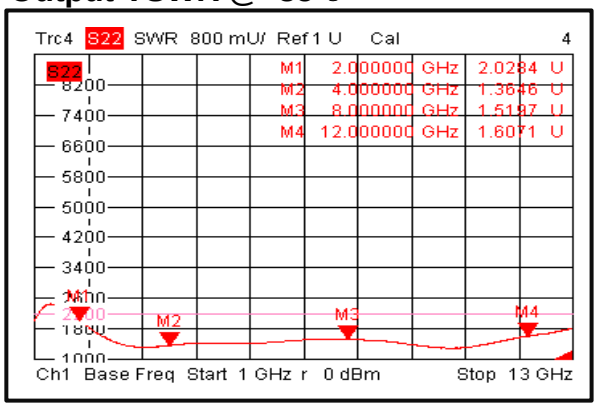
Insertion Loss @+85℃



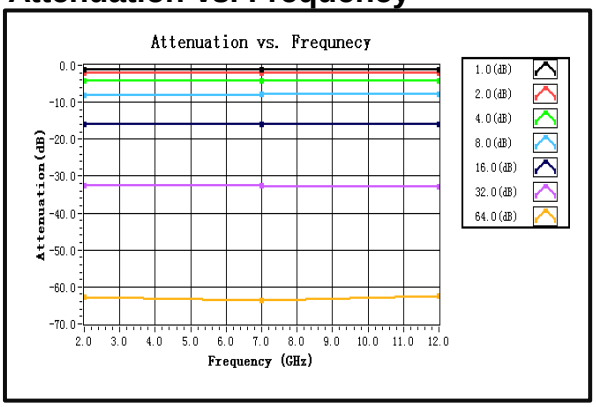
Input VSWR @+85℃



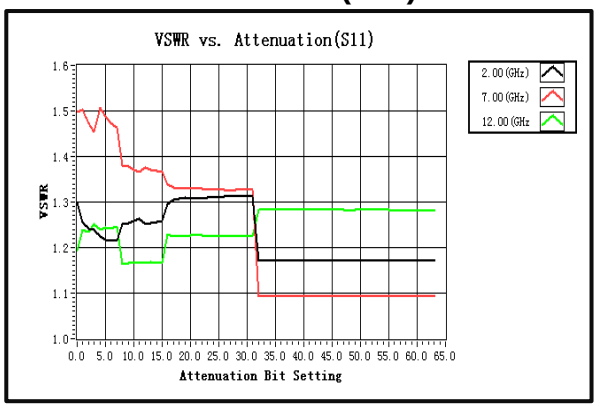
Output VSWR @+85℃



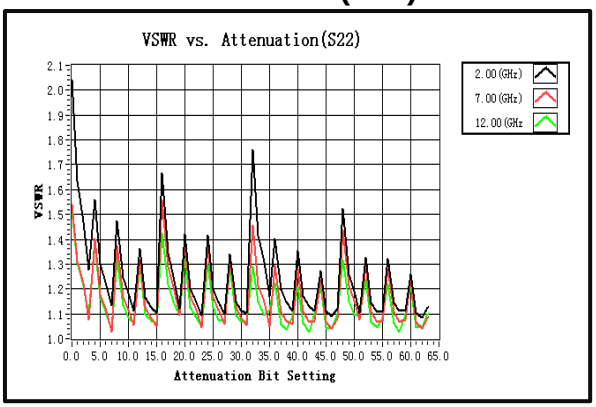
Attenuation vs. Frequency



VSWR vs. Attenuation(S11)



VSWR vs. Attenuation(S22)



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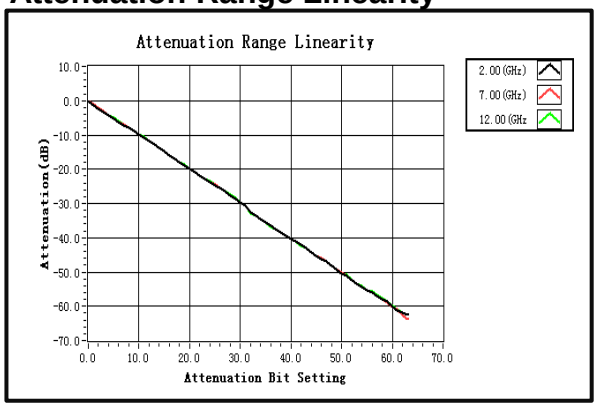
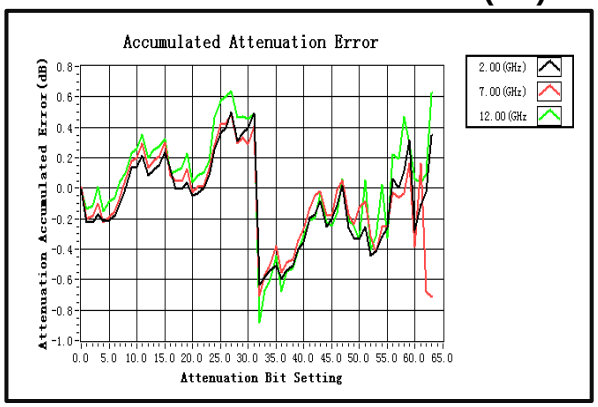
Attenuation Range Linearity



Attenuation Step Error Per Bit (dB)

Accumulated Attenuation Error(dB)



Relative Phase Shift