



Absorptive Digital Control Attenuator 4-8GHz



Features

- Wide Band Operation 4-8GHz
- 1dB LSB Steps to 64dB
- Single Positive Control Line Per Bit
- Customization available upon request

Parameters	Min	Typ.	Max	Units
Frequency Range	4-8			GHz
Attenuation Range			63	dB
Attenuation Flatness: (Referenced to Insertion Loss)		±0.5	±1.0	dB
Control Bits			6	Bit
Control Step size		1		dB
Insertion Loss		5.3	6	dB
Insertion Loss Temperature Coefficient		0.005		dB/ °C
Input VSWR(All Atten. States)		1.4	1.5	: 1
Output VSWR (All Atten. States)		1.4	1.5	: 1
Input Power for 0.1 dB Compression		30		dBm
IP3 Input		50		dBm
Switching Speed			100	ns
Weight	1.76			ounces
Impedance	50			Ω
Biasing (+5V/-5V)	130/130			mA
Input /Output Connectors	SMA-Female			
Control PIN	MICRO-D9			
Finish	Gold Plated			
Material	Aluminum			
Seal	Hermetically Sealed (optional)			



Absolute Maximum Ratings

Biassing	+5V±10%/-5V±10%
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Ordering Information

Part No.	Description
DBDA0604000800A	4-8GHz Digital Control Attenuator

Environmental Specifications

Operational Temperature	-40°C~+85°C
Storage Temperature	-50°C~+105°C
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 35°C, 95%RH at 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

Outline Drawing:

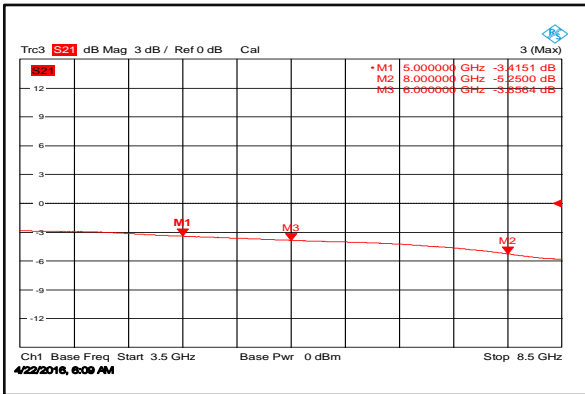
All Dimensions in mm (inches)

Truth Table

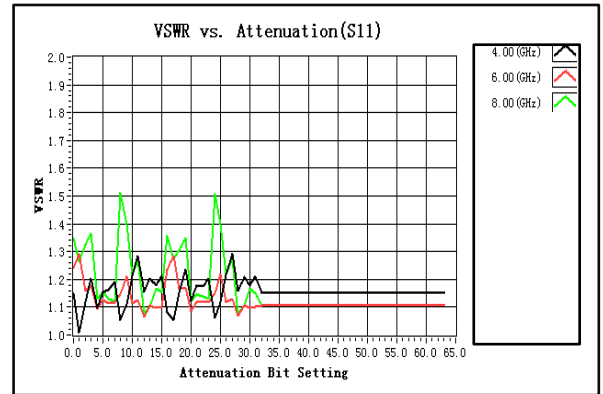
TTL Control Voltage						Low(0)=0~0.8V High(1)=2.8~5V
Control Voltage Input						Attenuation state
C6	C5	C4	C3	C2	C1	
1	1	1	1	1	1	Reference IL
1	1	1	1	1	0	1dB
1	1	1	1	0	1	2dB
1	1	1	0	1	1	4dB
1	1	0	1	1	1	8dB
1	0	1	1	1	1	16dB
0	1	1	1	1	1	32dB
0	0	0	0	0	0	63dB



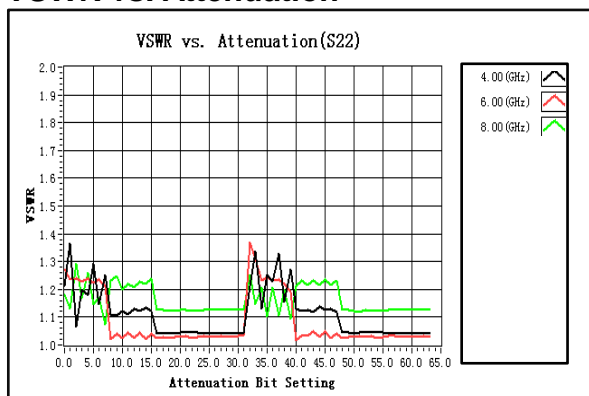
Insertion Loss



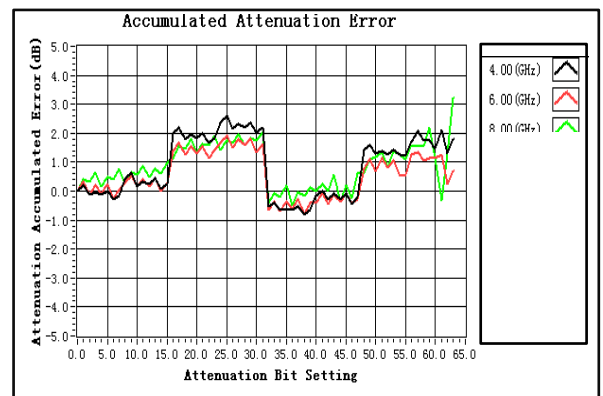
VSWR vs. Attenuation



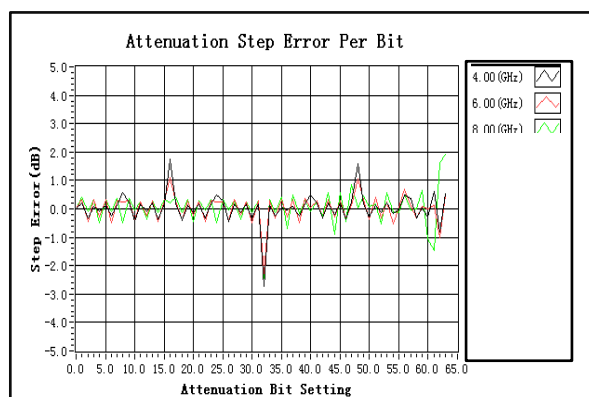
VSWR vs. Attenuation



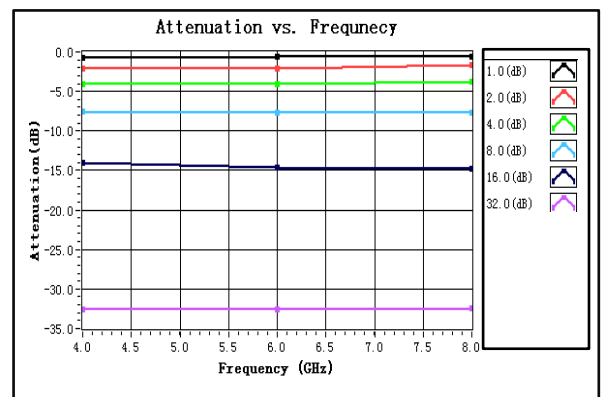
Accumulated Attenuation Error (dB)



Attenuation Step Error Per Bit (dB)

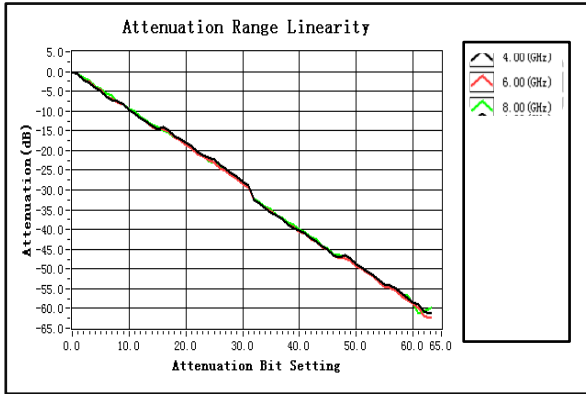


Attenuation Flatness vs. Frequency





Attenuation Range Linearity



Relative Phase Shift

