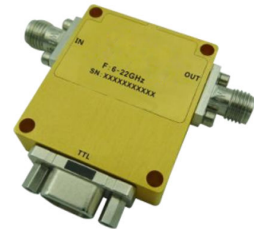




Absorptive Digital Control Attenuator 6 – 22GHz

Features

- Wide Band Operation 6-22GHz
- 0.75dB LSB Steps to 23.25dB
- Single Positive Control Line Per Bit



Parameters	Min.	Typ .	Max.	Min.	Typ.	Max.	Units
Frequency Range	6-8		8-22				GHz
Attenuation Range			23.25			23.25	dB
Attenuation Flatness: (Referenced to Insertion Loss)		±3			±1.5		dB
Control Bits			5			5	Bit
Control Step size	0.75			0.75			dB
Insertion Loss		13	15		7.2	8	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/ °C
Input VSWR(All Atten. States)		3.5	4.5		2.0	2.5	: 1
Output VSWR (All Atten. States)		3.5	4.5		2.0	2.5	: 1
Input 0.1 dB Compression Point (P0.1dB)			35			35	dBm
IIP3		36			36		dBm
Switching Speed		100			100		ns
Weight	0.71						ounces
Impedance	50						Ω
Bias Current (+5V)	40						mA
Input / Output Connectors	SMA-Female						
Interface and Control Connector	MICRO-D9 (Female)						
Finish	Gold Plated						
Material	Aluminum						
Seal	Hermetically Sealed (Optional)						



Absolute Maximum Ratings

Biasing	+5V±10%
TTL Control Voltage	0~0.8V / 2.8~5V

Environmental Specifications

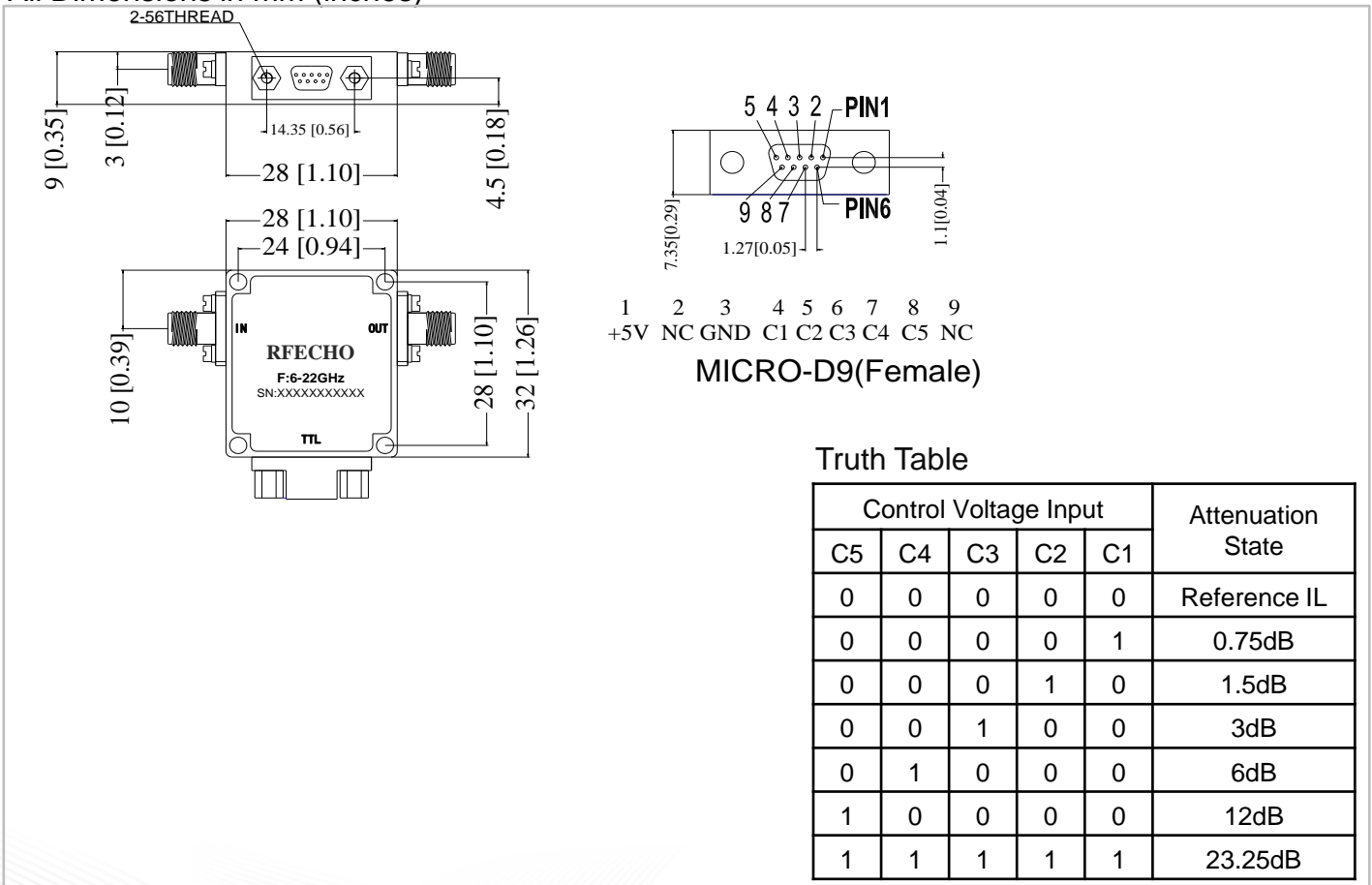
Operational Temperature	-40°C~+85°C
Storage Temperature	-50°C~+105°C
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Uncontrolled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35°C, 95%RH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

Ordering Information

Part No.	Description
DBDA0506002200A	6-22GHz Digital Control Attenuator

Outline Drawing:

All Dimensions in mm (inches)

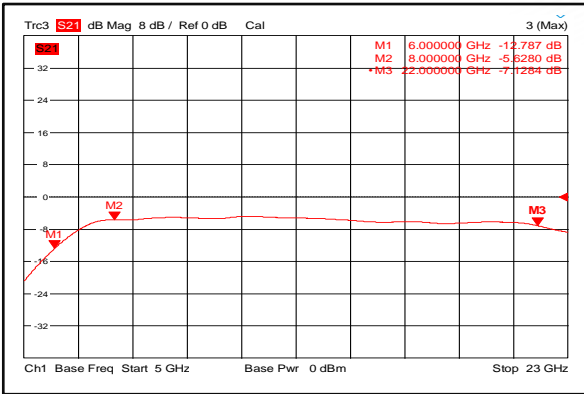


Truth Table

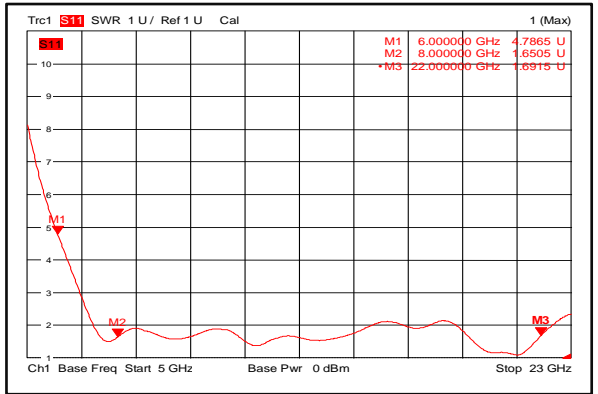
Control Voltage Input					Attenuation State
C5	C4	C3	C2	C1	
0	0	0	0	0	Reference IL
0	0	0	0	1	0.75dB
0	0	0	1	0	1.5dB
0	0	1	0	0	3dB
0	1	0	0	0	6dB
1	0	0	0	0	12dB
1	1	1	1	1	23.25dB



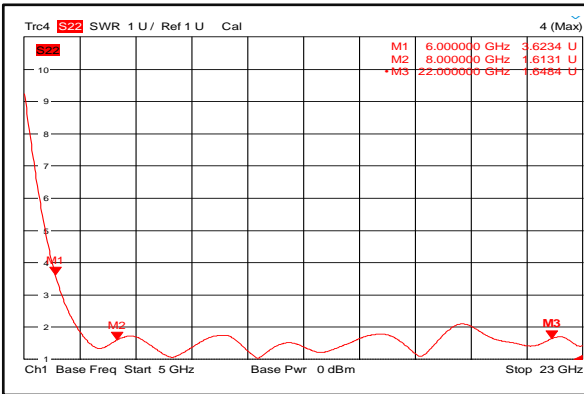
Insertion Loss @+25°C



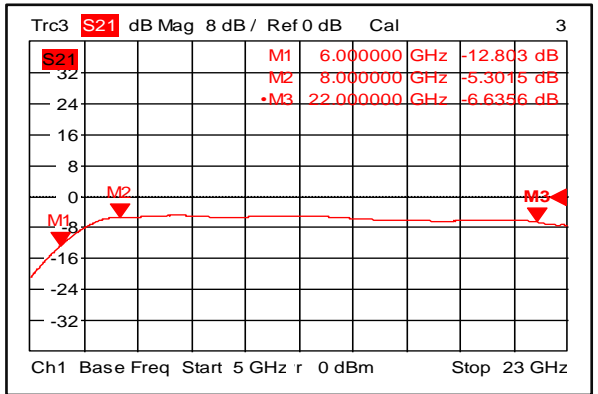
Input VSWR @+25°C



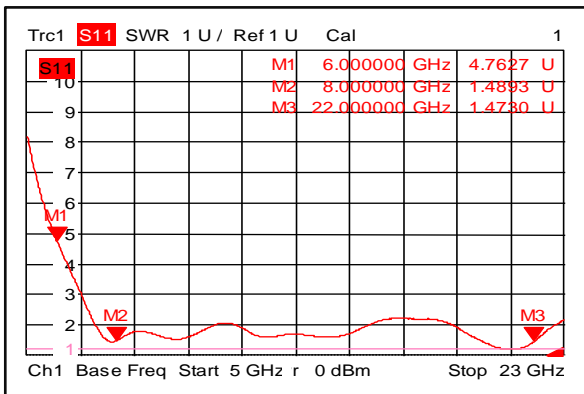
Output VSWR @+25°C



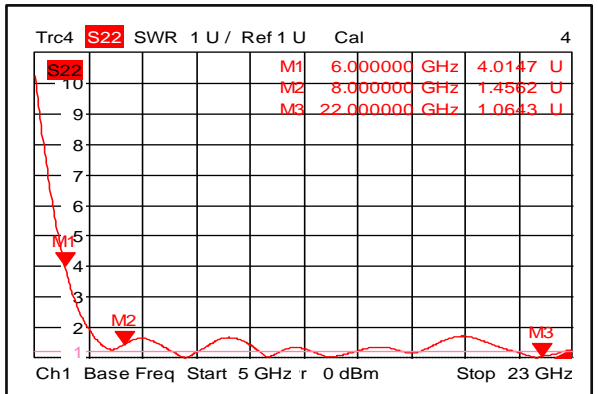
Insertion Loss @-40°C



Input VSWR @-40°C

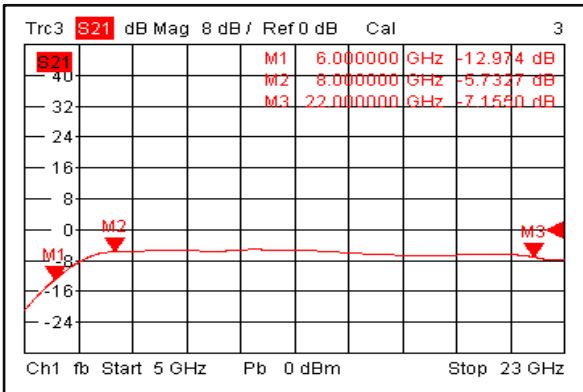


Output VSWR @-40°C

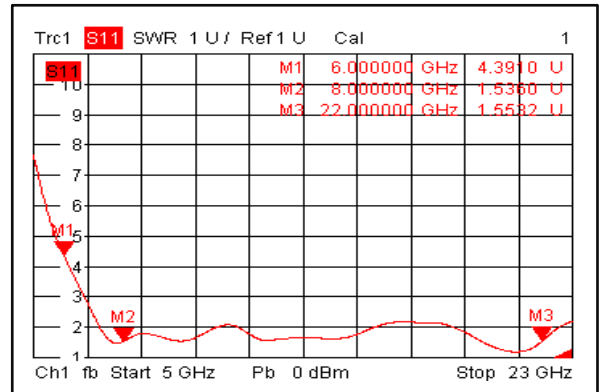




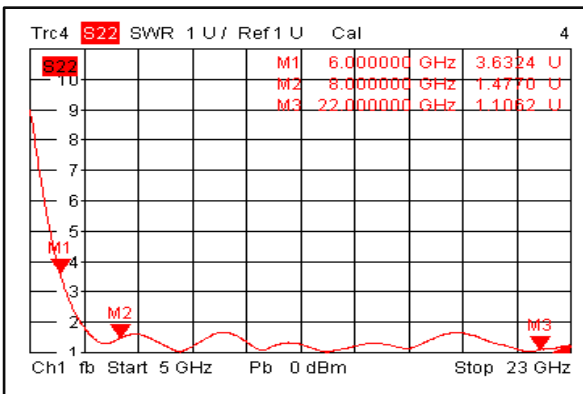
Insertion Loss @+85°C



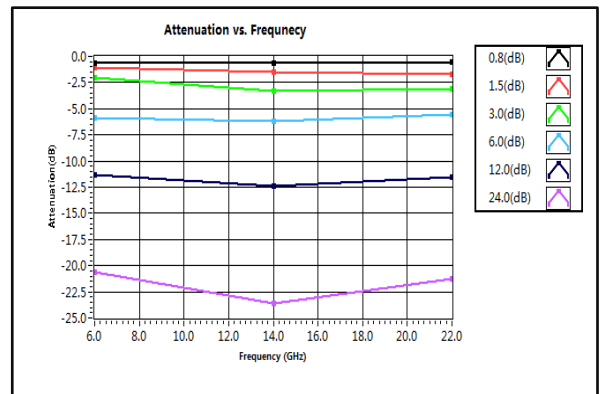
Input VSWR @+85°C



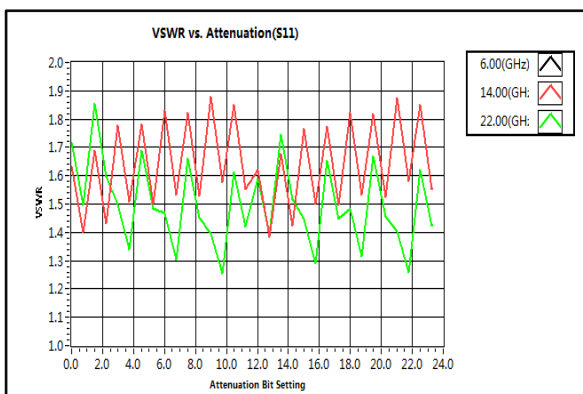
Output VSWR @+85°C



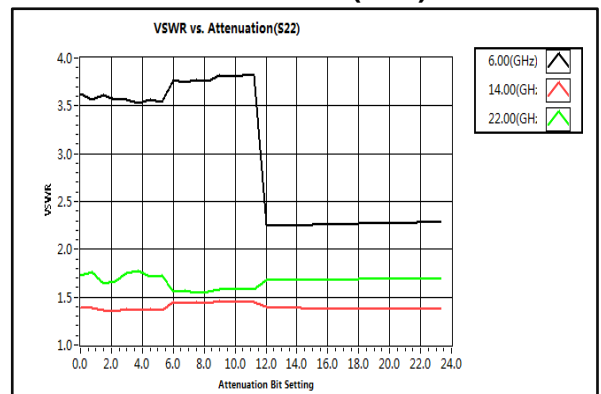
Attenuation vs. Frequency



VSWR vs. Attenuation(S11)

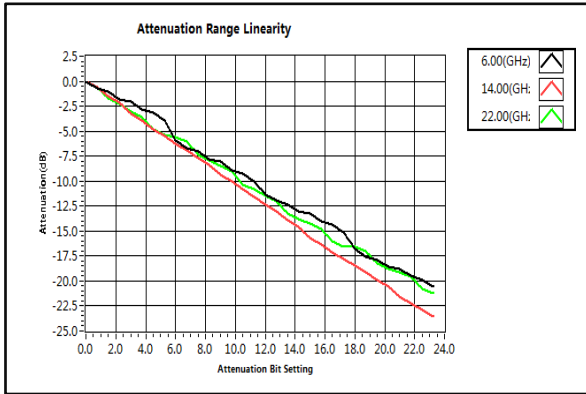


VSWR vs. Attenuation(S22)

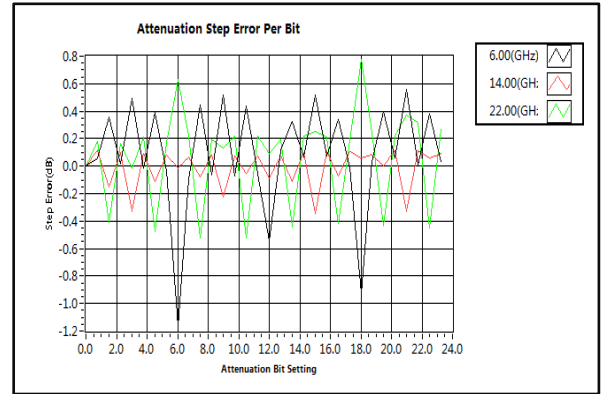




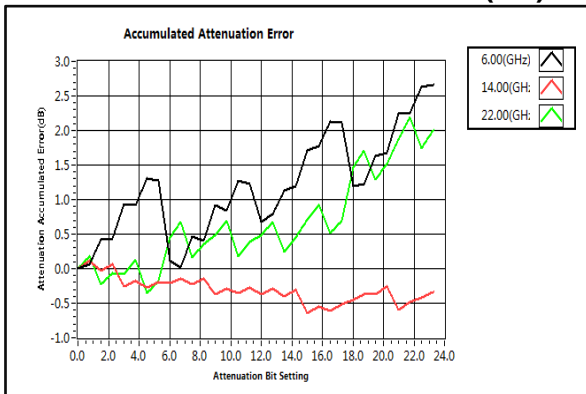
Attenuation Range Linearity



Attenuation Step Error Per Bit (dB)



Accumulated Attenuation Error (dB)



Relative Phase Shift

