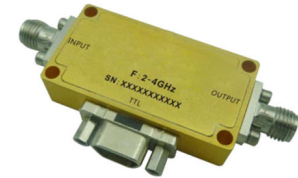




Absorptive Digital Control Attenuator 2-4GHz

Features

- Wide Band Operation 2-4GHz
- 0.5dB LSB Steps to 63dB
- Single Positive Control Line Per Bit
- Customization available upon request



Parameters	Min.	Typ.	Max.	Units
Frequency Range	2		4	GHz
Attenuation Range		63		dB
Attenuation Flatness: (Referenced to Insertion Loss)		±0.5		dB
Control Bits			6	Bit
Control Step size		1		dB
Insertion Loss		3.0	3.6	dB
Insertion Loss Temperature Coefficient		0.01		dB/ °C
Input VSWR (All States)		1.4	1.5	: 1
Output VSWR (All States)		1.4	1.5	: 1
Input 0.1 dB Compression Point		30		dBm
IP3 Input		54		dBm
Switching Speed 50% CTRL* to 90% or 10%		100		ns
Weight		0.71		ounces
Impedance		50		Ω
Bias Current (+5V/-5V)		60/40		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±10%/-5V±10%
TTL Control Voltage	0~0.8V / 2.8~5V
RF Input Power	+30dBm

Ordering Information

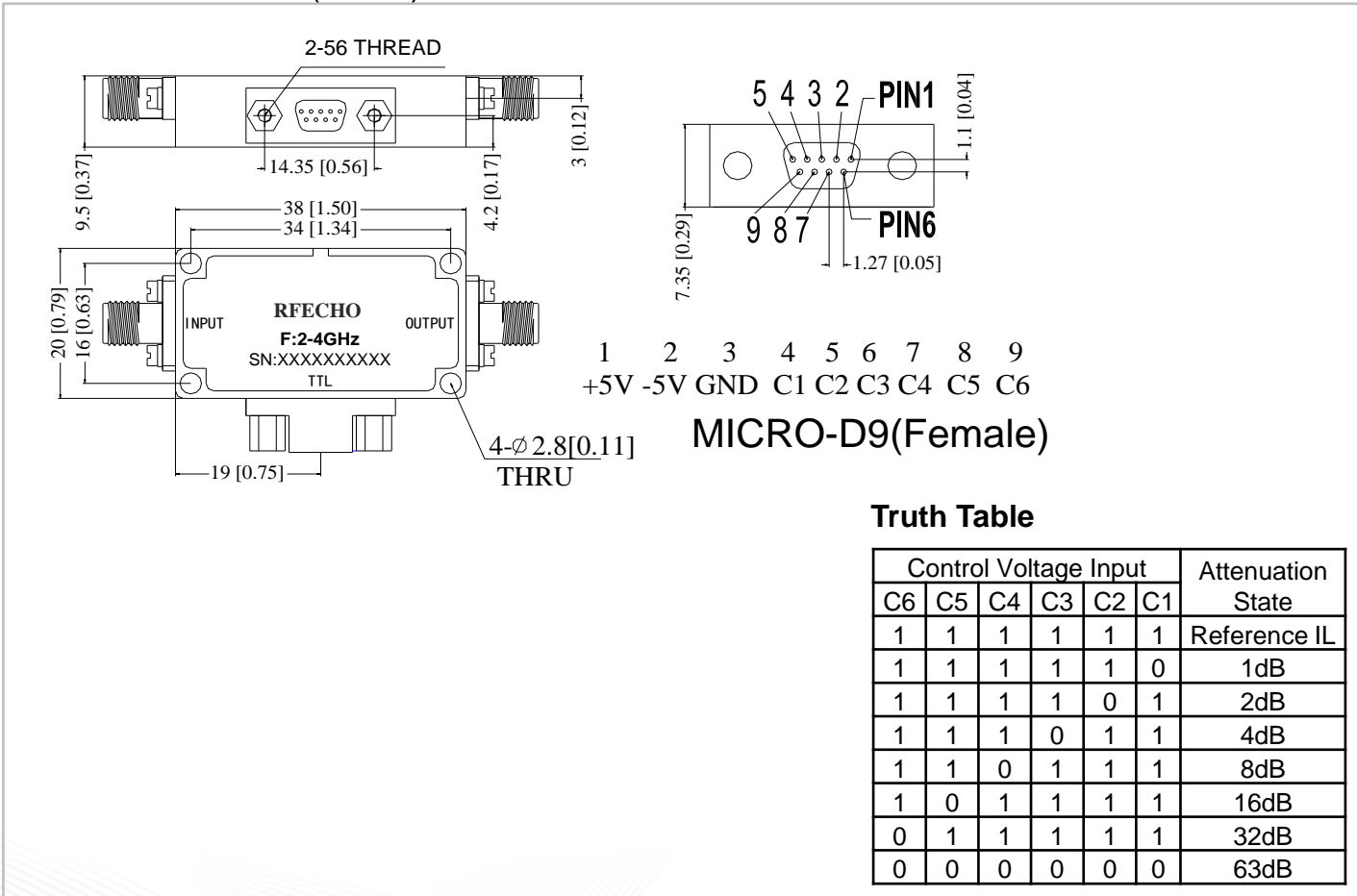
Part No.	Description
DBDA0602000400C	2-4GHz Digital Control Attenuator

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)

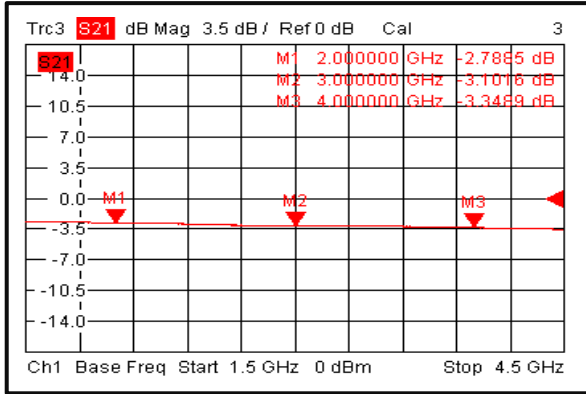


Truth Table

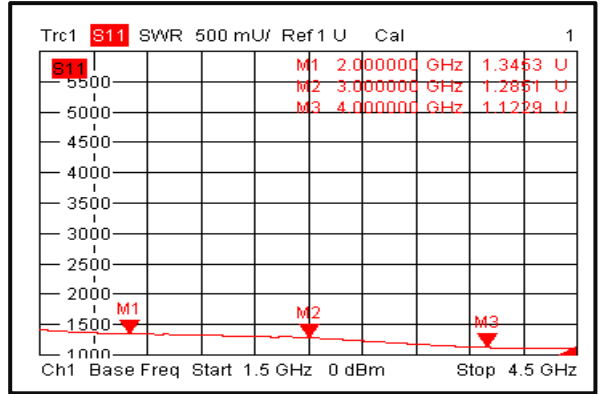
Control Voltage Input						Attenuation State
C6	C5	C4	C3	C2	C1	
1	1	1	1	1	1	Reference IL
1	1	1	1	1	0	1dB
1	1	1	1	0	1	2dB
1	1	1	0	1	1	4dB
1	1	0	1	1	1	8dB
1	0	1	1	1	1	16dB
0	1	1	1	1	1	32dB
0	0	0	0	0	0	63dB



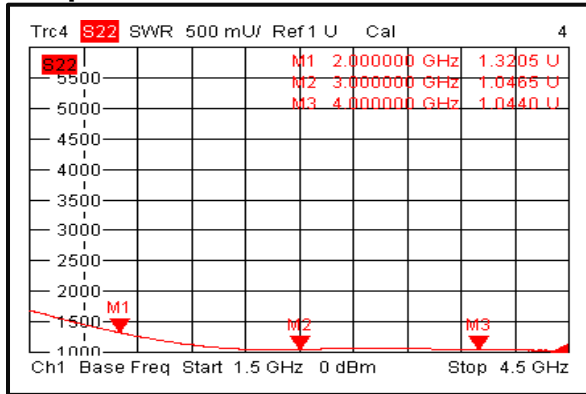
Insertion Loss @+25°C



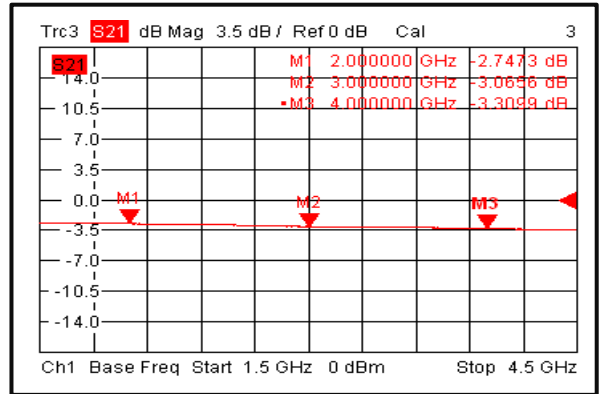
Input VSWR @+25°C



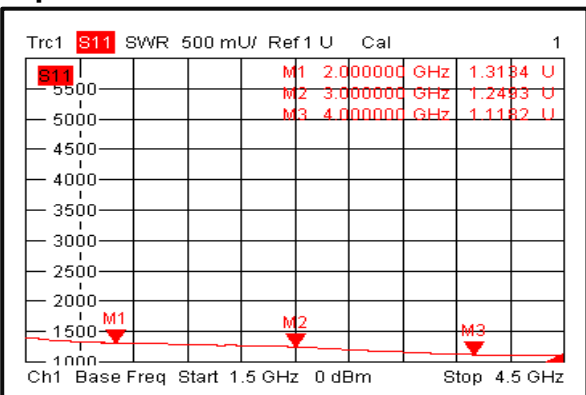
Output VSWR @+25°C



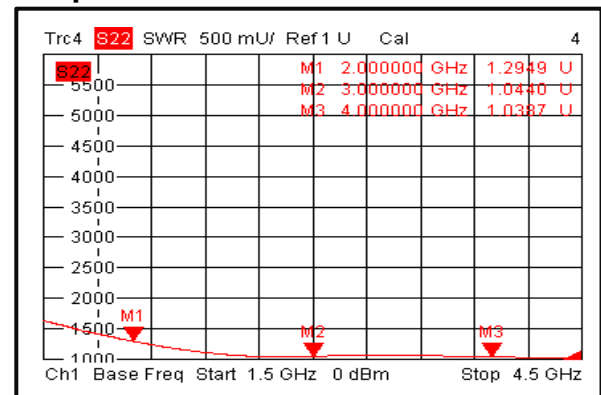
Insertion Loss @-40°C



Input VSWR @-40°C

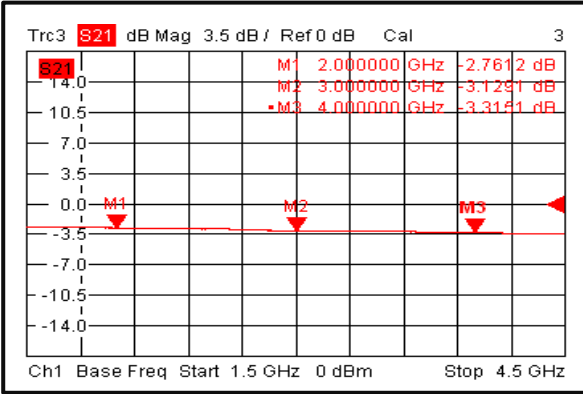


Output VSWR @-40°C

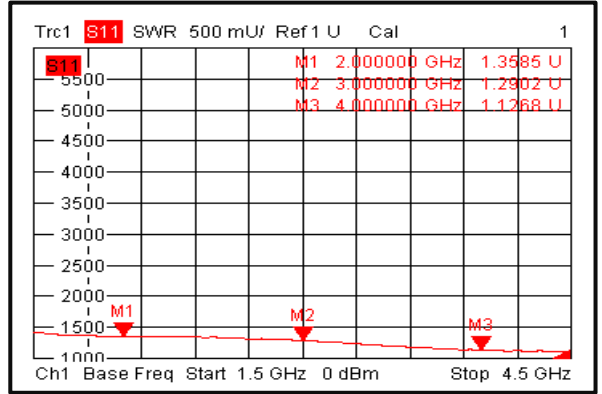




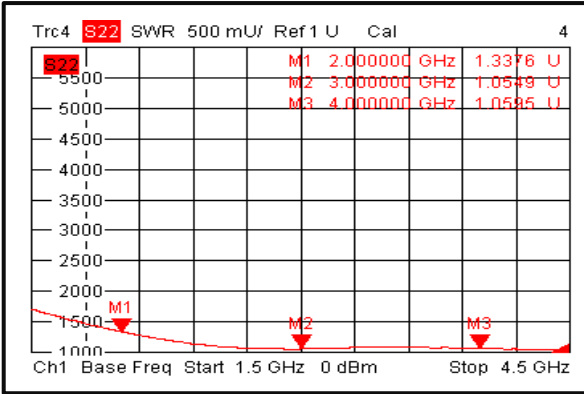
Insertion Loss @+85°C



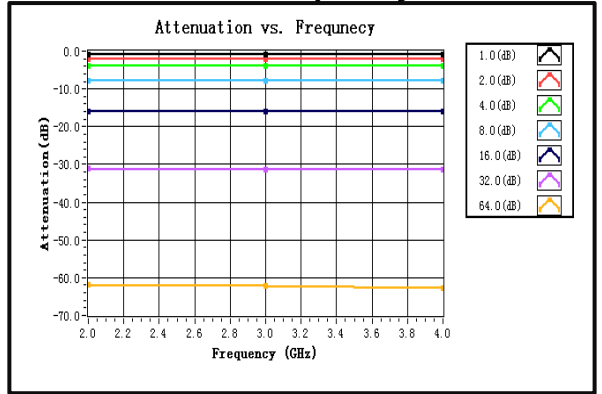
Input VSWR @+85°C



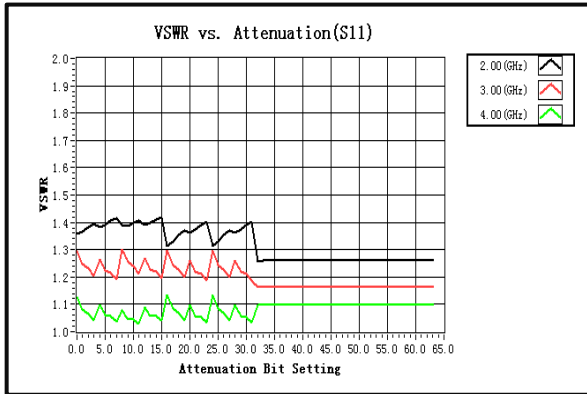
Output VSWR @+85°C



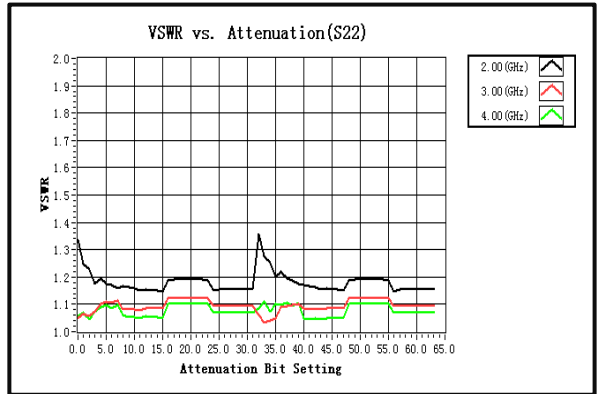
Attenuation vs. Frequency



VSWR vs. Attenuation(S11)

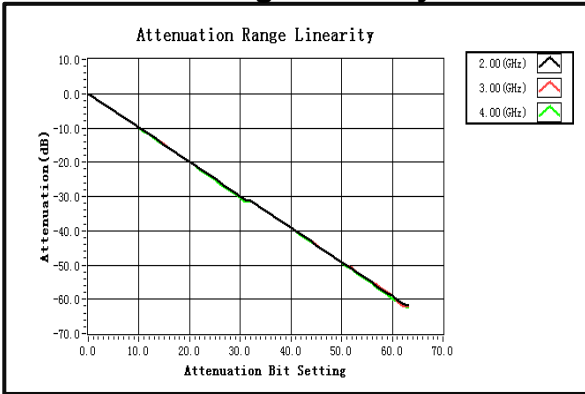


VSWR vs. Attenuation(S22)

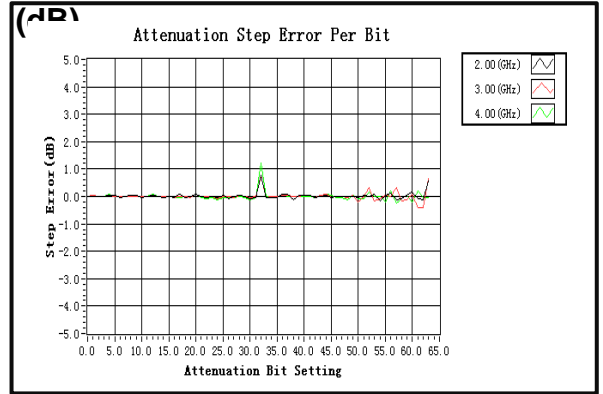




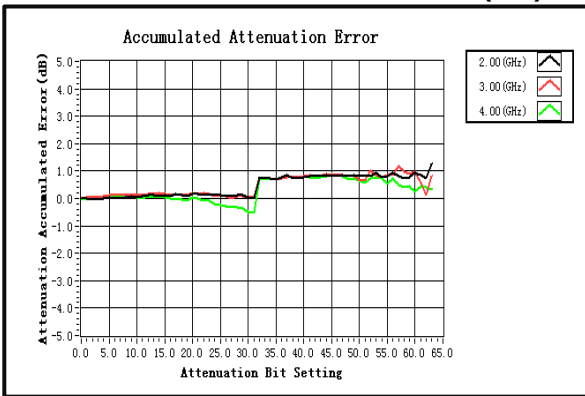
Attenuation Range Linearity



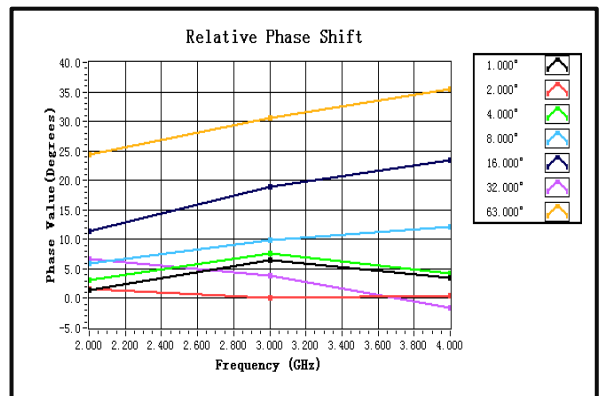
Attenuation Step Error Per Bit



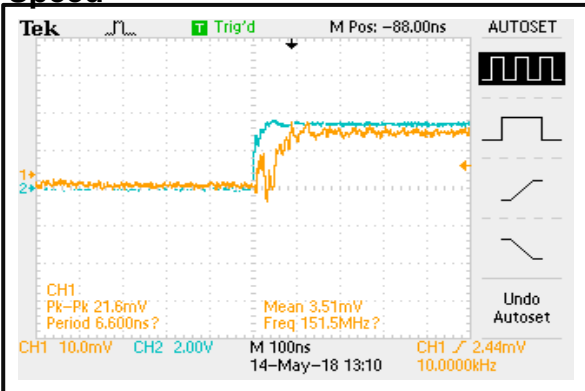
Accumulated Attenuation Error(dB)



Relative Phase Shift



Speed



Speed

