RF BAY
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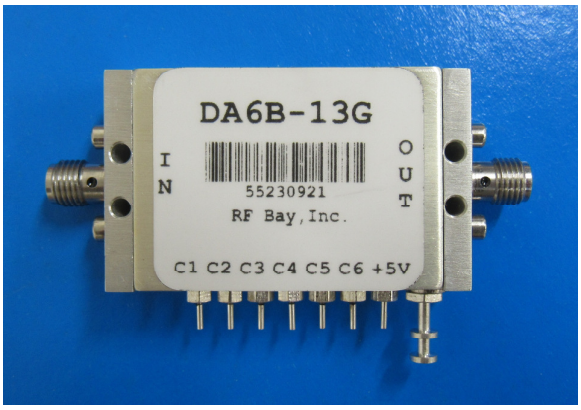
DA6B-13G

DA Series — 9KHz – 13GHz Digital Step Attenuator

Features

- Frequency Range: 9KHz-13GHz
- Attenuation Range: 31.5dB
- Insertion Loss: 2.5dB
- Input $P_{0.1dB}$: +28dBm
- Resolution: 6-Bit
- DC Supply Voltage: +5V
- SMA-female

Photo



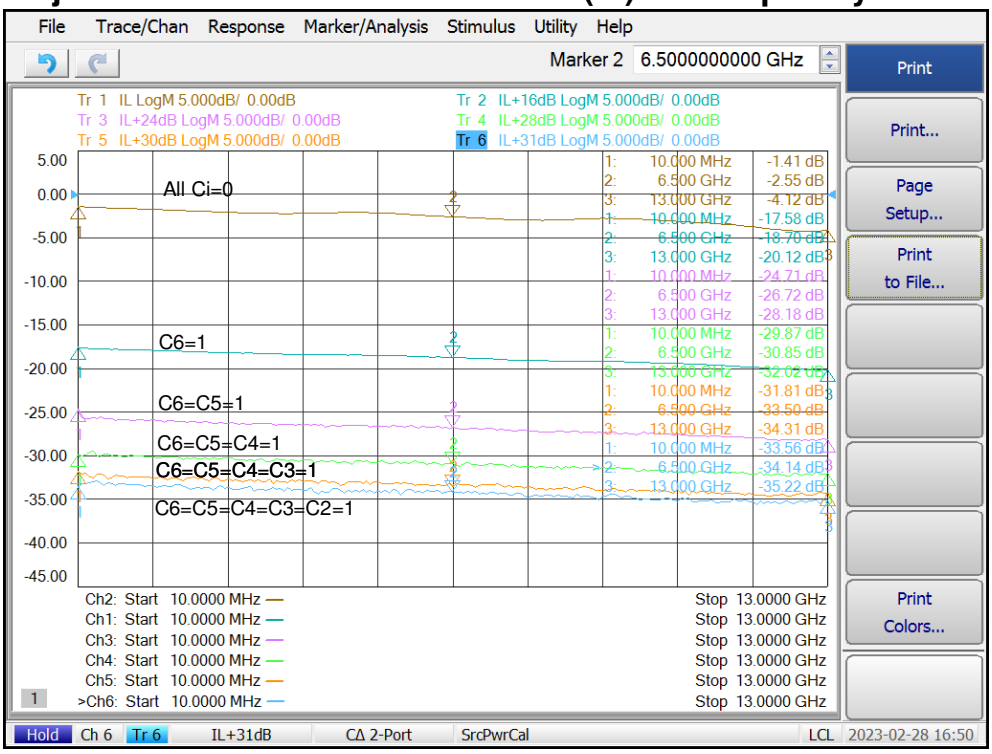
Description

DA6B-13G is a 6-Bit Digital Step Attenuator, for the frequency range from 9KHz to 13GHz.

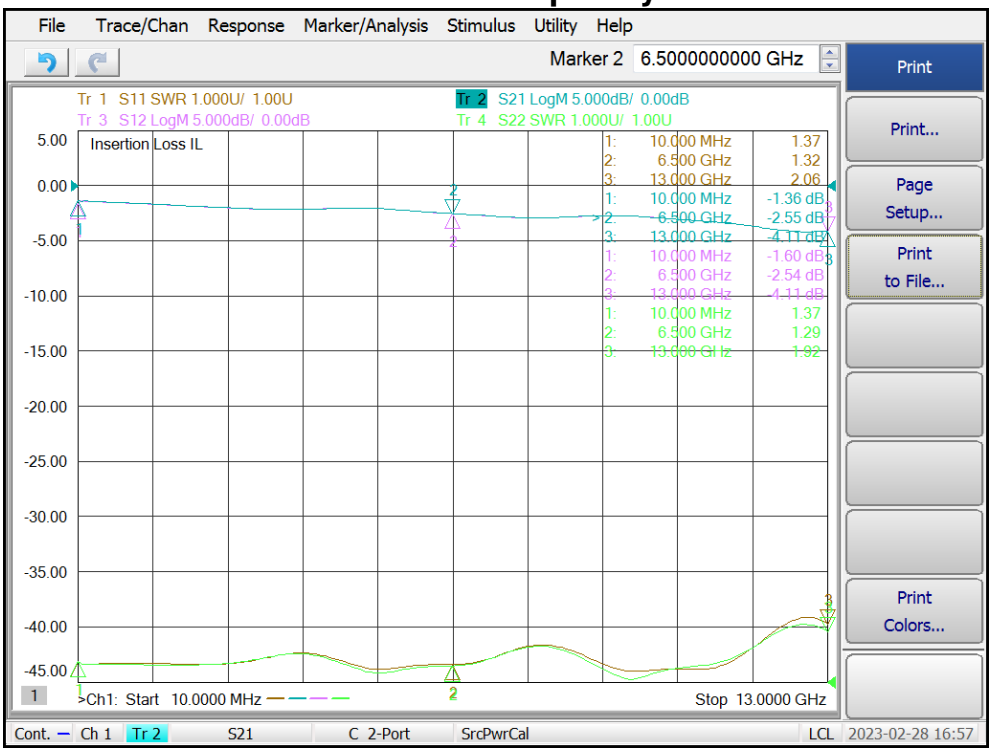
Electrical Specifications @+25 °C, $Z_{in}=Z_{out}=50\ \Omega$, Vsupply = +5VDC

Parameter		Unit	Minimum	Typical	Maximum
Frequency Range		MHz	0.009		13000
Attenuation Range		dB		31.5	
Attenuation Step		dB		0.5 to 31.5	
Insertion Loss	F=9KHz	dB			
	F=10MHz	dB		1.5	2.0
	F=6500MHz	dB		2.5	3.0
	F=13000MHz	dB		4.0	4.5
Digital Control Resolution		Bit		6	
Digital Control Logic				TTL/HCMOS	
Input Power $P_{0.1dB}$		dBm	+25	+28	
Input Third Order Intercept IP3		dBm		+50	
RF Rise and Fall Time		µs		0.25	
Switching Time		µs		0.35	0.45
VSWR-Input (S_{11})	F=6500MHz			1.3:1	1.8:1
VSWR-Output (S_{22})	F=6500MHz			1.3:1	1.8:1
DC Power Supply - voltage		V	+4.5	+5	+15
DC Power Supply - current		mA		1	

Major Control State Insertion Loss (IL) vs Frequency



Insertion Loss and VSWR vs Frequency



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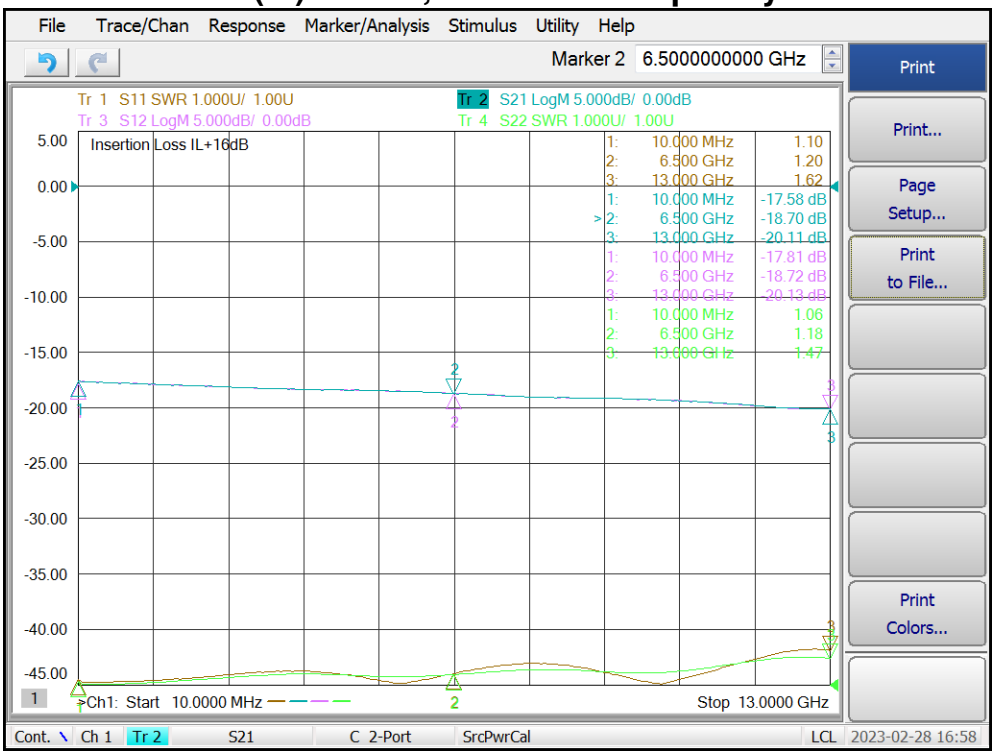
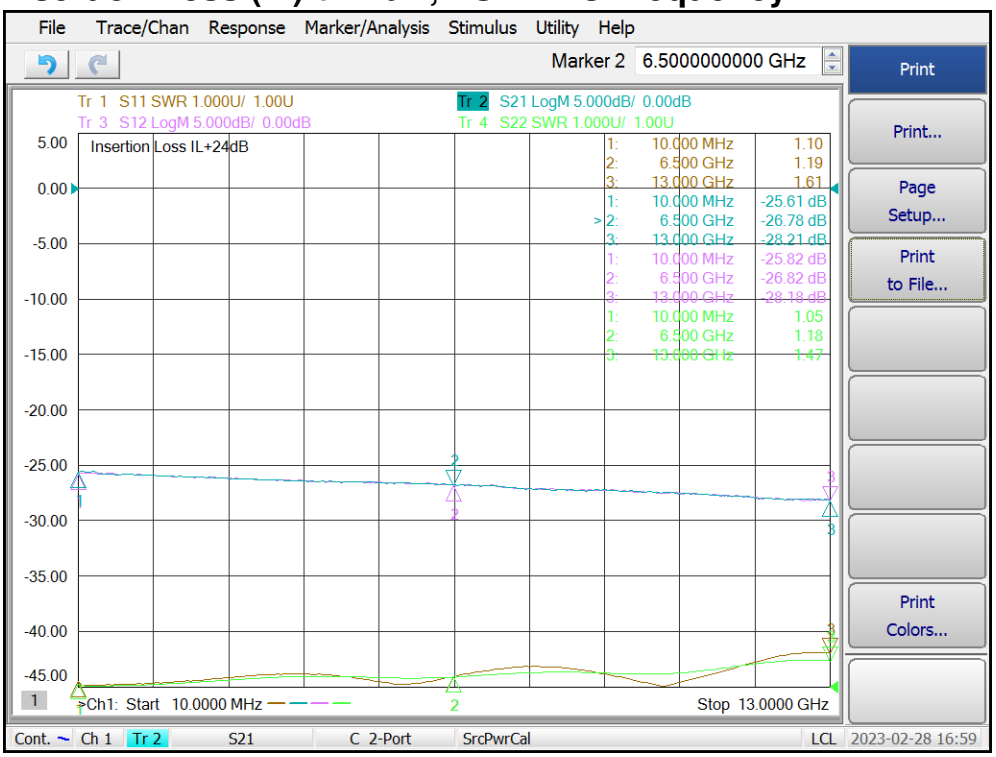
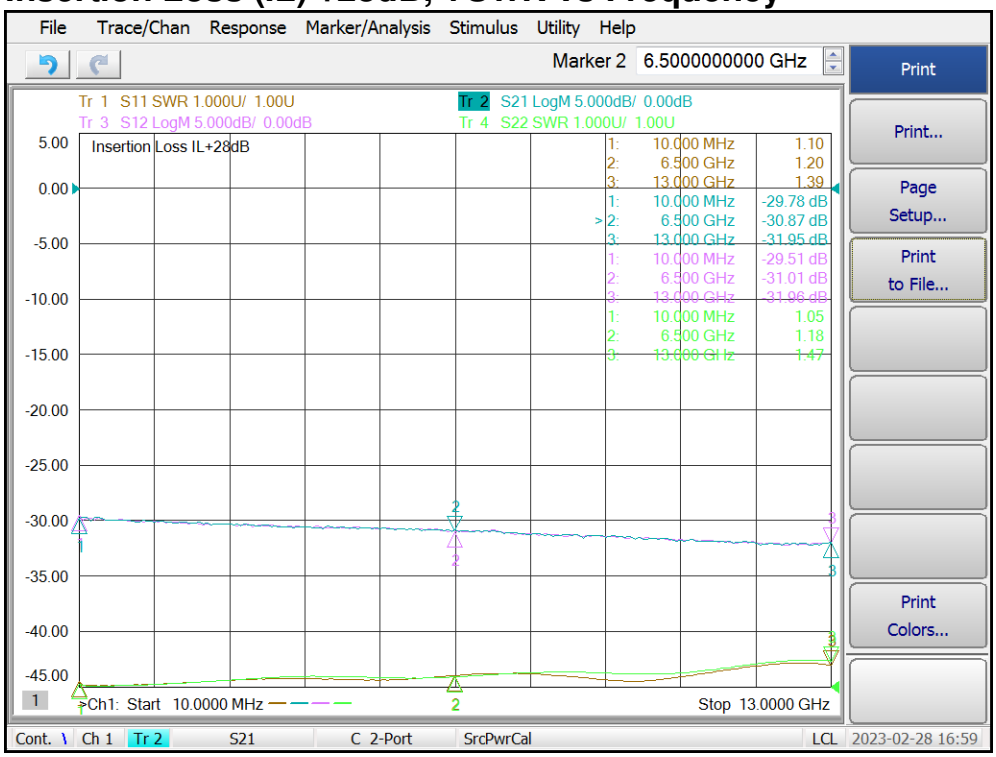
Insertion Loss (IL) +16dB, VSWR vs Frequency



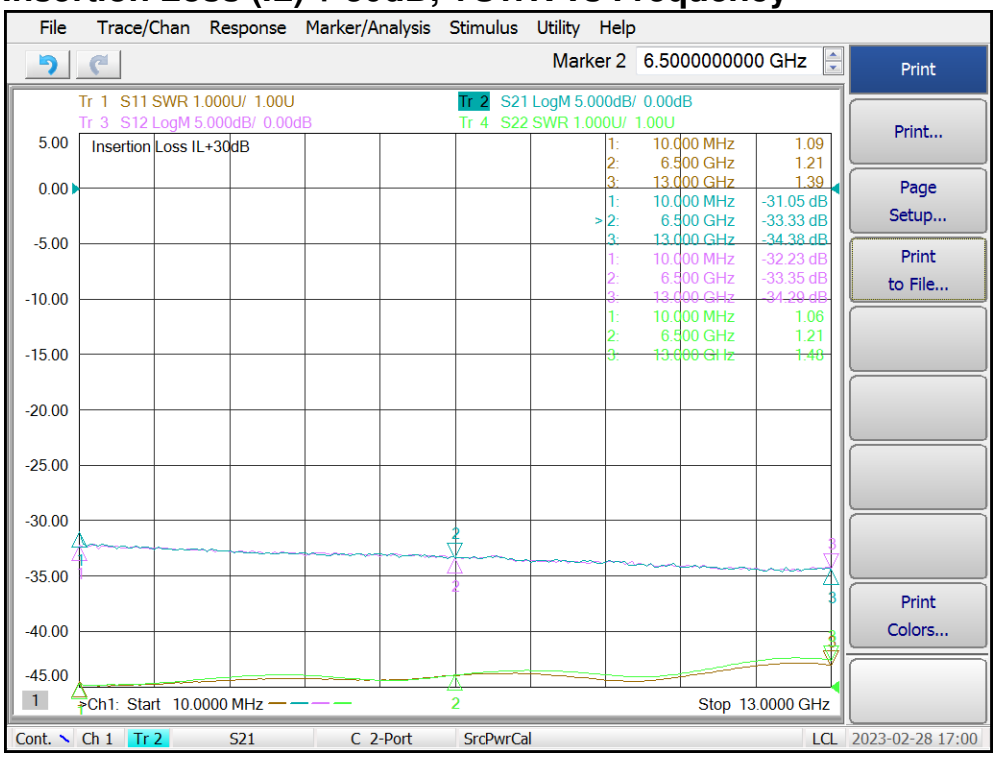
Insertion Loss (IL) + 24dB, VSWR vs Frequency



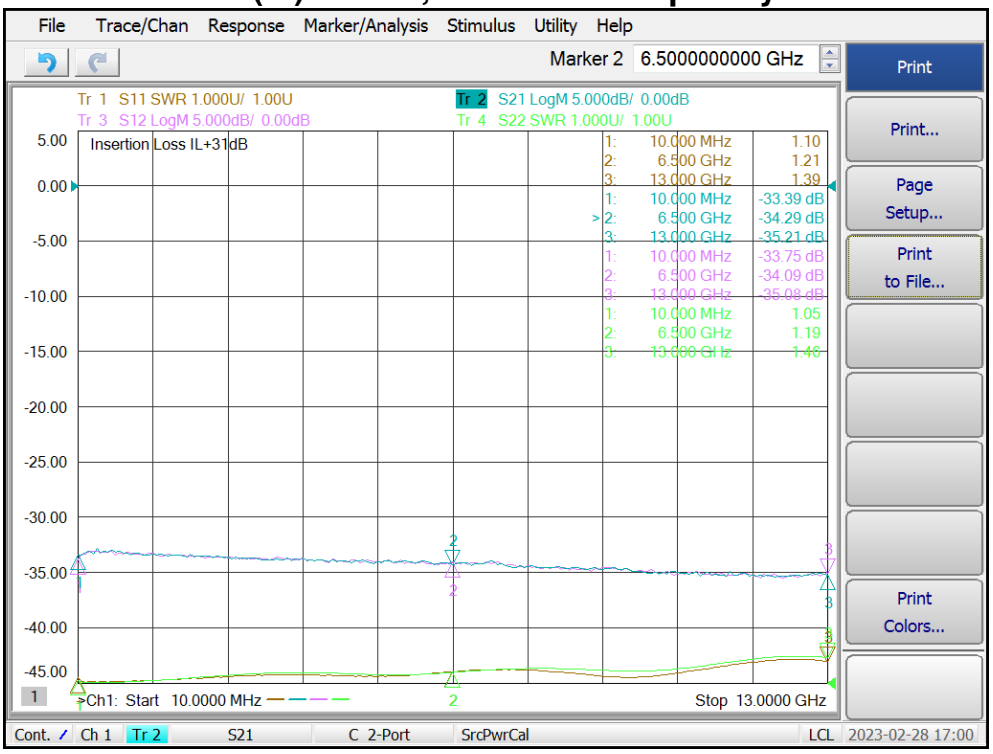
Insertion Loss (IL) +28dB, VSWR vs Frequency



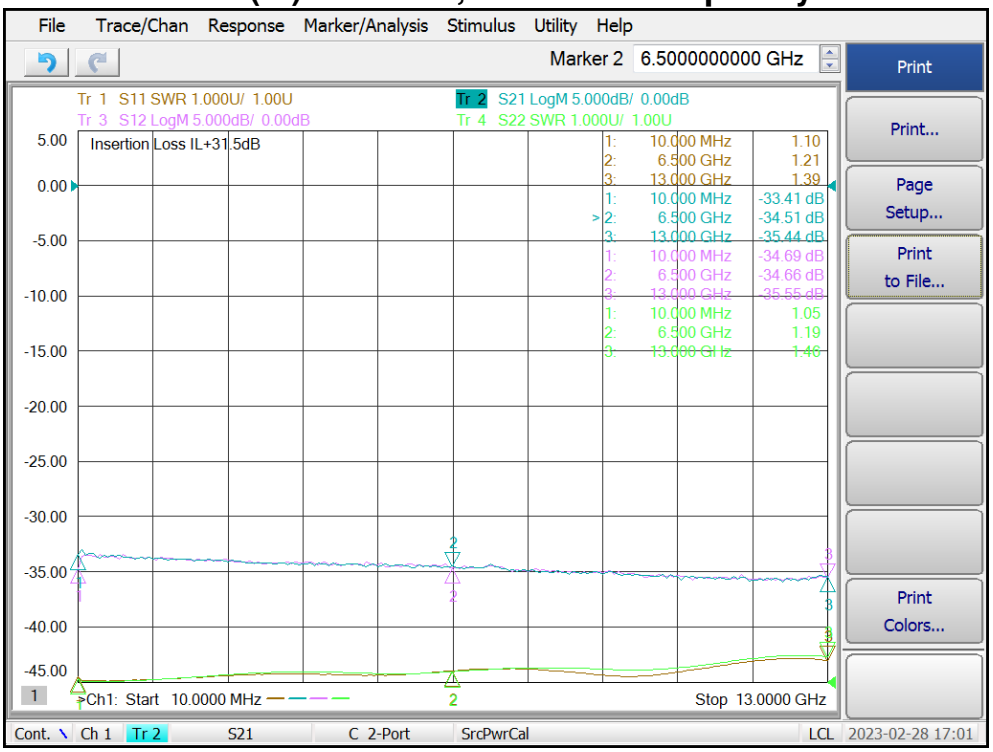
Insertion Loss (IL) + 30dB, VSWR vs Frequency



Insertion Loss (IL) +31dB, VSWR vs Frequency



Insertion Loss (IL) + 31.5dB, VSWR vs Frequency



Parallel Control Setting Table

Control Logic Input						Attenuation Input-Output
C6 (MSB)	C5	C4	C3	C2	C1 (LSB)	
0	0	0	0	0	0	Reference IL
0	0	0	0	0	1	IL+0.5dB
0	0	0	0	1	0	IL+1dB
0	0	0	1	0	0	IL+2dB
0	0	1	0	0	0	IL+4dB
0	1	0	0	0	0	IL+8dB
1	0	0	0	0	0	IL+16dB
1	1	1	1	1	1	IL+31.5dB

Control Voltage

Control Logic Input	Bias Condition
1	3.3V to 5.0V ± 0.3V
0	0V ± 0.3V

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Absolute Maximum Ratings

Parameter	Absolute Maximum
DC Supply Voltage	+16V
RF Input Power*	+30dBm
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

***Recommend to use CW Input Power <+28dBm**

ESD Sensitive Material

RoHS (EU)/2015/863 COMPLIANT

CE

Outline