

GC2001

5 TO 2000 MHz TO-8 VOLTAGE CONTROLLED ATTENUATOR MODULE

Typical Values	GC2001
Switching Speed (10 - 90%)	2 μ sec
(0 - 100%)	< 75 μ sec
Attenuation Range	> 25 dB
Low SWR	1.5:1
Excellent Flatness vs. Frequency	\pm 0.5
Standard Size TO-8 Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed		
		0 to 50 °C	-55 to +85 °C	
Frequency Range		5-2100 MHz	5-2000 MHz	5-2000 MHz
Attenuation (Min.)				
5-500 MHz	36 dB	31 dB	30 dB	
5-1000 MHz	30 dB	25 dB	24 dB	
5-2000 MHz	23 dB	20 dB	18 dB	
Insertion Loss (Max.)				
5-500 MHz	2.0 dB	2.5 dB	2.8 dB	
5-1000 MHz	2.0 dB	2.5 dB	3.0 dB	
5-2000 MHz	2.8 dB	3.3 dB	3.8 dB	
SWR (Max.)				
Input/Output				
5-500 MHz	1.5:1	2.0:1	2.0:1	
5-1000 MHz	1.5:1	2.0:1	2.0:1	
5-2000 MHz	1.6:1	2.2:1	2.2:1	
Flatness vs. Freq. (Max.) (Attenuation to 15 dB)				
5-1000 MHz	< \pm 0.5 dB	< \pm 1.0 dB	< \pm 1.2 dB	
5-2000 MHz	< \pm 1.0 dB	< \pm 1.5 dB	< \pm 1.7 dB	
Switching Speed (Max.)				
10 - 90%	2.0 μ sec	4.0 μ sec	—	
0 - 100%	75 μ sec	125 μ sec	—	
Bias Current (Max.)	10 mA	15 mA	15 mA	
Control Voltage	0 to +15 V	0 to +15 V	0 to +15 V	
Control Current (Max.)	5 mA	7 mA	7 mA	

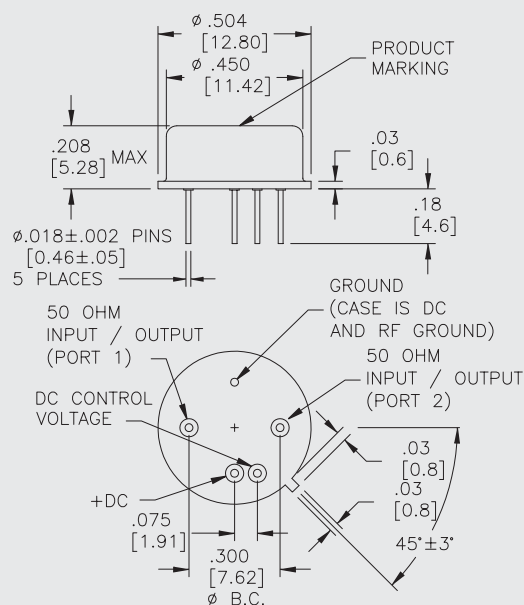
* Measured in a 50-ohm system at +15 Vdc bias.

ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+19 Volts
Maximum Continuous RF Input Power	200 Milliwatts
Maximum Peak Power (3 μ sec Max.)	1.0 Watt
Burn-in Temperature	+125 °C

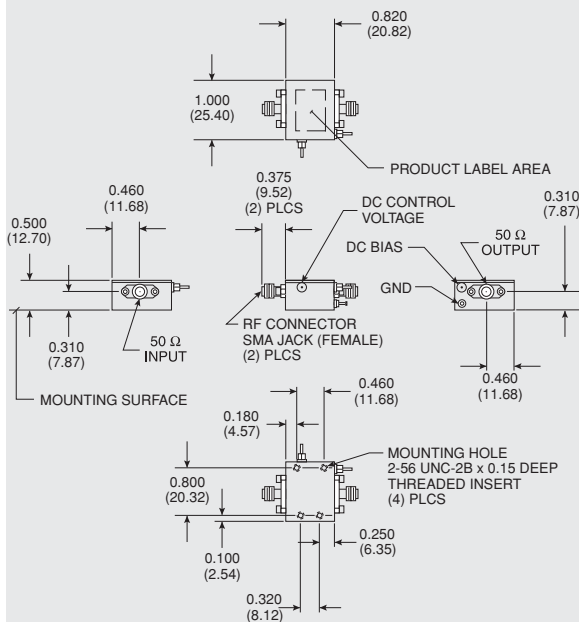
GC2001

TO-8 Package for Attenuators



GC2001C

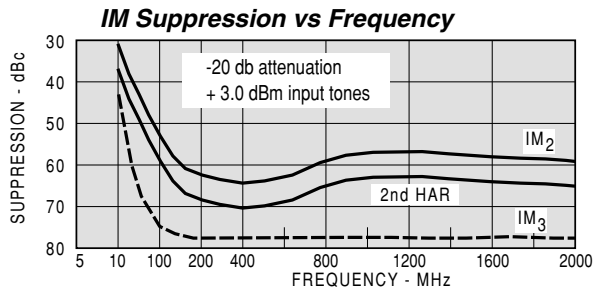
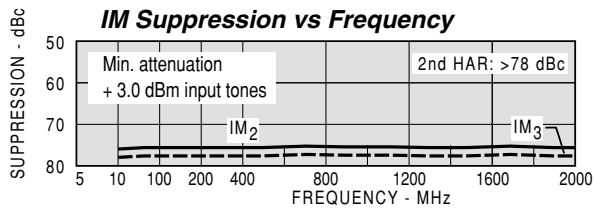
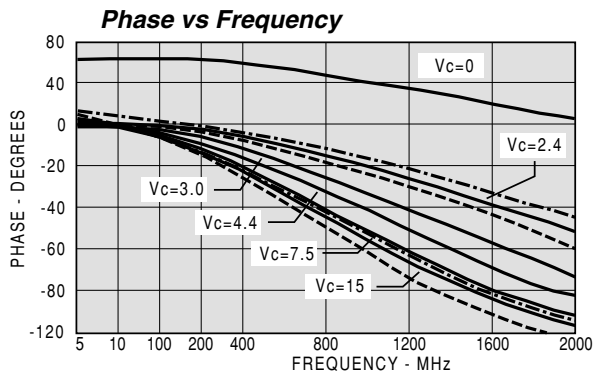
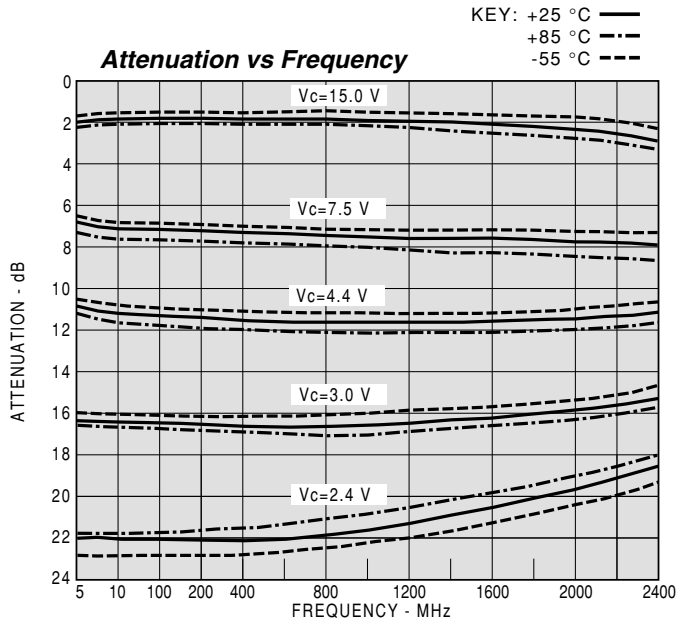
TO-8 SMA Attenuator Case



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



MODEL: GC2001 Vcc = +15V Icc = 9.55 Ma
Vc = 15v

FREQ MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
10	1.20	1.21	-1.5		-1.5
100	1.17	1.17	-1.5		-1.5
500	1.21	1.18	-1.6	0.163	-1.7
1000	1.32	1.19	-1.8	0.160	-1.9
1500	1.50	1.22	-2.1	0.161	-2.2
2000	1.66	1.21	-2.4	0.158	-2.5

MODEL: GC2001 Vcc = +15V Icc = 9.91 Ma
Vc = 3.0v

FREQ MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
10	1.43	1.12	-16.5		-16.5
100	1.47	1.09	-16.6		-16.6
500	1.44	1.09	-16.7	0.096	-16.7
1000	1.51	1.10	-16.4	0.098	-16.4
1500	1.44	1.09	-16.0	0.106	-16.0
2000	1.45	1.05	-15.4	0.114	-15.5

MODEL: GC2001 Vcc = +15V Icc = 9.96 Ma
Vc = 0v

FREQ MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
10	1.25	1.32	-63.4		-63.3
100	1.26	1.22	-47.4		-47.5
500	1.26	1.21	-35.4	0.047	-35.3
1000	1.24	1.20	-29.4	0.093	-29.4
1500	1.24	1.22	-25.7	0.114	-25.8
2000	1.35	1.28	-23.1	0.127	-23.1

MODEL: GC2001 Vcc = +12V Icc = 7.63 Ma
Vc = 12v

FREQ MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
10	1.25	1.26	-1.7		-1.7
100	1.22	1.22	-1.7		-1.7
500	1.26	1.23	-1.9	0.162	-1.9
1000	1.33	1.21	-2.0	0.162	-2.0
1500	1.56	1.21	-2.3	0.160	-2.3
2000	1.71	1.19	-2.6	0.162	-2.6

MODEL: GC2001 Vcc = +12V Icc = 7.88 Ma
Vc 3.0v

FREQ MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
10	1.23	1.15	-13.0		-13.0
100	1.24	1.05	-13.0		-13.0
500	1.24	1.03	-13.2	0.121	-13.1
1000	1.37	1.02	-13.2	0.121	-13.2
1500	1.44	1.04	-13.2	0.123	-13.2
2000	1.56	1.07	-13.0	0.127	-13.1

