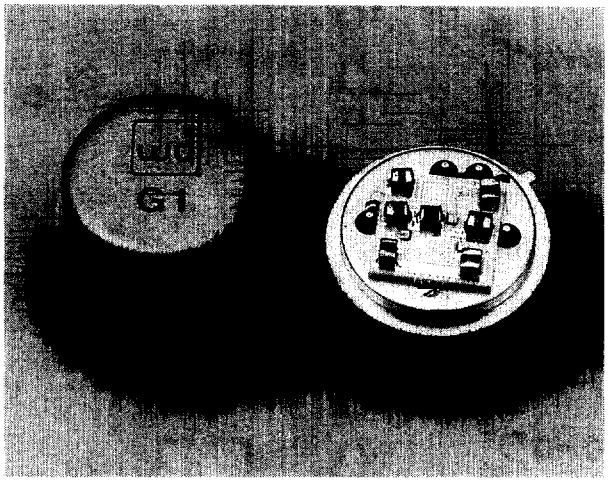
G1 / SMG1



5 TO 2000 MHz TO-8 VOLTAGE-CONTROLLED ATTENUATOR MODULE

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ LOW VSWR: < 1.8:1 (TYP.)
- ◆ LOW INSERTION LOSS: 2.0 dB to 1000 MHz (TYP.)
- ◆ LOW DISTORTION: -25 dBc (TYP.) AT $V_{CONTROL}$ = +15V

Specifications*

Characteristics	Typical	Guaranteed 0° to 50°C	Guaranteed -54° to 85°C
Frequency Range	5-2200 MHz	5-2000 MHz	5-2000 MHz
Maximum Attenuation Available (Min.)			
5-500 MHz	36 dB	31 dB	30 dB
500-1000 MHz	30 dB	25 dB	24 dB
1000-2000 MHz	23 dB	18 dB	17 dB
Insertion Loss (V_{ctrl} = +15 V) (Max.)			
5 - 1000 MHz	2.0 dB	2.5 dB	2.8 dB
1000 - 2000 MHz	2.5 dB	3.0 dB	3.3 dB
VSWR (Worst case in attenuation range)			
5-2000 MHz	<1.8:1	2.2:1	2.2:1
Flatness Over Frequency (Max.)			
(Attenuation = min. to 15 dB, 5-1000 MHz)	±0.5 dB	±1.0 dB	±1.2 dB
Bias Voltage	+15 V	+15 V	+15 V
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.)	4 mA	7 mA	7 mA
Switching Speed (Max.)			
10% - 90%	60 µsec	120 µsec	140 µsec
0% - 100%	75 µsec	125 µsec	140 µsec

*Measured in a 50-ohm system at +15.0 Vdc unless otherwise specified.

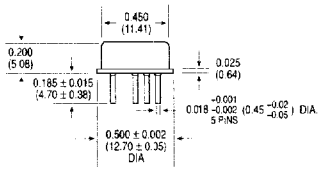
Absolute Maximum Ratings

Storage Temperature ..... -62°C to +125°C
Maximum Case Temperature ..... +125°C
Maximum DC Voltage ..... +18 Volts
Maximum Continuous RF Input Power ..... +20 dBm
Maximum Short Term RF Input Power (1 Minute Max.) ..... 200 Milliwatts
Maximum Peak Power ..... 1 Watt (3 µsec Max.)
"S" Series Burn-In Temperature (Case) ..... +125°C

Weight approximately 2.27 grams (0.08 oz.) max.

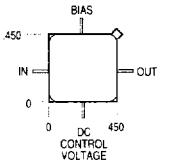
Outline Drawing

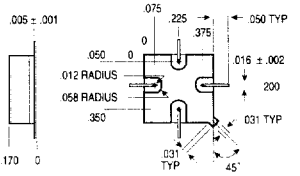
G1



DIMENSIONS ARE IN INCHES (MILLIMETERS)
±.005 (.13) UNLESS OTHERWISE SPECIFIED

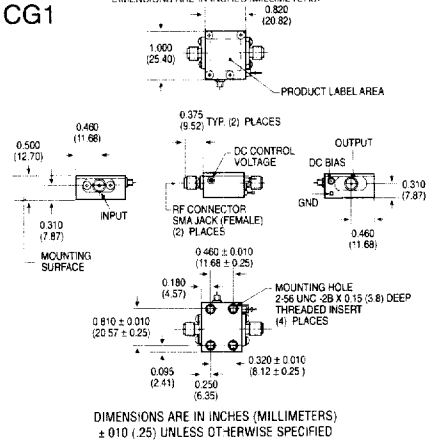
SMG1





DIMENSIONS ARE IN INCHES (MILLIMETERS)
±.010 (.25) UNLESS OTHERWISE SPECIFIED

CG1



DIMENSIONS ARE IN INCHES (MILLIMETERS)
± 010 (.25) UNLESS OTHERWISE SPECIFIED

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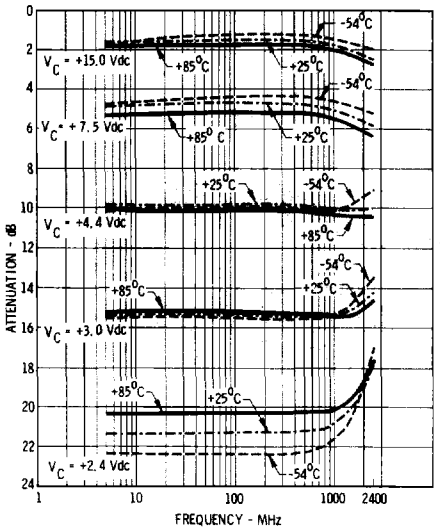
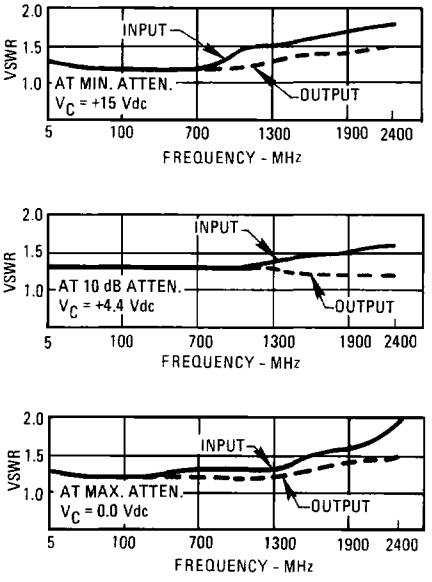
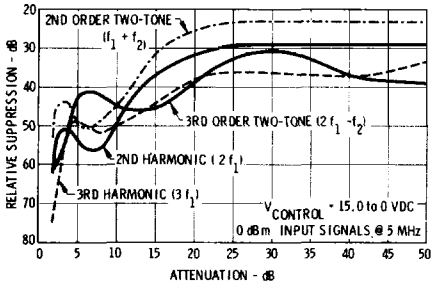
Attenuation vs. Frequency



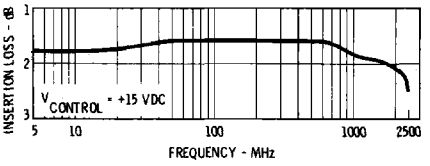
VSWR vs. Frequency



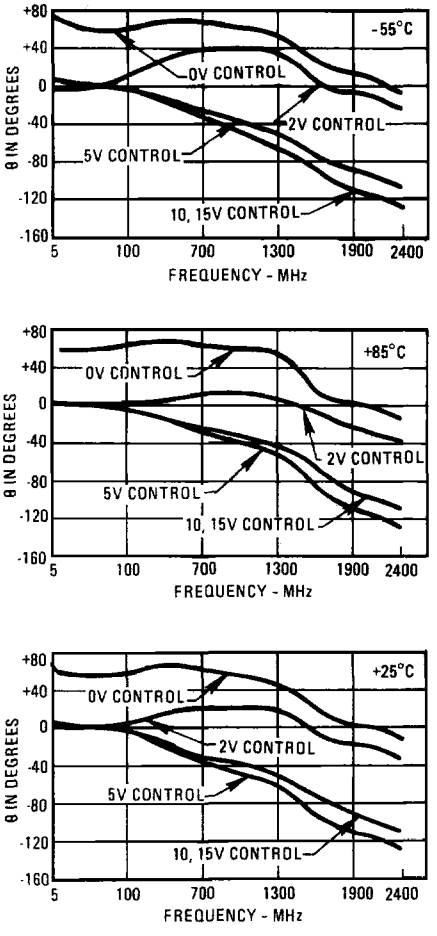
Distortion Products



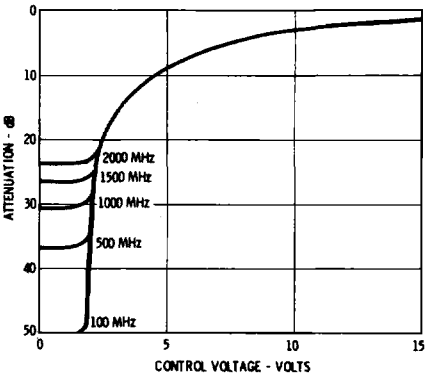
Insertion Loss vs. Frequency at $V_{CONTROL}$ = 15 V



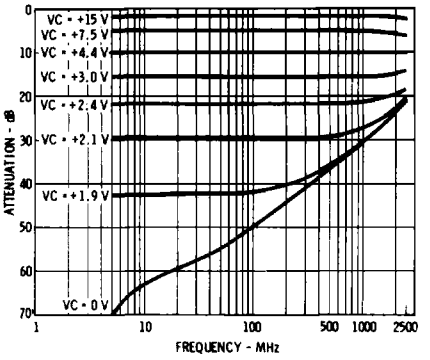
Phase vs. V_{CTL} vs. Frequency vs. Phase of the Moon



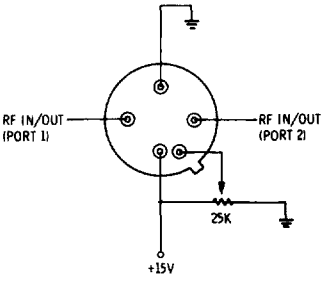
Attenuation vs. Control Voltage



Attenuation vs. V_{CTL} vs. Frequency

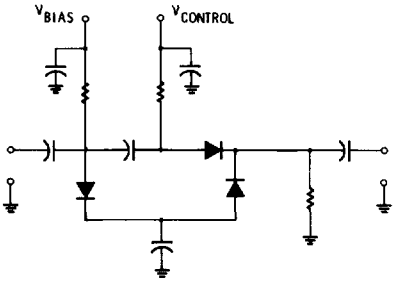


Typical Test Circuit



BOTTOM VIEW

Schematic Diagram



7T PAD ATTENUATOR

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