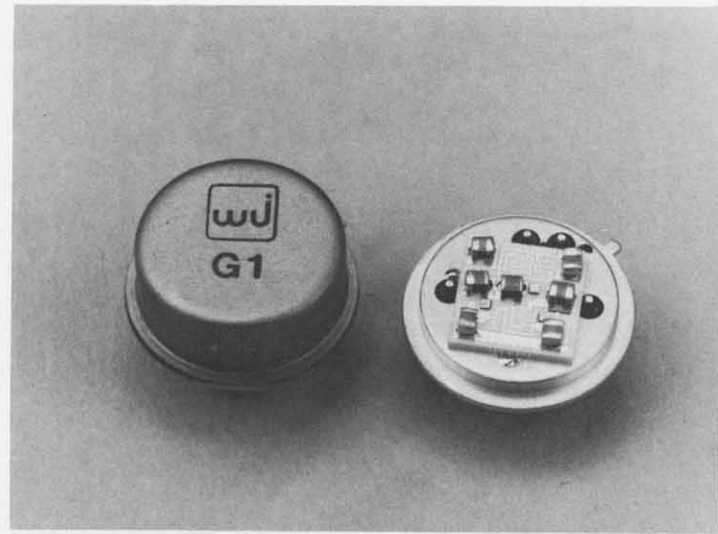


# WJ-G1

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

- LOW VSWR: < 1.5:1 TYP.
- LOW INSERTION LOSS:  
2.0 dB TO 1000 MHz
- LOW DISTORTION: TYP. +25 dBm  
RELATIVE SUP. INTERCEPT  
POINT AT V CONTROL = +15 V



### Guaranteed Specifications\*

Characteristic	Typ.	Min./Max.
<b>Frequency Range</b>		5 MHz to 2000 MHz
<b>Maximum Attenuation Available</b>		
5-500 MHz	36 dB	31 dB (Min.)
5-1000 MHz	30 dB	25 dB (Min.)
5-2000 MHz	23 dB	18 dB (Min.)
<b>Insertion Loss (<math>V_o = 15 V</math>)</b>		
5-1000 MHz	2.0 dB	2.5 dB (Max.)
5-2000 MHz	2.5 dB	3.0 dB (Max.)
<b>VSWR (Worst case in attenuation range)</b>		
5-1000 MHz	$\leq 1.3:1$	1.8:1 (Max.)
5-2000 MHz	$\leq 1.5:1$	2.0:1 (Max.)
<b>Flatness Over Frequency</b> (Min. to 15 dB) (5-1000 MHz)	$\pm 0.5$ dB	$\pm 1.0$ dB
<b>Bias Voltage</b>		+15 V
<b>Bias Current</b>		15 mA (Max.)
<b>Control Voltage</b>		0 V to +15 V
<b>Control Current</b>		7 mA (Max.) 10 to 90% 0 to 100%
<b>Response Time</b>	75 $\mu$ sec	125 $\mu$ sec (Max.)

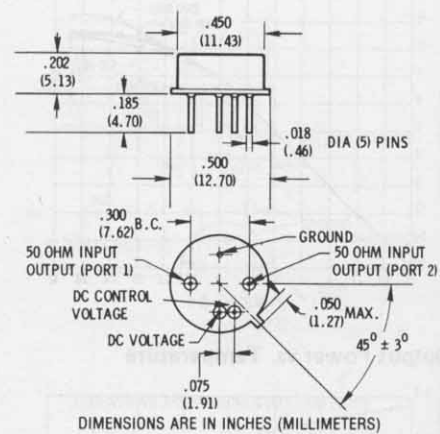
\*Measured in a 50-ohm system, guaranteed at 25°C.

### Absolute Maximum Ratings

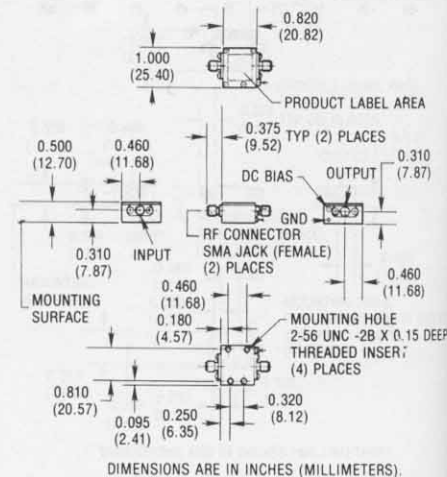
Ambient Operating Temperature	-54°C to +100°C
Storage Temperature	-62°C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage	+18 Volts
Maximum Continuous RF Input Power	100 Milliwatts
Maximum Short Term RF Input Power (1 Minute Max.)	200 Milliwatts
Maximum Peak Power	1 Watt (3 $\mu$ sec Max.)
"S" Series Burn-in Temperature	125°C

### Outline Drawings

#### G1



#### CG1



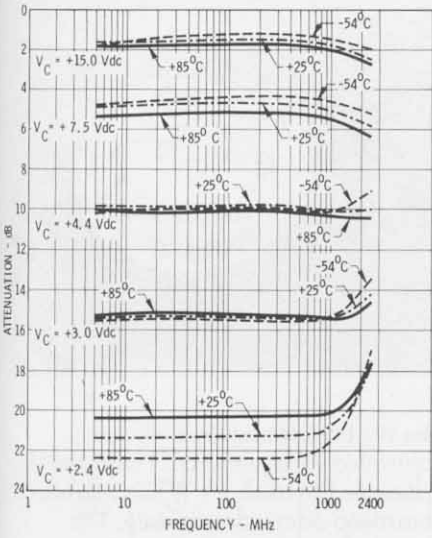
\*WJ-CG1 is standard WJ-G1 installed in miniature SMA connector housing and guaranteed over 0°C to 50°C temperature range. See Cascaded Thin Film Amplifiers.

**Weight** 2.27 grams (0.08 oz.) maximum

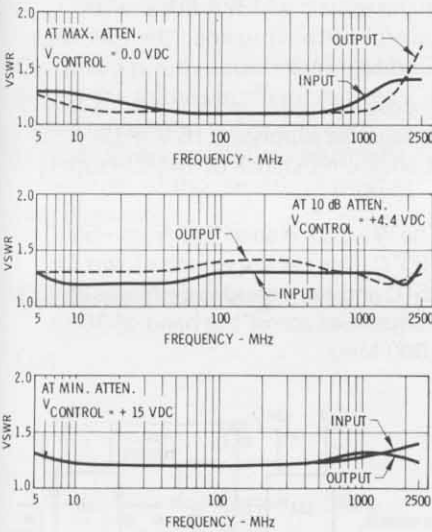
# Typical Performance at 25°C in a 50 Ohm System

( $V_{BIAS} = +15$  Vdc, unless otherwise noted)

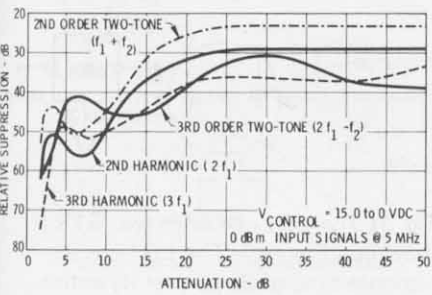
## Attenuation vs. Frequency



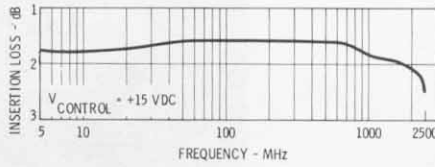
## VSWR vs. Frequency



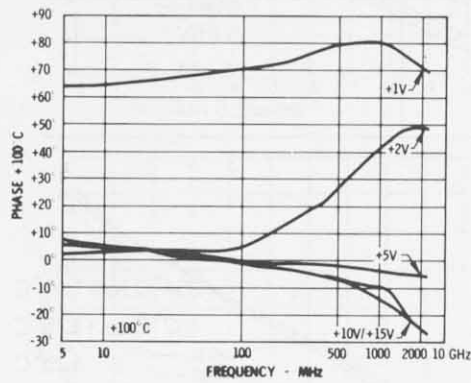
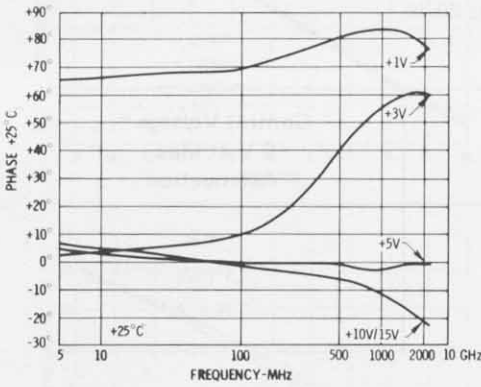
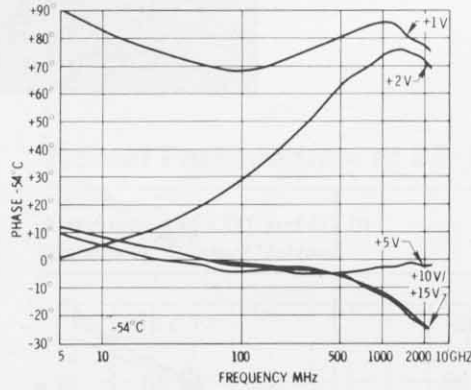
## Distortion Products



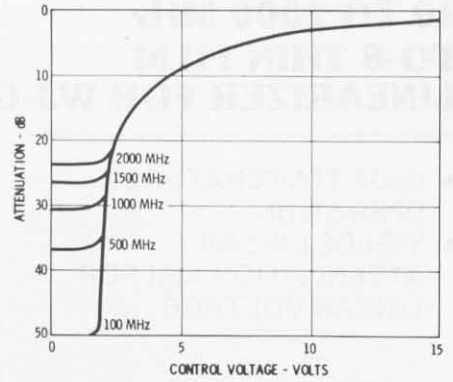
## Insertion Loss vs. Frequency at $V_{CONTROL} = 15$ V



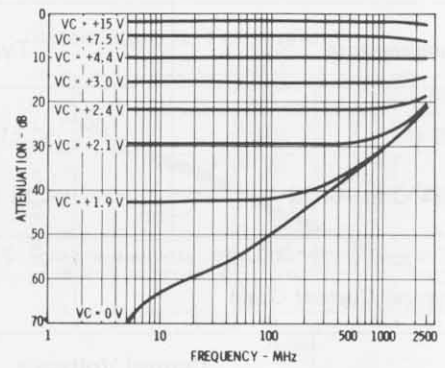
## Phase vs. $V_{CTL}$ vs. Frequency vs. Phase of the Moon



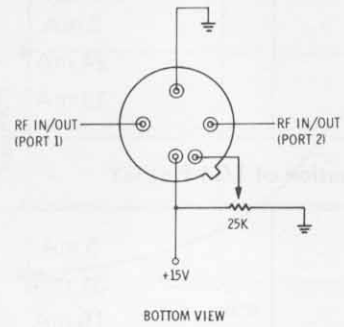
## Attenuation vs. Control Voltage



## Attenuation vs. $V_{CTL}$ vs. Frequency



## Typical Test Circuit



## Schematic Diagram

