

WJ-G40/SMG40

500 TO 4000 MHz TO-8 VOLTAGE-CONTROLLED ATTENUATOR MODULE

- ◆ AVAILABLE IN SURFACE MOUNT
- ◆ WIDE BAND PERFORMANCE
- ◆ EXCELLENT INSERTION LOSS: < 3.0 dB (TYP.)
- ◆ HIGH DYNAMIC RANGE: 30 dB TO 3000 MHz (TYP.)
- ◆ FAST SWITCHING: < 500 nsec 10 to 90% (TYP.)
< 2 μ sec 0 TO 100% (TYP.)

Specifications*

Characteristics	Typical	Guaranteed
Frequency Range (Min.)	500 - 4200 MHz	500 - 4000 MHz
Maximum Attenuation Available (Min.)		
500 - 1000 MHz	> 39 dB	34 dB
1000 - 2000 MHz	> 33 dB	28 dB
2000 - 3000 MHz	> 30 dB	25 dB
3000 - 4000 MHz	> 28 dB	23 dB
Insertion Loss (Max.)		
500 - 2000 MHz	2.0 dB	2.5 dB
2000 - 4000 MHz	3.0 dB	3.5 dB
VSWR (Max.)		
500 - 3000 MHz	$\leq 1.5:1$	2.2:1
3000 - 4000 MHz	$\leq 1.7:1$	2.2:1
Flatness Over Frequency (Max.)		
Attenuation = min. to 20dB		
500 - 3000 MHz	± 0.6 dB	± 1.2 dB
500 - 4000 MHz	± 1.4 dB	± 2.0 dB
Switching Speed (Max.)		
10 to 90%	< 500 nsec	800 nsec
0 to 100%	< 2 μ sec	4.0 μ sec
Bias Voltage		+15V
Bias Current (Max.)	8.0 mA	12 mA
Control Voltage		0V to +15V
Control Current (Max.)	6.0 mA	10 mA

*Measured in a 50 - ohm system, guaranteed at 25°C at +15.0 Vdc Nominal.

Absolute Maximum Ratings

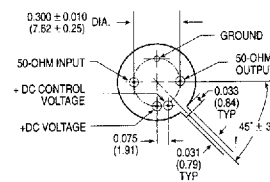
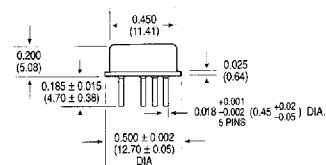
Storage Temperature	-62°C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage	+18 Volts
Maximum Continuous RF Input Power	+20 dBm
Maximum Short Term RF Input Power (1 Minute Max.)	200 Milliwatts
Maximum Peak Power	(3 μ sec Max.) 1 Watt
"S" Series Burn-In Temperature. (Case)	125°C

Weight approximately 2.0 grams (0.07 oz.)



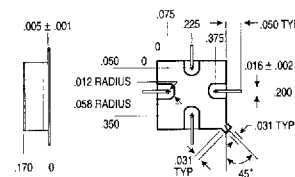
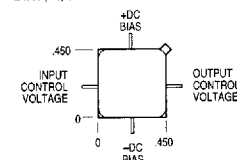
Outline Drawing

G40



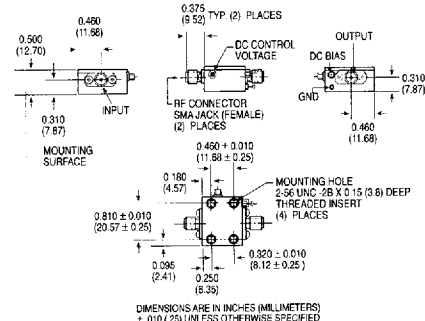
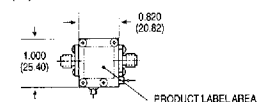
DIMENSIONS ARE IN INCHES (MILLIMETERS)
± .005 (0.13) UNLESS OTHERWISE SPECIFIED

SMG40



DIMENSIONS ARE IN INCHES (MILLIMETERS)
± 0.010 (0.25) UNLESS OTHERWISE SPECIFIED

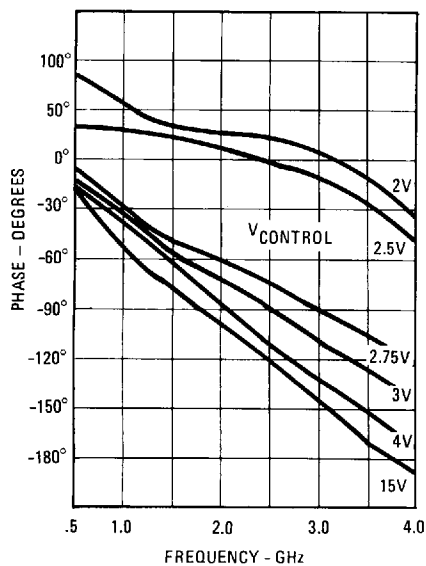
CG40



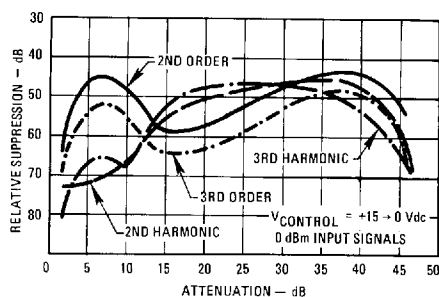
DIMENSIONS ARE IN INCHES (MILLIMETERS)
± 0.010 (0.25) UNLESS OTHERWISE SPECIFIED

Typical Performance at 25°C

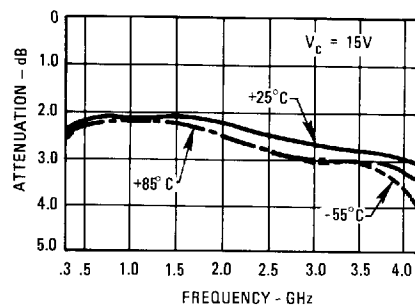
Phase vs. V_{Control} vs. Frequency



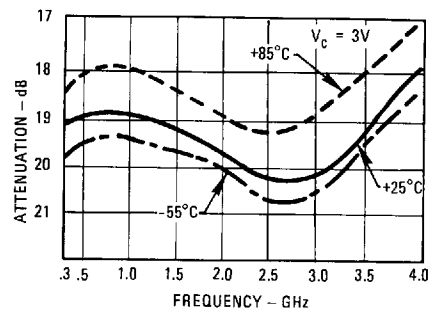
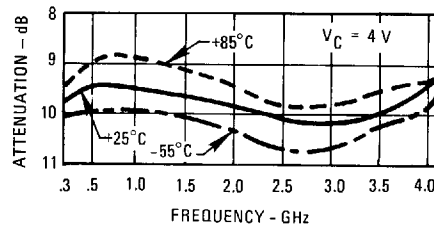
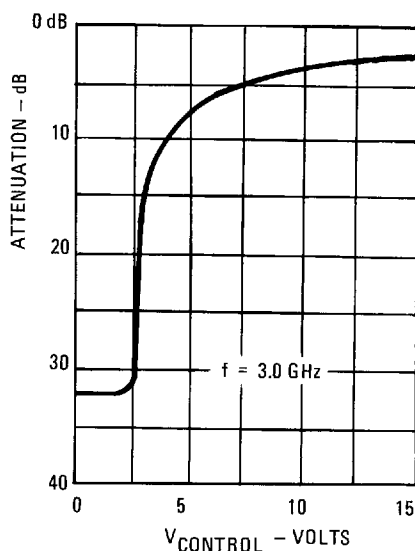
Distortion Products vs. Attenuation at 500 MHz



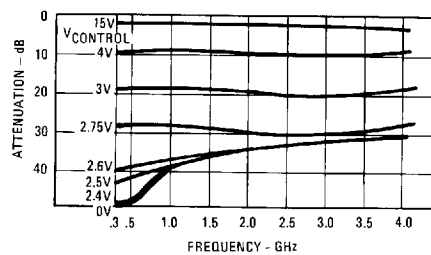
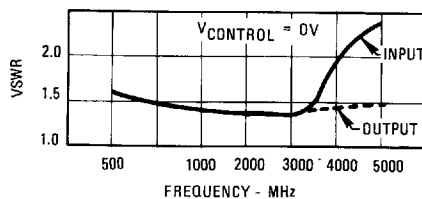
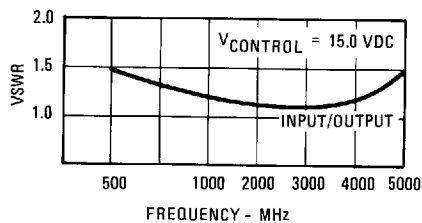
Attenuation vs. V_{Control} vs. Frequency



Attenuation vs. Control Voltage



VSWR



Typical Switching Performance at 25°C

The switching speed of the WJ-G40 is shown in Figure 1 with the horizontal scale set at 2 μ S. The very high speed of this attenuator is apparent and an expanded view of the switching is shown

in Figure 2. Note the WJ-G40 settles in less than 1 μ S.

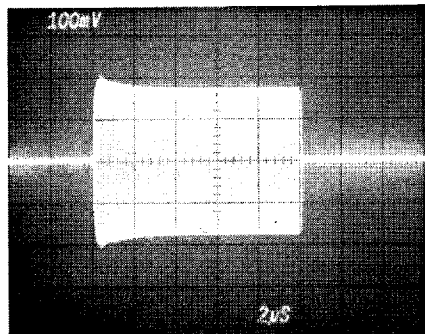


Fig. 1

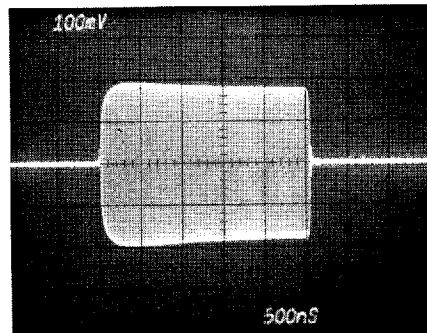


Fig. 2