



# G40 / SMG40



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

- WIDE BAND PERFORMANCE
- EXCELLENT INSERTION LOSS: < 3.0 dB (TYP.)
- HIGH DYNAMIC RANGE: 30 dB TO 3000 MHz (TYP.)
- FAST SWITCHING: < 0.5  $\mu$ sec, 10 TO 90% (TYP.)  
< 2  $\mu$ sec, 0 TO 100% (TYP.)

### Specifications (Rev. Date: 3/02)\*

Characteristic	Typical	Guaranteed	
		0° to 50°C	-54° to +85°C
Frequency	500-4200 MHz	500-4000 MHz	500-4000 MHz
Maximum Attenuation Available (min.)			
500-1000 MHz	> 39 dB	34 dB	33 dB
1000-2000 MHz	> 33 dB	28 dB	27 dB
2000-3000 MHz	> 30 dB	25 dB	24 dB
3000-4000 MHz	> 28 dB	23 dB	22 dB
Insertion Loss			
500-2000 MHz	2.2 dB	3.0 dB	3.5 dB
2000-4000 MHz	2.7 dB	3.5 dB	4.0 dB
VSWR			
500-3000 MHz	< 1.7:1	2.2:1	2.3:1
3000-4000 MHz	< 1.7:1	2.2:1	2.3:1
Flatness Over Frequency (max.) (Attenuation = min. to 15 dB, 500-1000 MHz)			
500-3000 MHz	$\pm$ 0.3 dB	$\pm$ 0.8 dB	$\pm$ 1.0 dB
500-4000 MHz	$\pm$ 1.2 dB	$\pm$ 1.6 dB	$\pm$ 2.0 dB
Switching Speed (max.)			
10% - 90%	< 0.5 $\mu$ sec	0.8 $\mu$ sec	0.9 $\mu$ sec
0% - 100%	< 2 $\mu$ sec	4 $\mu$ sec	5 $\mu$ sec
Bias Voltage	+15 V	+15 V	+15 V
Bias Current (max.)	9.5 mA	12 mA	13 mA
Control Voltage	0 to +15 V	0 to +15 V	0 to +15 V
Control Current (max.)	6 mA	10 mA	11 mA

\*Measured in a 50-ohm system at +15Vdc 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 mW
Maximum Peak Power (3 $\mu$ sec max.)	1 W
“S” Series Burn-in Temperature (Case)	+125°C

### Outline Drawings

Package	Figure	Model
TO-8	BH	G40
Surface Mount	AC	SMG40
SMA Connectorized	CG	CG40

M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. M/A-COM makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does M/A-COM assume any liability whatsoever arising out of the use or application of any product(s) or information.

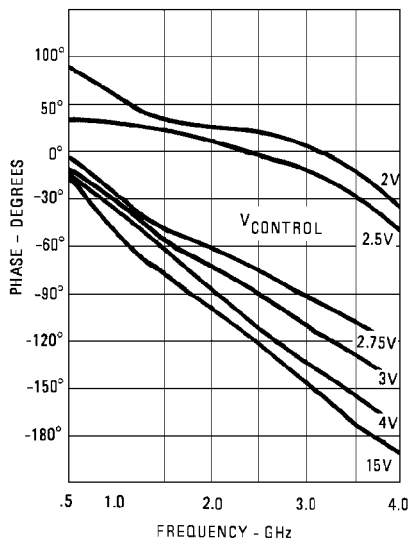
North America: 1-800-366-2266

Visit [www.macom.com](http://www.macom.com) for complete contact and product information.

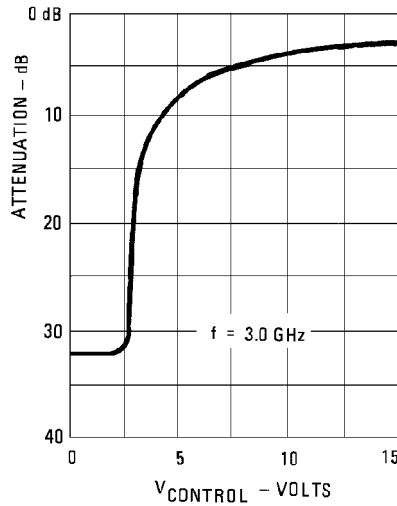


Typical Performance at 25°C

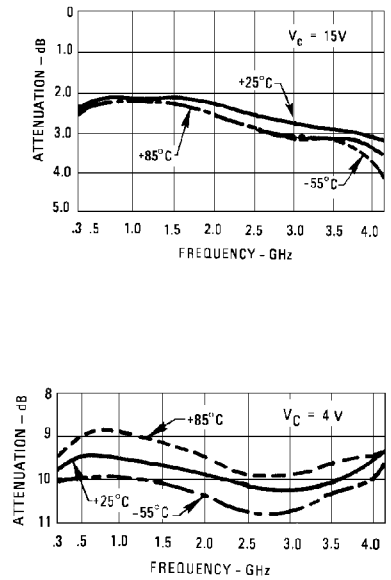
Phase vs.  $V_{CONTROL}$  vs. Frequency



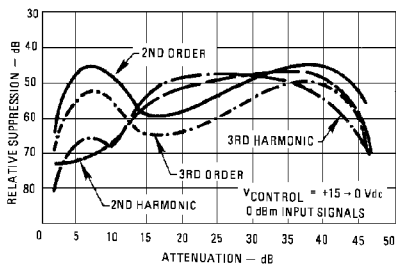
Attenuation vs. Control Voltage



Attenuation vs.  $V_{CONTROL}$  vs. Frequency



Distortion Products vs. Attenuation at 500 MHz



VSWR

