

**Voltage-Controlled Attenuator Module  
5 to 2000 MHz**

**G2 / SMG2**  
V3

**Features**

- AVAILABLE IN SURFACE MOUNT
- LOW VSWR: < 1.5:1 (TYP.)
- LOW INSERTION LOSS: 2.3 dB TO 1000 MHz (TYP.)
- LOW DISTORTION: > 75 dB (TYP.) AT V<sub>control</sub> = +15V

**Description**

The G2 attenuator is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

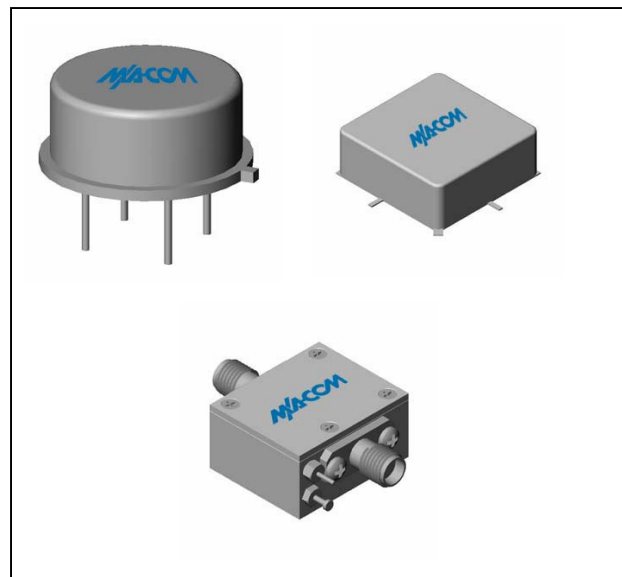
This design uses three pin diodes to provide a non linear attenuation response across a broadband frequency range. Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

**Ordering Information**

Part Number	Package
G2	TO-8
SMG2	Surface Mount
MAAM-007987-000CG2	SMA Connectorized **

\*\* The connectorized version is not RoHS compliant.

**Product Image**



**Electrical Specifications: Z<sub>0</sub> = 50Ω, V<sub>CC</sub> = +15 V<sub>DC</sub>**

Parameter	Units	Typical	Guaranteed	
		25°C	0° to 50°C	-54° to +85°C*
Frequency	MHz	5-2200	5-2000	5-2000
Maximum Attenuation Available (min)	5-500 MHz	34	31	30
	500-1000 MHz	28	25	24
	1000-2000 MHz	22	20	18
Insertion Loss (V <sub>ctrl</sub> = +15 V) (max)	5-1000 MHz	2.3	3.0	3.5
	1000-2000 MHz	2.8	3.5	4.0
VSWR (worst case in attenuation range) 5-2000 MHz	dB	<1.5:1	2.2:1	2.3:1
Flatness Over Frequency (max) (Attenuation = min to 15 dB, 5-2000 MHz)	dB	±0.4	±0.8	±1.0
Switching Speed (max.)	10% - 90%	25	50	60
	0% - 100%	70	125	140
Bias Voltage	Volts	+5	+5	+5
Bias Current (max)	mA	5	6.5	7
Control Voltage	Volts	0 to +15	0 to +15	0 to +15
Control Current (max)	mA	4	6	7

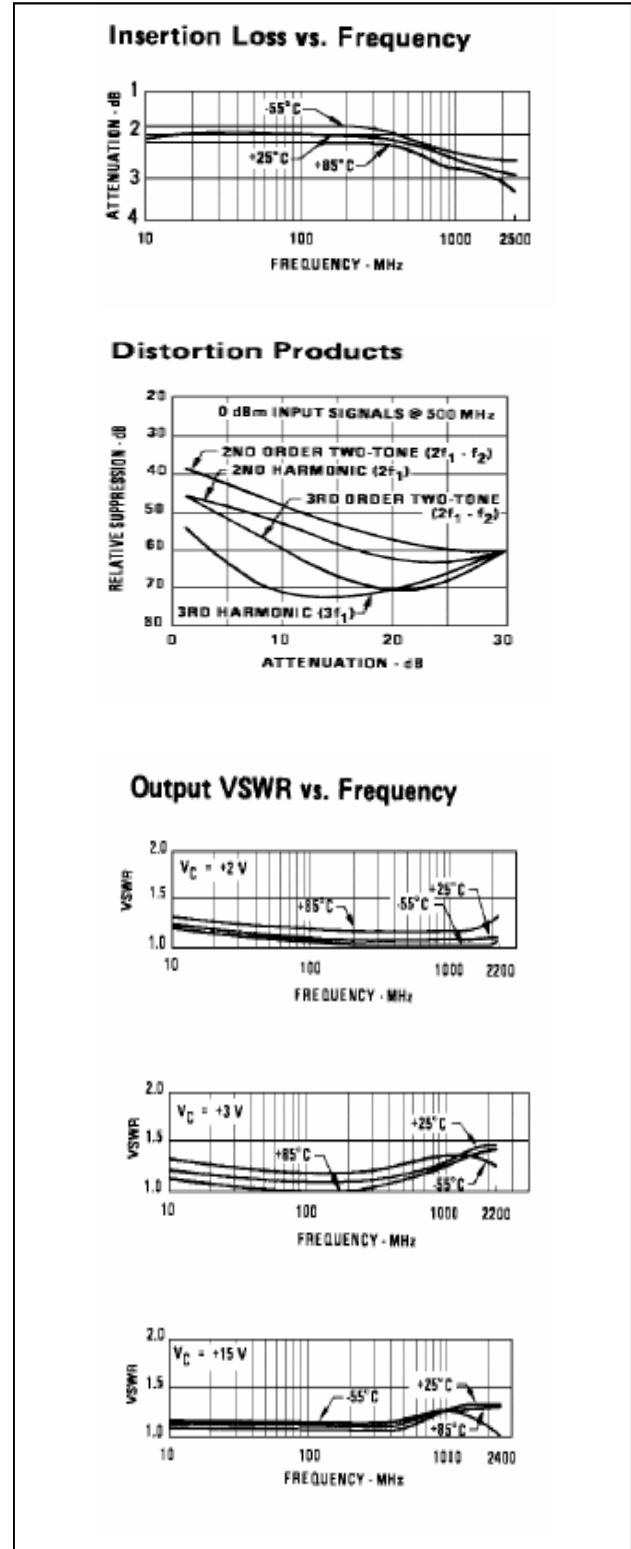
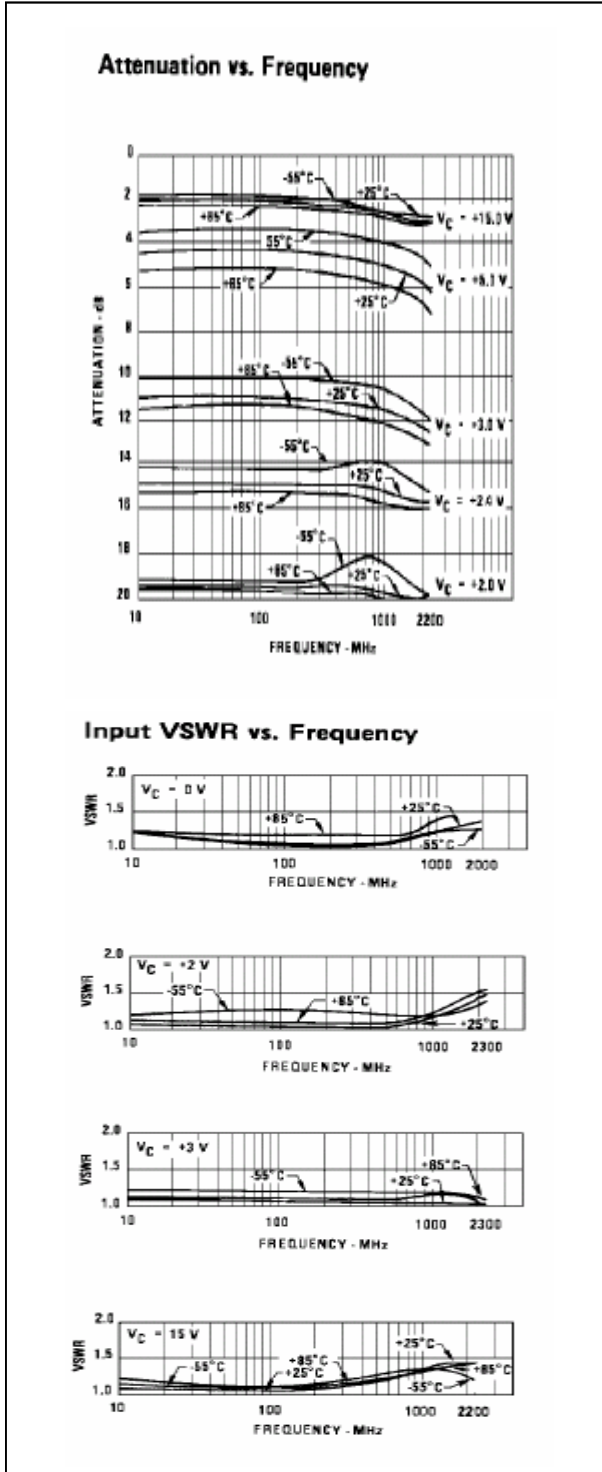
\*Over temperature performance limits for part number CG2, guaranteed from 0°C to +50°C only.

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**Typical Performance Curves at +25°C**



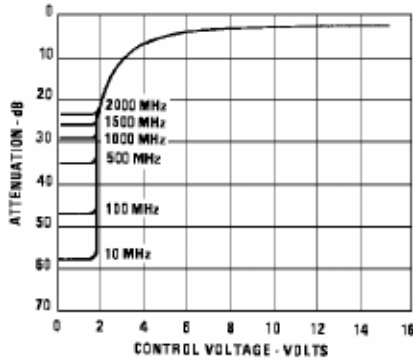
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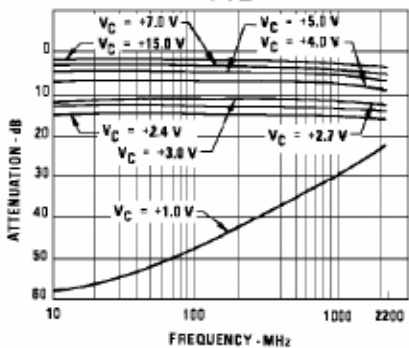
V3

**Typical Performance Curves at +25°C**

**Attenuation vs. Control Voltage**



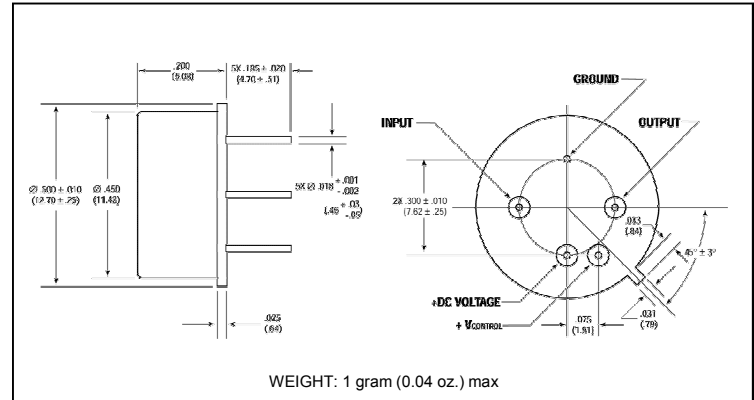
**Attenuation vs.  $V_{CTL}$  vs. Frequency**



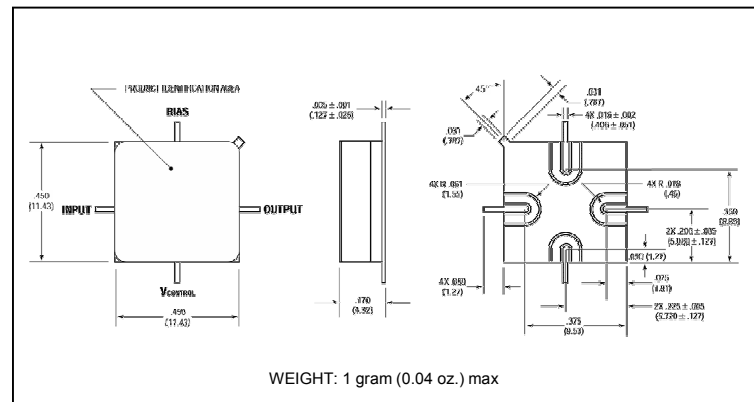
**Absolute Maximum Ratings**

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage	+18 V
Maximum DC Bias Voltage	+10 V
Maximum Short Term RF Input power (1 minute max.)	200 mW
Maximum Peak Power (3 μsec max.)	1 W
"S" Series Burn-In Temperature (case)	+125°C

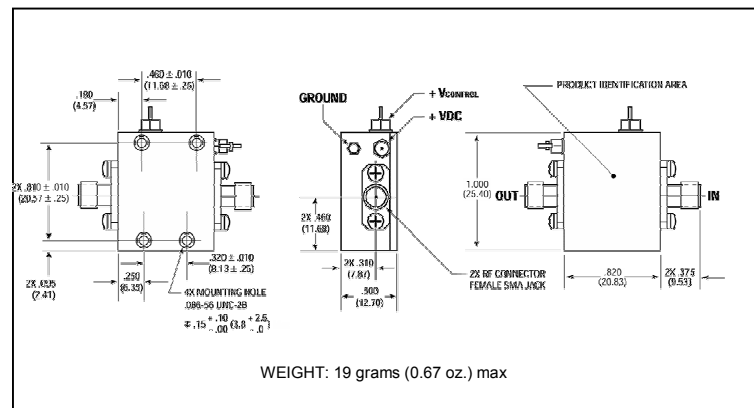
**Outline Drawing: TO-8 \***



**Outline Drawing: Surface Mount \***



**Outline Drawing: SMA Connectorized \***



\* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.