

Voltage-Controlled Attenuator Module 100 to 2000 MHz

Rev. V3

Features

- FAST SWITCHING: < 0.2 μsec, 10 TO 90% (TYP.)
 < 1 μsec, 0 TO 100% (TYP.)
- HIGH DYNAMIC RANGE: 40 dB TO 1000 MHz (TYP.)
- LOW VSWR: 1.4:1 (TYP.)

Description

The G30 attenuator is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

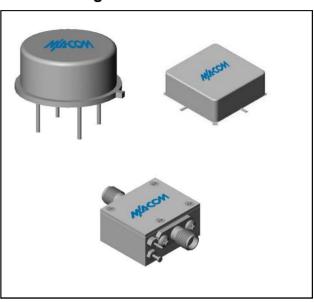
This design uses three pin diodes to provide a non linear attenuation response across a broadband frequency range. Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

Ordering Information

Part Number	Package	
G30	TO-8	
SMG30	Surface Mount	
CG30 **	SMA Connectorized	

^{**} The connectorized version is not RoHs compliant.

Product Image



Electrical Specifications: $Z_0 = 50\Omega$, $V_{CC} = +15 V_{DC}$

Parameter	Units	Typical	Guaranteed	
		25°C	0° to 50°C	-54° to +85°C*
Frequency	MHz	5-2200	100-2000	100-2000
Maximum Attenuation Available (min) 100-500 MHz 500-1000 MHz 1000-2000 MHz	dB dB dB	>50 >44 >38	40 35 30	37 32 27
Insertion Loss (Vctrl = +15 V) (max) 100-500 MHz 500-1000 MHz 1000-2000 MHz	dB dB dB	<2.1 <2.3 <3.0	2.8 3.0 3.5	3.0 3.2 3.8
VSWR (worst case in attenuation range) 0-25 dB Attenuation >25 dB Attenuation	dB dB	1.4:1 <1.7:1	2.0:1 2.2:1	2.0:1 2.2:1
Flatness Over Frequency (max) (Attenuation = min to 15 dB, 100-1000 MHz) 100-1000 MHz 1000-2000 MHz	dB dB	±0.5 ±1.0	±1.0 ±1.5	±1.0 ±1.7
Switching Speed (max.) 10% - 90% 0% - 100%	µsec µsec	<0.2 <1	0.4 2	0.6 3
Bias Voltage	Volts	+15	+15	+15
Bias Current (max)	mA	7	10	12
Control Voltage	Volts	0 to +15	0 to +15	0 to +15
Control Current (max)	mA	7	10	10

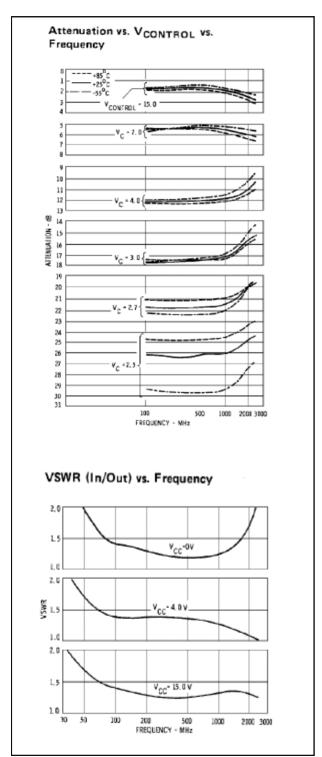
^{*}Over temperature performance limits for part number CG30, guaranteed from 0°C to +50°C only.

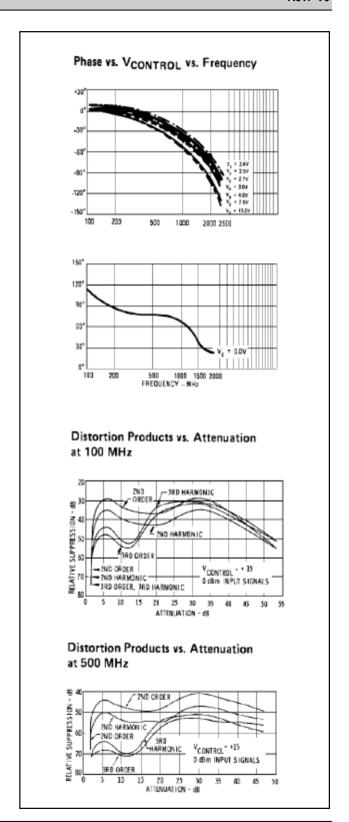


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Typical Performance Curves at +25°C



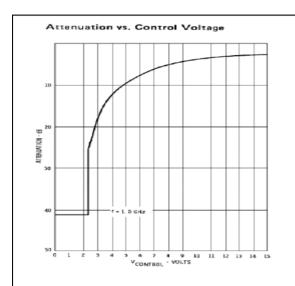




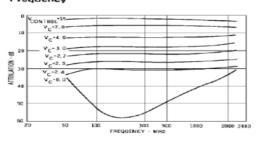
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Typical Performance Curves at +25°C



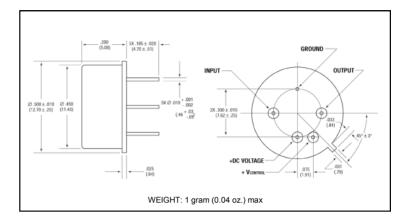
Attenuation vs. V_{CONTROL} vs. Frequency



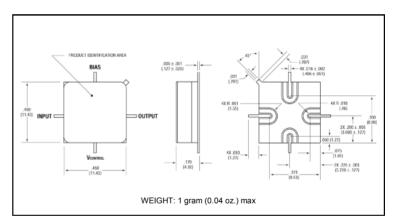
Absolute Maximum Ratings

Parameter	Absolute Maxi- mum	
Storage Temperature	-62°C to +125°C	
Maximum Case Temperature	125°C	
Maximum DC Voltage	+18 V	
Maximum DC Bias Voltage	+20 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	

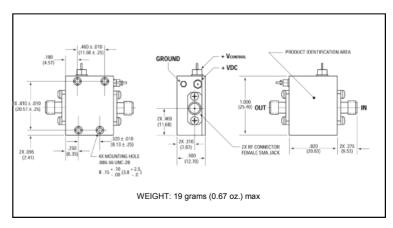
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount



Outline Drawing: SMA Connectorized *



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

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G30/SMG30



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