

Voltage-Controlled Attenuator Module 500 to 4000 MHz

Rev. V4

Features

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

Description

The G40 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	
G40	TO-8	
SMG40	Surface Mount	
CG40 **	SMA Connectorized	

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

^{*}Over temperature performance limits for part number CG40, guaranteed from 0°C to +50°C only

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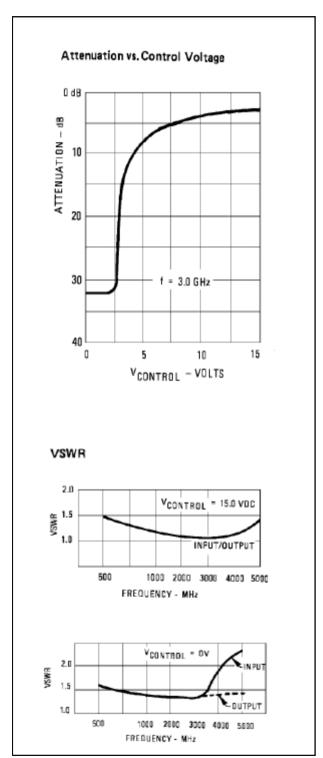
^{**} The connectorized version is not RoHs compliant.

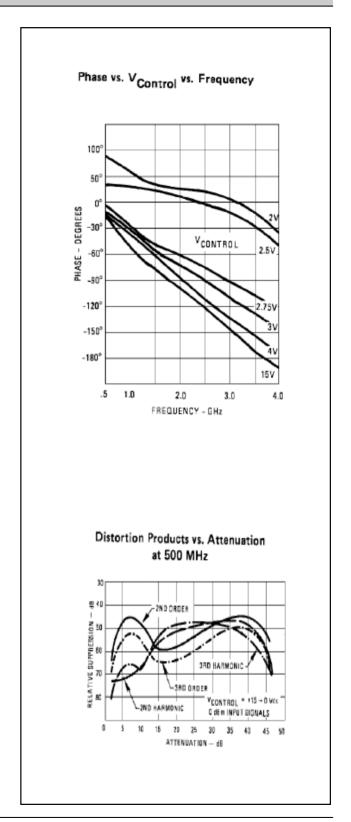


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Typical Performance Curves at +25°C



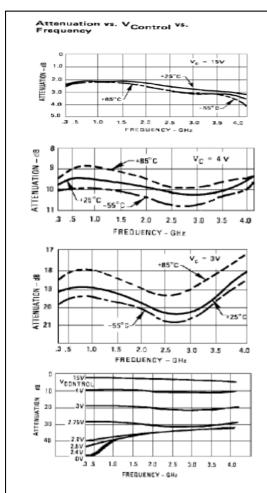




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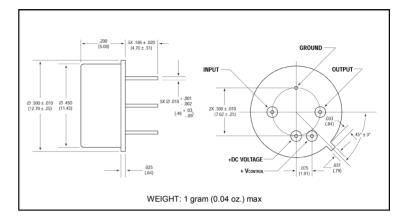
Typical Performance Curves at +25°C



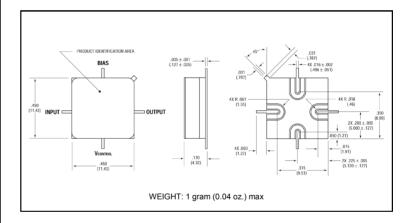
Absolute Maximum Ratings

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	

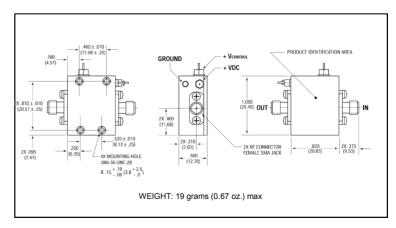
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount ³



Outline Drawing: SMA Connectorized *



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

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G40/SMG 40



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