

GC2530

100 TO 2500 MHz TO-8 VOLTAGE CONTROLLED ATTENUATOR MODULE

Typical Values	GC2530
Fast Switching (10 - 90%)	200 ηsec
(0 - 100%)	700 ηsec
High Attenuation Range	> 35 dB
Low SWR	< 1.5:1
Excellent Flatness vs. Frequency	± 0.5
Standard Size TO-8 Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency Range	50-2600 MHz	100-2500 MHz	100-2500 MHz
Attenuation (Min.)			
100-500 MHz	52 dB	40 dB	37 dB
500-1000 MHz	43 dB	35 dB	32 dB
1000-2000 MHz	38 dB	30 dB	27 dB
2000-2500 MHz	35 dB	28 dB	25 dB
Insertion Loss (Max.)			
100-500 MHz	2.0 dB	2.8 dB	3.0 dB
500-1000 MHz	2.3 dB	2.8 dB	3.2 dB
1000-2000 MHz	2.8 dB	3.3 dB	3.8 dB
2000-2500 MHz	3.0 dB	3.5 dB	4.2 dB
SWR (Max.)			
Input/Output			
100-1000 MHz	1.2:1	1.8:1	1.8:1
1000-2000 MHz	1.2:1	2.0:1	2.0:1
2000-2500 MHz	< 1.3:1	2.2:1	2.2:1
Flatness vs. Freq. (Max.) (Attenuation to 25 dB)			
100-1000 MHz	< ±0.5 dB	< ±1.0 dB	< ±1.0 dB
1000-2500 MHz	< ±1.0 dB	< ±1.5 dB	< ±1.7 dB
Switching Speed (Max.)			
10 - 90%	200 ηsec	400 ηsec	—
0 - 100%	700 ηsec	1.0 μsec	—
Bias Current (Max.)	7 mA	10 mA	12 mA
Control Voltage	0 to +15 V	0 to +15 V	0 to +15 V
Control Current (Max.)	7 mA	10 mA	10 mA

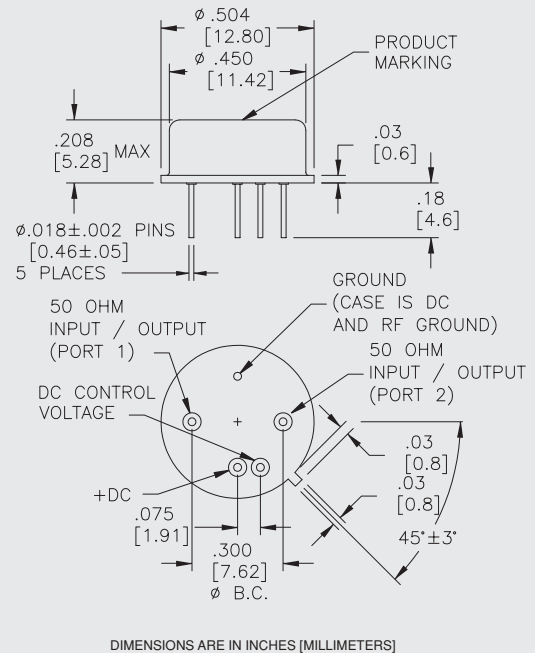
* Measured in a 50-ohm system at +15 Vdc bias.

ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+19 Volts
Maximum Continuous RF Input Power	200 Milliwatts
Maximum Peak Power (3 μsec Max.)	1.0 Watt
Burn-in Temperature	+125 °C

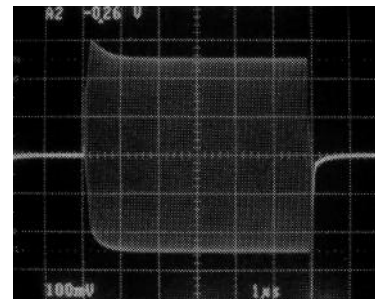
GC2530

TO-8 Package for Attenuators

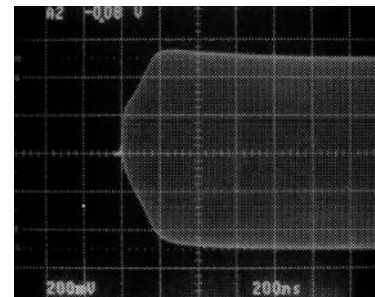


SWITCHING SPEED

Typical Switching Speed at 25 °C



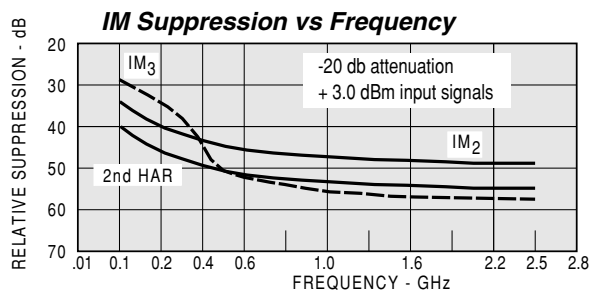
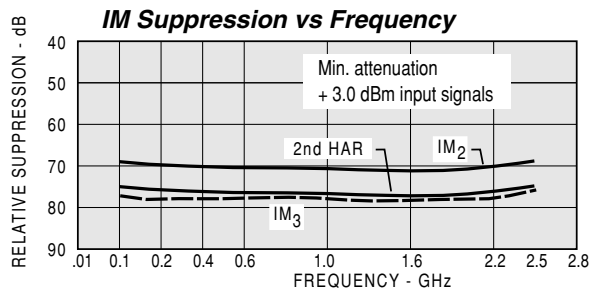
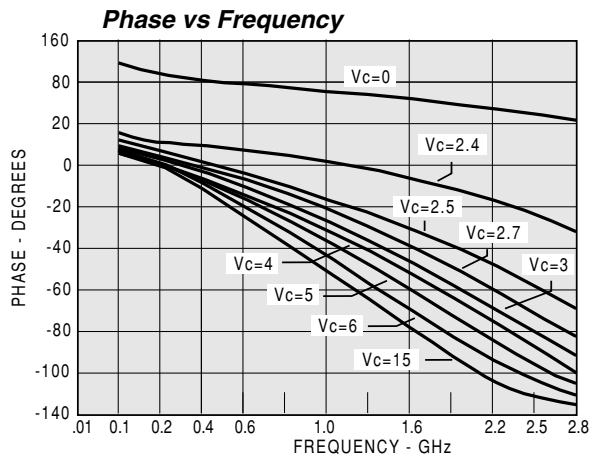
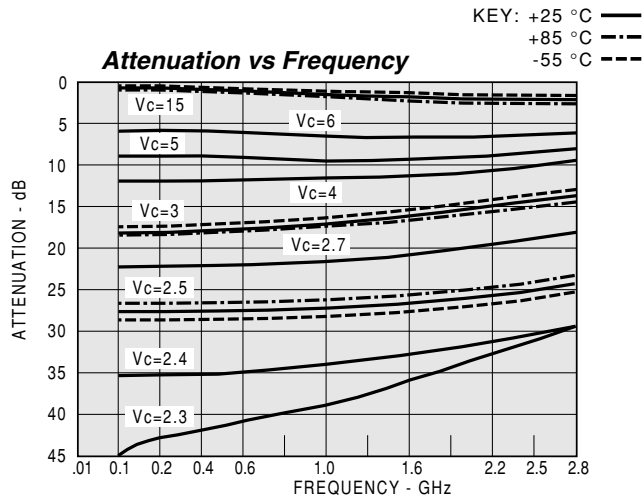
Full Attenuation Range



10 dB Attenuation Range

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



MODEL: GC2530 Vcc = +15V Icc = 5.75 Ma
Vc = 15v

FREQ MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
100	1.35	1.36	-1.4	0.183	-1.4
500	1.17	1.18	-1.4	0.183	-1.4
1000	1.21	1.23	-1.5	0.140	-1.5
1500	1.30	1.32	-1.8	0.135	-1.8
2000	1.37	1.43	-2.5	0.119	-2.4
2500	1.32	1.37	-2.2	0.142	-2.2

MODEL: GC2530 Vcc = +15V Icc = 5.99 Ma
Vc = 4.0v

FREQ MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
100	1.78	1.77	-12.0	0.130	-12.0
500	1.69	1.67	-11.8	0.130	-11.8
1000	1.68	1.65	-11.6	0.097	-11.6
1500	1.61	1.56	-11.3	0.096	-11.3
2000	1.36	1.34	-10.9	0.100	-10.8
2500	1.30	1.25	-10.0	0.118	-10.1

MODEL: GC2530 Vcc = +15V Icc = 6.12 Ma
Vc = 2.5v

FREQ MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
100	1.47	1.45	-28.9	0.093	-28.8
500	1.24	1.21	-27.9	0.093	-27.9
1000	1.23	1.19	-27.4	0.057	-27.4
1500	1.18	1.14	-26.9	0.061	-26.9
2000	1.12	1.12	-26.4	0.082	-26.4
2500	1.28	1.30	-25.2	0.081	-25.2

MODEL: GC2530 Vcc = +15V Icc = 6.13 Ma
Vc = 0v

FREQ MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
100	1.43	1.41	-55.7	0.326	-55.9
500	1.14	1.11	-46.5	0.326	-46.6
1000	1.16	1.12	-39.9	0.069	-40.0
1500	1.18	1.15	-36.1	0.072	-36.2
2000	1.28	1.29	-33.7	0.082	-33.8
2500	1.52	1.54	-31.2	0.086	-31.2

MODEL: GC2530 Vcc = +12V Icc = 4.84Ma
Vc = 2.5v

FREQ MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
100	1.51	1.50	-17.5	0.121	-17.5
500	1.34	1.32	-17.1	0.121	-17.0
1000	1.32	1.30	-16.7	0.090	-16.7
1500	1.27	1.23	-16.3	0.092	-16.3
2000	1.07	1.06	-15.9	0.100	-15.8
2500	1.05	1.05	-14.9	0.110	-14.8

