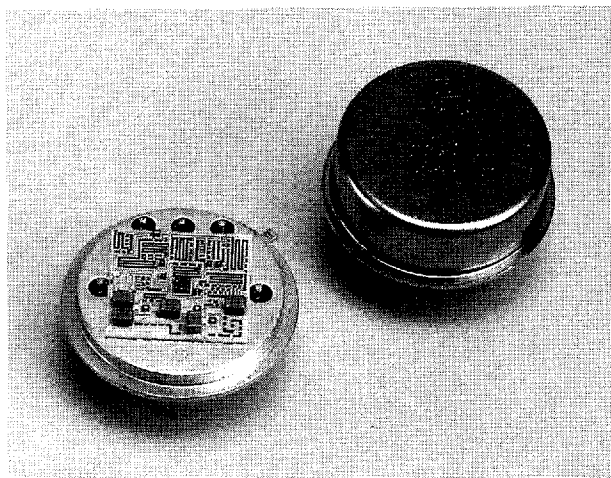


WJ-RG20/SMRG20

10 TO 2000 MHz TO-8B LINEARIZED VOLTAGE CONTROLLED ATTENUATOR

- ◆ ATTENUATOR AND LINEARIZER FULLY
INTEGRATED IN ONE PACKAGE
- ◆ HIGH DYNAMIC RANGE
- ◆ WIDE BANDWIDTH
- ◆ LOW INSERTION LOSS



Specifications*

Characteristics	Typical	Guaranteed (-54°C to +85°C)
Frequency	5-2200 MHz	10-2000 MHz
Insertion Loss (Max.)		
10-1000 MHz	2.7 dB	3.5 dB
1000-2000 MHz	3.7 dB	4.5 dB
Insertion Flatness (Max.)	±0.7 dB	±1.0 dB
Maximum Attenuation (Min.)		
10-1000 MHz	26.5 dB	24.5 dB
1000-2000 MHz	23 dB	22 dB
Linearity from 0 to 25 dB (Max.)	±1.3 dB	±2.0 dB
Switching Speed 10-90% (Max.)	75 µsec	125 µsec
VSWR		
Input	1.6:1	2.7:1
Output	1.4:1	2.0:1
Bias Current		
V+ = +15 Vdc		35 mA
V- = -15 Vdc		5 mA
Control Current (0 to -10 Vdc)	16 mA	20 mA

* Measured in a 50-ohm system at ±15 Vdc Nominal.

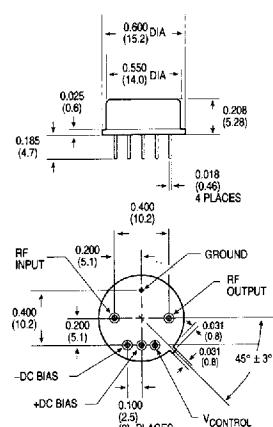
Absolute Maximum Ratings

Storage Temperature	-55°C to +125°C
Maximum Case Temperature	125°C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	100 Milliwatts
Maximum Short-Term RF Input Power (1 Minute Max.)	200 Milliwatts
Maximum Peak Power	1 Watt (3 µsec Max.)
"S" Series Burn-In Temperature (Case)	125°C

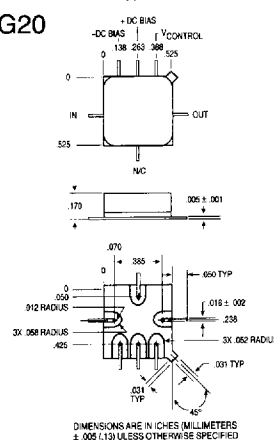
Weight: 3.0 grams (0.11 oz.)

Outline Drawings

RG20

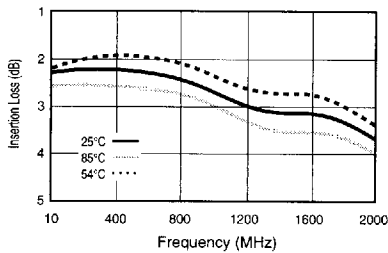


SMRG20

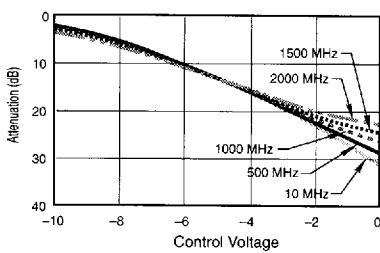


Typical Performance at 25°C

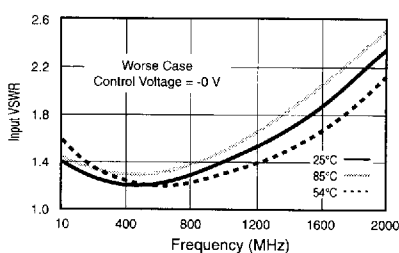
Insertion Loss



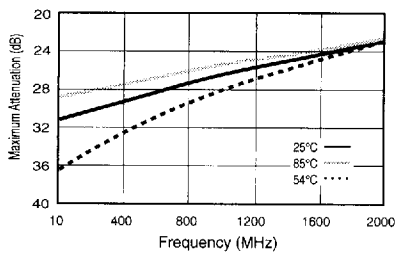
Linearity Over Frequency



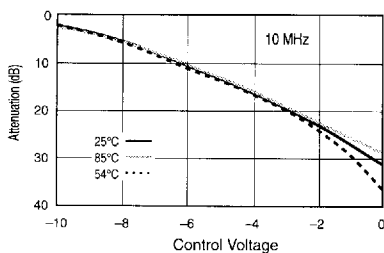
Input VSWR



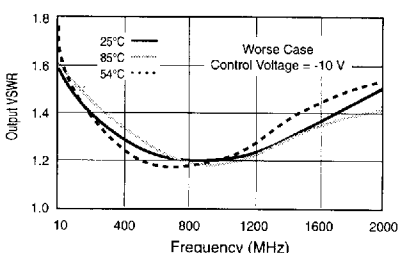
Maximum Attenuation



Linearity Over Temperature



Output VSWR



Typical Automatic Test Data

V_{CC} = 15.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
10.0	1.6	1.6	-2.3
500.0	1.3	1.2	-2.2
1000.0	1.5	1.2	-2.6
1500.0	1.9	1.4	-3.1
2000.0	2.3	1.6	-3.7

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10.0	.229	-50	.772	11	.774	11	.229	-48
500.0	.137	-146	.777	-72	.780	-71	.105	-128
1000.0	.201	98	.738	-142	.732	-141	.088	86
1500.0	.299	-13	.701	149	.701	149	.163	-46
2000.0	.388	-123	.655	78	.640	80	.221	-146

V_{CC} = 15.0 V

Frequency MHz	VSWR IN	VSWR OUT	GAIN DB
10.0	1.4	1.5	-30.8
500.0	1.2	1.1	-28.6
1000.0	1.4	1.1	-26.2
1500.0	1.7	1.1	-24.4
2000.0	2.3	1.1	-22.7

Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10.0	.180	-75	.029	3	.028	3	.185	-65
500.0	.075	171	.037	-35	.037	-35	.028	-64
1000.0	.153	81	.049	-87	.047	-87	.035	-96
1500.0	.259	-20	.060	-145	.060	-144	.059	-146
2000.0	.385	-122	.073	154	.072	155	.043	100