Digital Attenuator, 31 dB, 5-Bit
DC - 2 GHz

AT-262

V 2.00

Features

- Attenuation 1 dB Steps to 31 dB
- Temperature Stability +/- 0.15 dB from -55˚C to +85˚C Typical
- Ultra Low DC Power Consumption
- Hermetic Surface Mount Package
- Fast Switching Speed, 12 ns Typical

Guaranteed Specifications[1]

(From -55°Cto + 85°C)

Frequency Range		DC – 2.0 GHz
Nominal Attenuation[2]		1 dB Steps to 31 dB
Attenuation Accuracy		DC – 2.0 GHz
DC – 1.0 GHz		+/-(0.2 dB +3% of Attenuation Setting in dB) dB
DC – 2.0 GHz		+/-(0.3 dB +3% of Attenuation Setting in dB) dB
VSWR	DC – 2.0 GHz	1.6:1 Max
Reference Insertion Loss	DC – 2.0 GHz	2.5 dB Max

Operating Characteristics

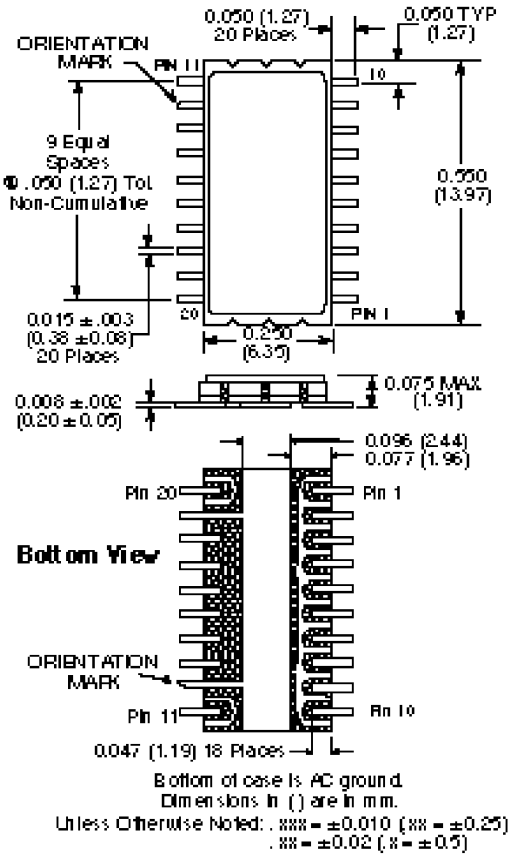
Impedance			50 Ohms Nominal
Switching Characteristics			
Trise, Tfall (10% to 90%)			8 ns Typ
Ton, Toff (50% CTL to 90%/10%)			15 ns Typ
Transients (in-Band)			20 mV Typ
Input Power for 1 dB Compression			
0.05 GHz			+20 dBmTyp
0.5 – 2.0 GHz			+28 dBmTyp
Intermodulation Intercept point (for two-tone input power up to +5 dBm)			
Intercept Points	IP2	IP3	
0.05 GHz	+46	+34	dBm Typ
0.5 – 2.0 GHz	+60	+39	dBm Typ
Control Voltages (Complementary Logic)			
Vin Low			0V to -0.2V @ 25 µA Max
Vin High			-5V @ 10 µA typ to -8V @ 200 µA Max

1. All specifications apply when operated with a 50 ohm impedance at both RF ports.
2. Above reference insertion loss.
3. Contact the factory for standard or custom screening requirements.

Ordering Information

Model No.	Package
AT-262 PIN	Surface Mount

CR-8



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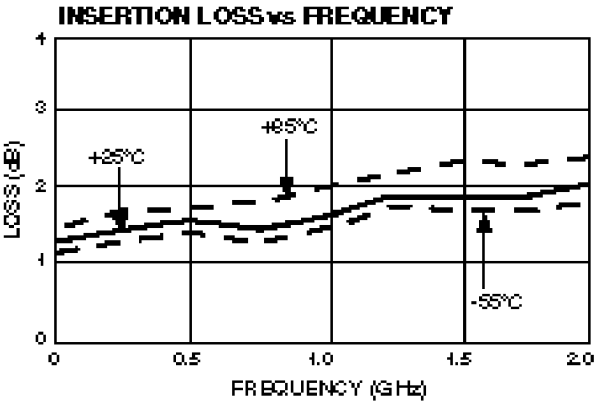
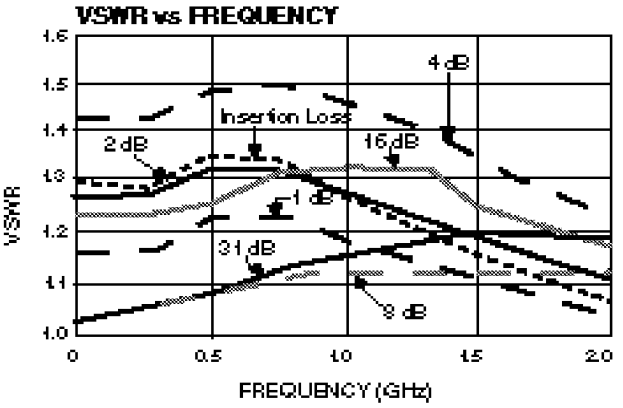
Absolute Maximum Ratings

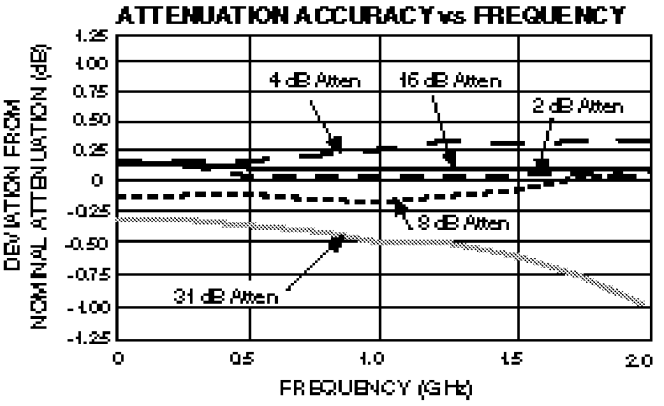
Parameter	Absolute Maximum[1]
Max. Input Power	
0.05 GHz	+27 dBm
0.5 – 2.0 GHz	+34 dBm
Control Voltage	+5 V, –8.5 V
Operating Temperature	–55˚C to +125˚C
Storage Temperature	–65˚C to +150˚C

1. Operation of this device above any one of these parameters may cause permanent damage.

Typical Performance





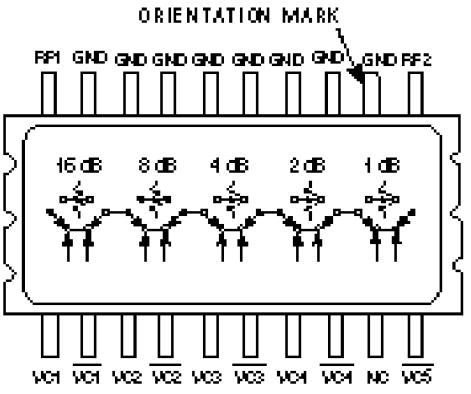


Truth Table

Control Inputs									
$\overline{VC5}$	$\overline{VC4}$	VC4	$\overline{VC3}$	VC3	$\overline{VC2}$	VC2	$\overline{VC1}$	VC1	Attenuation (dB)
1	1	0	1	0	1	0	1	0	Reference
0	1	0	1	0	1	0	1	0	1 dB
1	0	1	1	0	1	0	1	0	2 dB
1	1	0	0	1	1	0	1	0	4 dB
1	1	0	1	0	0	1	1	0	8 dB
1	1	0	1	0	1	0	0	1	16 dB
0	0	1	0	1	0	1	0	1	31 dB

"0" = Vin Low, Vin Low = 0V, "1" = Vin High, Vin High = -5V

Functional Schematic (Top View)



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