



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

AT-262

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 Specifications¹ (From -55°C to +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

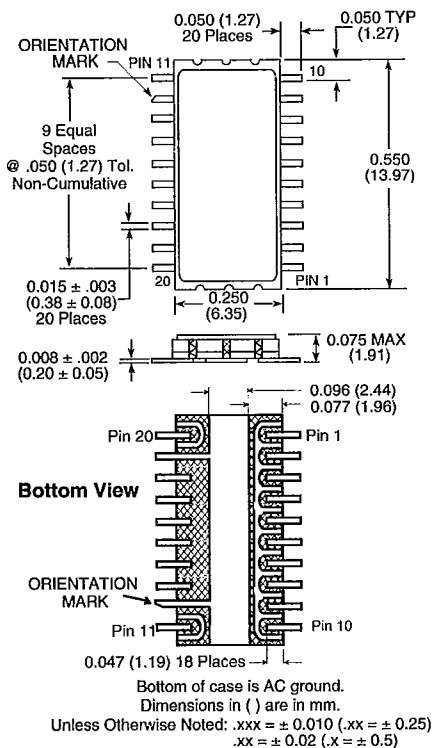
Impedance	50 Ohms Nominal		
Switching Characteristics			
Trise, Tfall (10% to 90%)	8 ns Typ		
Ton, Toff (50% CTL to 90%/10%)	15 ns Typ		
Transients (in-Band)	20 mV Typ		
Input Power for 1 dB Compression			
0.05 GHz	+20 dBm Typ		
0.5 - 2.0 GHz	+28 dBm Typ		
Intermodulation Intercept point (for two-tone 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



Specifications Subject to Change Without Notice

M/A-COM Inc. ■ 1011 Pawtucket Boulevard, Lowell, MA 01853 USA

■ Telephone: 800-366-2266

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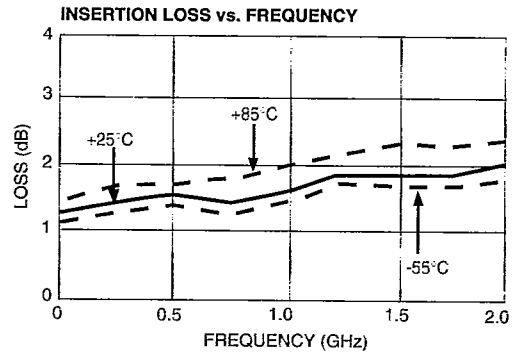
AT-262

Absolute Maximum Ratings

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

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

Typical Performance

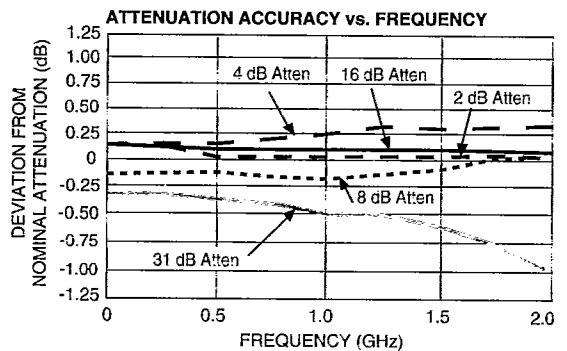
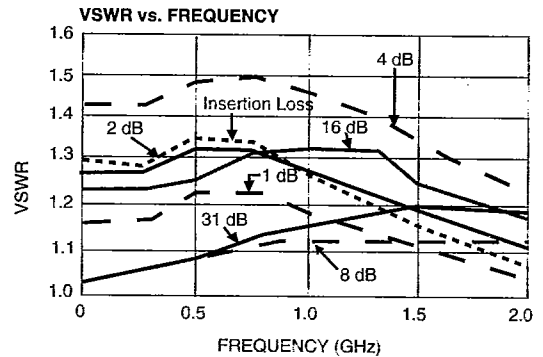
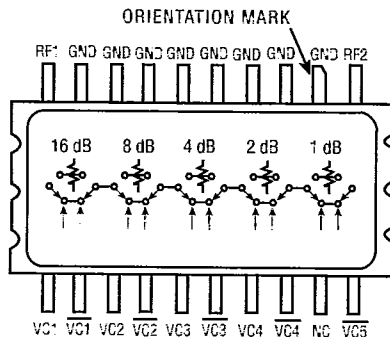


Truth Table

Control Inputs										Attenuation (dB)
VC5	VC4	VC4	VC3	VC3	VC2	VC2	VC1	VC1	Reference	
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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