



# Voltage Variable Absorptive Attenuator

## DC - 2 GHz

### AT-332, AT-337

V 2.00

#### Features

- Available in Ceramic and TO-5 packages
- 40 dB Matched Attenuation
- Low Insertion Loss

#### Guaranteed Specifications<sup>1</sup>

(From -55°C to + 85°C)

Frequency Range	DC - 2.0 GHz		
Insertion Loss	DC - 2.0 GHz	1.5 dB Max	
	DC - 1.0 GHz	1.2 dB Max	
VSWR	AT-332	AT-337	
	DC - 2.0 GHz	1.4:1	1.5:1 Max
	DC - 1.0 GHz	1.25:1	1.3:1 Max
Attenuation (Matched) @ 25°C	DC - 2.0 GHz	40 dB Min	
Flatness (Peak to Peak)	0-20 dB Attenuation	1.0 dB Max	
	0-30 dB Attenuation	2.0 dB Max	
	0-40 dB Attenuation	3.0 dB Max	
Attenuation vs Temperature (Relative to 25°C)	0 to 20 dB Attenuation	±2.5 dB	
	0 to 30 dB Attenuation	±4.0 dB	
	0 to 40 dB Attenuation	±6.0 dB	

#### Operating Characteristics

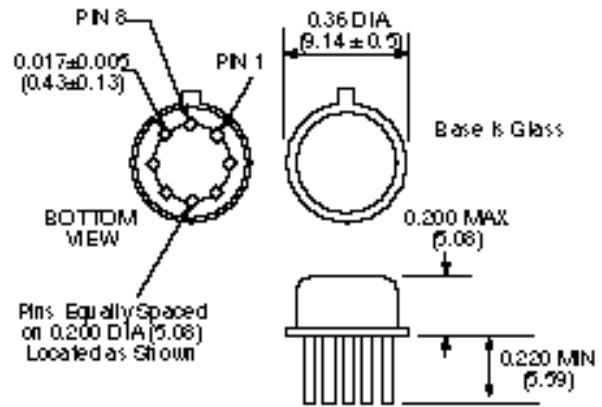
Impedance	50 Ohms Nominal					
Switching Characteristics						
Trise, Tfall (10% to 90%)	14 ns Typ					
Ton, Toff (50% CTL to 90%/10% RF)	22 ns Typ					
Transients (in band)	14 mV Typ					
Input Power for 1 dB Compression						
Attenuation Level	0 dB					
0.05 GHz	21					
0.5 GHz to 2.0 GHz	27					
	dBm Typ					
Intermodulation Intercept Point (for two-tone input power up to +5 dBm)						
Intercept Points	IP2		IP3			
Attenuation Level (dB)	0	5	10	0	5	10
0.05 GHz	54	43	39	39	33	30
0.5 to 2 GHz	65	54	49	47	44	38
	dBm Typ					
Phase Shift (Relative to 0 dB Attenuation)						
Attenuation Level	10 dB	20 dB	30 dB	40 dB		
0.5 GHz	0.1	3	10	19	Deg Typ	
2.0 GHz	0.4	12	35	60	Deg Typ	
Control Voltages						
A input (Shunt FETS)	0 to -4V @ 100 µA Max					
B input (Series FETS)	0 to -4V @ 100 µA Max					

1. All specifications apply with 50 ohm connected to all RF Ports.
2. Contact the factory for standard or custom screening requirements.

#### Ordering Information

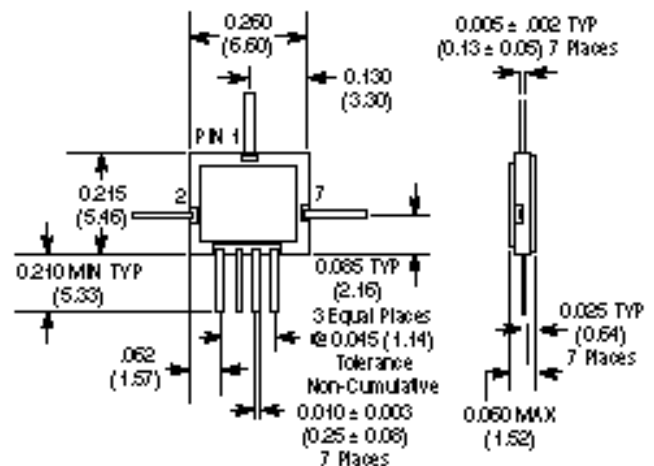
Model No.	Package
AT-354 PIN	Dual Inline

#### AT-332 (TO-5-4)



Bottom of Case is AC Ground  
 Dimensions in ( ) are in mm.  
 Unless Otherwise Noted: .xxx = ±0.010 (xx = ±0.25)  
 .xx = ±0.02 (x = ±0.5)

#### AT-337 (CR-2 w/o Pin 1)



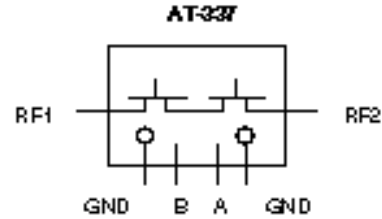
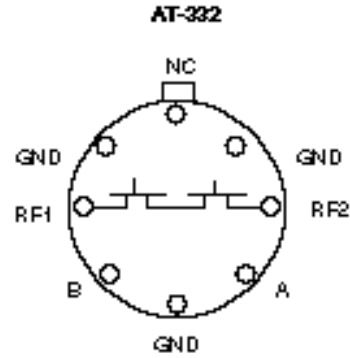
Bottom of Case is AC Ground  
 Dimensions in ( ) are in mm.  
 Unless Otherwise Noted: .xxx = ±0.010 (xx = ±0.25)  
 .xx = ±0.02 (x = ±0.5)

### Absolute Maximum Ratings

Parameter	Absolute Maximum <sup>1</sup>
Max. Input Power	
0.05 GHz	+27 dBm
0.5 – 2.0 GHz	+30 dBm
Control Voltage	+5V, -8.5V
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.

### Functional Schematics (Top View)



### Typical Performance

