

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 Specifications¹

(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

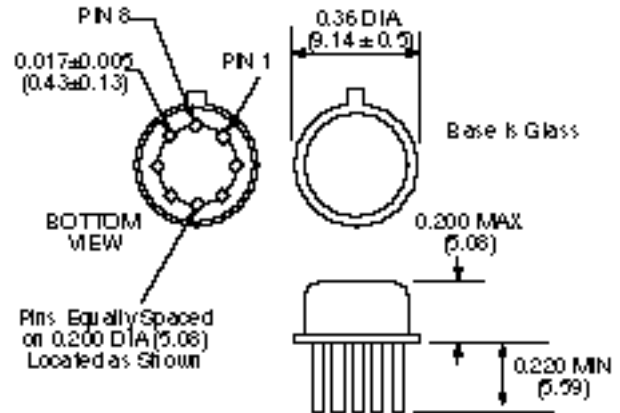
| | | | | | | |
|---|-----------------------|-------|-------|-------|---------|----|
| Impedance | 50 Ohms Nominal | | | | | |
| Switching Characteristics | | | | | | |
| Trise, Tfall (10% to 90%) | 14 ns Typ | | | | | |
| Ton, Toff (50% CTL to 90%/10% RF) | 22 ns Typ | | | | | |
| Transients (in band) | 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)



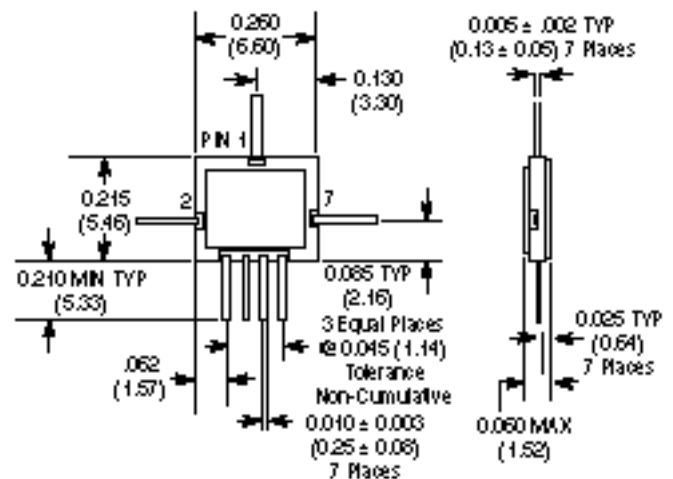
Bottom of Case is AC Ground

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)

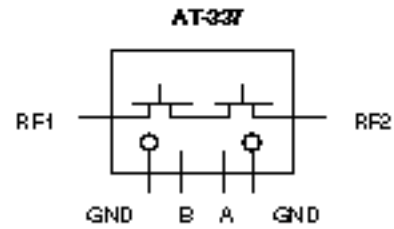
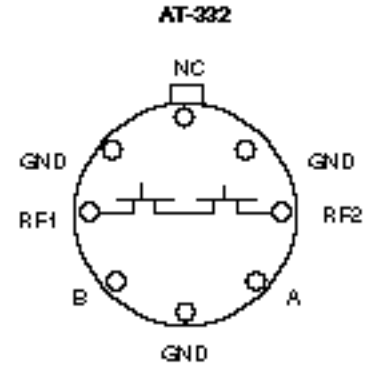
.xx = ±0.02 (x = ±0.5)

Absolute Maximum Ratings

| Parameter | Absolute Maximum ¹ |
|-----------------------|-------------------------------|
| 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

