Voltage Variable Absorptive Attenuator, 19 dB
DC - 2 GHz

AT-302, AT-303, AT-307

V 2.00

Features

- Fast Switching Speed, 4 ns Typical
- Ultra Low DC Power Consumption
- Small Package Size

Guaranteed Specifications[1]

(From -55°C to +85°C)

Frequency Range	DC – 2.0 GHz	AT-302	AT-303	AT-307	
Insertion Loss	DC – 2.0 GHz	1.6	1.5	1.5	dB Max
	DC – 1.0 GHz	1.5	1.5	1.5	dB Max
VSWR (Matched)	DC – 2.0 GHz	2.0:1	1.6:1	1.6:1	Max
	DC – 1.0 GHz	2.0:1	1.5:1	1.5:1	Max
	DC – 0.5 GHz	1.5:1	1.5:1	1.5:1	Max
Attenuation	DC – 2.0 GHz	19	19	19	dB Min
Flatness (Peak to Peak)	DC – 2.0 GHz	1.5	1.5	1.5	dB Max
	DC – 1.0 GHz	1.0	1.5	1.5	dB Max
Attenuation vs. Temperature	0 to 10 dB Att.	±0.5	±0.5	±0.5	dB Max
	0 to 20 dB Att.	±1.5	±1.5	±1.5	dB Max

Operating Characteristics

Impedance						50 Ohms Nominal
Switching Characteristics[2]						
Trise,Tfall (10% to 90%)						6 ns Typ
Ton, Toff (50% CTL to 90%/10% RF)						8 ns Typ
Transients (in band)						10 mV Typ
Input Power for 1 dB Compression						
Attenuation Level	0	2	5	10	20	dB
0.5 to 2.0 GHz	+29	+29	+21	+28	+30	dBm Typ
0.05 GHz	+24	+26	+18	+28	+30	dBm Typ

Intermodulation Intercept Point (for two-tone input power up to +5 dBm)

Intercept Points	IP2			IP3			
Attenuation Level:	0	5	10	0	5	10	dB
0.5 to 2.0 GHz	68	47	53	49	39	40	dBm Typ
0.05 GHz	51	40	38	48	32	32	dBm Typ

Phase Shift (Relative to 0 dB Attenuation)

Attenuation Level:	10	19	dB
0.5 GHz	2.5	11	Deg Typ

Control Voltages

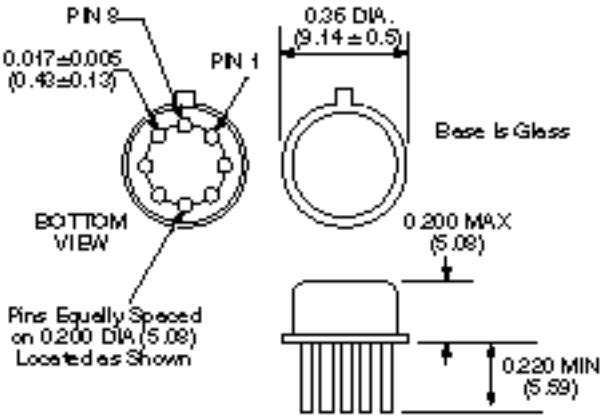
A Input (Shunt FETS)	0 to -4V @ 100 µA Max
B Input (Series FETS)	0 to -4V @ 100 µA Max

1. All specifications apply with 50 ohm connected to all RF ports.
2. Switching speed is measured between 19 dB and 0 dB attenuation levels.
3. Contact the factory for standard or custom screening requirements.

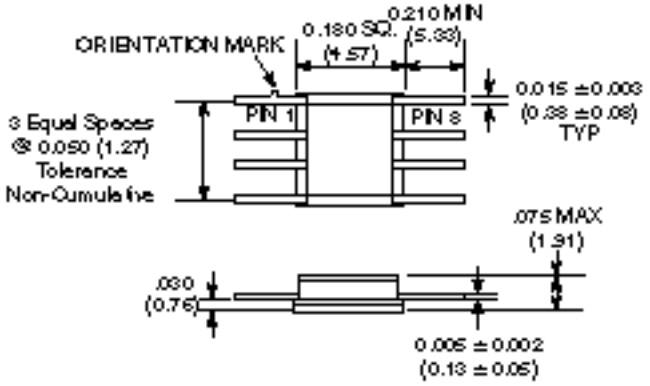
Ordering Information

Model No.	Package
AT-302 PIN	TO-5-4
AT-303 PIN	Ceramic
AT-307 PIN	Ceramic

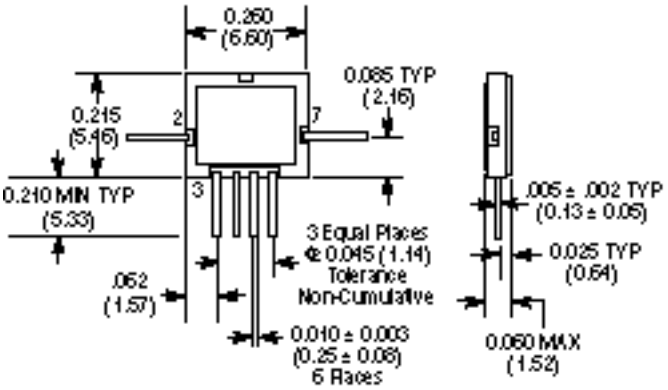
AT-302 (TO-5-4)



AT-303 (CR-3)



AT-307 (CR-2 w/o Pin 1)



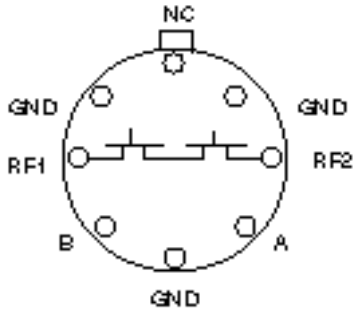
For all packages: Bottom of case is AC ground.
Dimensions in ( ) are in mm.
Unless Otherwise Noted: .xxx = ±0.010 (.xx = ±0.25)
.xx = ±0.02 (.x = ±0.5)

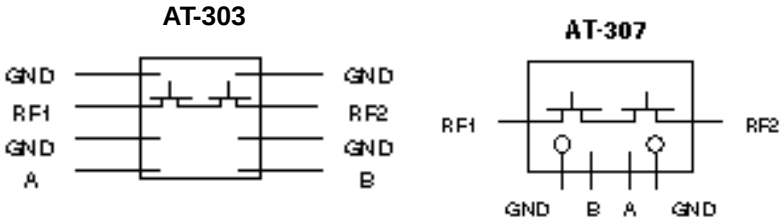
Absolute Maximum Ratings

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