

Voltage Variable Absorptive Attenuator, 30 dB 0.5 - 2 GHz

V 2 00

Features

- Single Positive Voltage Control 0 to +5 Volts
- 30 dB Voltage Variable Attenuation
- ±2 dB Linearity from BSL
- Low DC Power Consumption
- Temperature Range: -40°C to +85°C
- Low-Cost SOIC 8 Plastic Package
- Tape and Reel Packaging Available
- Fast Switching Speed

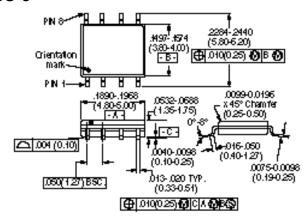
Description

M/A-COM's AT-110 is a linear GaAs MMIC voltage variable absorptive attenuator in a low-cost SOIC 8-lead surface mount plastic package. The AT-110 has a faster switching speed than the AT-108 or AT-109. The AT-110 is ideally suited for use where linear attenuation fine tuning and very low power comsumption are required. Typical applications include radio.

cellular, GPS equipment and automatic gain/level control circuits.

The AT-110 is fabricated with a monolithic GaAs MMIC using a mature 1-micron process. The process features full chip passivation for increased performance and reliability.

SO-8



8- Lead SOP outline dimensions Narrow body 1:50 (All dimensions per JEDEC No. MS-012-AA, Issue C) Dimensions in () are in mm.

Unless Otherwise Noted: $xx = \pm 0.010$ ($xx = \pm 0.25$) $xx = \pm 0.02$ ($x = \pm 0.5$)

Ordering Information

Part Number	Package
AT-110	SOIC 8-Lead Plastic Package
AT-110TR	Forward Tape & Reel*
AT-110RTR	Reverse Tape & Reel*

^{*} If specific reel size is required, consult factory for part number assignment.

Typical Electrical Specifications¹, T_A = +25°C

Parameter	Test Conditions	Units	Min.	Тур.	Max.
Insertion Loss	0.5 - 1.0 GHz	dB		2.8	3.0
	1.0 - 2.0 GHz	dB		3.3	3.6
Attenuation	0.5 - 16 GHz	dB	30		
	1.0 - 26 GHz	dB	25		
Flatness	0.5 - 1.0 GHz	dB		±0.5	±0.8
(Peak-to-Peak)	1.0 - 2.0 GHz	dB		±1.2	±1.5
VSWR				2:1	
Trise, Tfall	10% to 90% RF, 90% to 10% RF	μS		0.2	
Ton, Toff	50% Control to 90% RF, Control to 10% RF	μS		0.2	
Transients	In-band	mV		70	

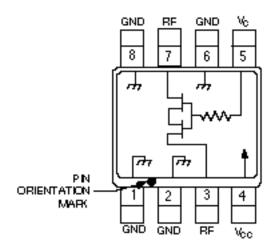
^{1.} All measurements at 1 GHz in a 50- system, unless otherwise specified. The RF ports must be blocked outside of the package from ground or any other voltage.

Absolute Maximum Ratings 1

Absolute Maximum		
+21 dBm		
-1 V, +8 V		
-1 V, V _{CC} +0.5 V		
-40°C to +85°C		
-65°C to +150°C		

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

Functional Schematic



 $V_{\mbox{\footnotesize CC}}$ = +5 VDC \pm 0.5 VDC @ 300 $\mu\mbox{\footnotesize A}$ max. $V_C = 0$ VDC to +5 VDC @ 6 mA max. External DC blocking capacitors are required on all RF ports.

Typical Performance

