

AT-635

SO-14

- [illegible]

M/A-COM's AT-635 is a GaAs MMIC voltage variable absorptive attenuator in a low cost SOIC 14 LD surface mount plastic package. The AT-635 is ideally suited for use where attenuation fine tuning, fast switching and very low power consumption are required. Typical applications include radio, cellular, GPS equipment and other Automatic Gain/Level Control circuits.

The AT-635 is fabricated with a monolithic GaAs MMIC using a mature 1 micron process. The process features full chip passivation for increased performance and reliability.

14-Lead SOP outline dimensions
Narrow body .150
(All dimensions per JEDEC No. MS-012-AB, Issue C)
Dimensions in () are in mm.

Unless Otherwise Noted: .xxx = ± 0.010 (.xx = ± 0.25)
 .xx = ± 0.02 (.x = ± 0.5)

Parameter	Test Conditions ²	Unit	Min.	Typ.	Max
Insertion Loss	DC – 0.1 GHz	dB		6.5	6.7
	DC – 0.5 GHz	dB		6.7	7.0
	DC – 1.0 GHz	dB		7.2	7.4
	DC – 2.0 GHz	dB		7.5	7.8
Flatness (Peak to Peak)	DC-2 GHz	10 dB Attenuation		+/-1.0	+/-1.3
		20 dB Attenuation		+/-1.2	+/-1.5
		30 dB Attenuation		+/-1.2	+/-1.5
VSWR				2.0:1	
Trise, Tfall Ton, Toff Transients	10% to 90% RF, 90% to 10% RF	nS		2	
	50% Control to 90% RF, 50% Control to 10% RF	nS		4	
	In Band	mV		30	
Power Handling	Linear Operation	dBm			13
	Absolute Max Input Power	dBm			21
2nd Order Intercept	Measured Relative	0.05 GHz		34	
	to Input Power (for two-tone input power up to +5 dBm)	0.5 – 2.0 GHz	dBm	47	
3rd Order Intercept	Measured Relative	0.05 GHz		31 ⁽³⁾	
	to Input Power (for two-tone input power up to +5 dBm)	0.5 – 2.0 GHz	dBm	36 ⁽³⁾	

1. Refer to "Tape and Reel Packaging" Section, or contact factory.
2. All measurements at 1 GHz in a 50Ω system, unless otherwise specified.
The A control voltage 0 to -4 volts @ 20 μA typ.
3. For levels above 4 dB attenuation.

Model No.	Package
AT-635 PIN	SOIC 14 Lead
AT-635TR	Forward Tape & Reel
AT-635RTR	Reverse Tape & Reel

Specifications Subject to Change Without Notice

Voltage Variable Absorptive Attenuator, 35 dB

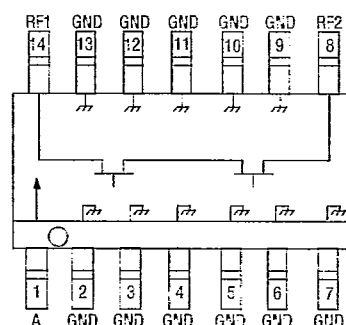
AT-635

Absolute Maximum Ratings

Parameter	Absolute Maximum ¹
Max. Input Power	+21 dBm
Control Voltage	+5V, -8.5V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

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

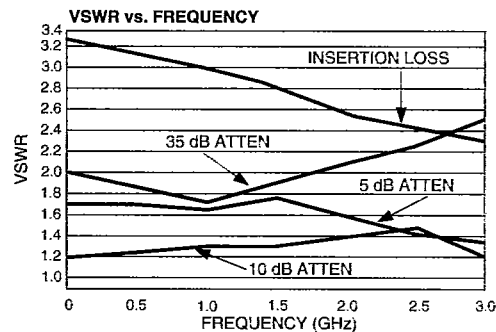
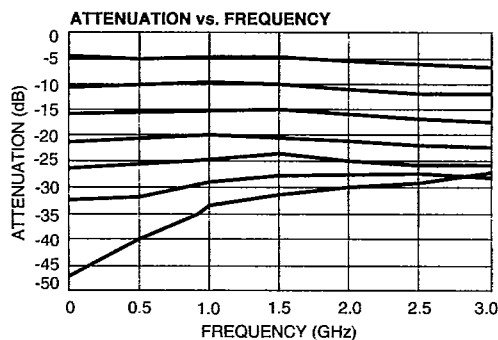
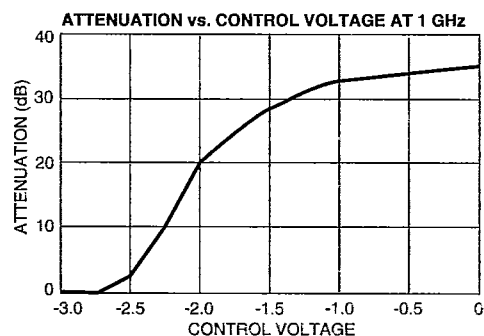
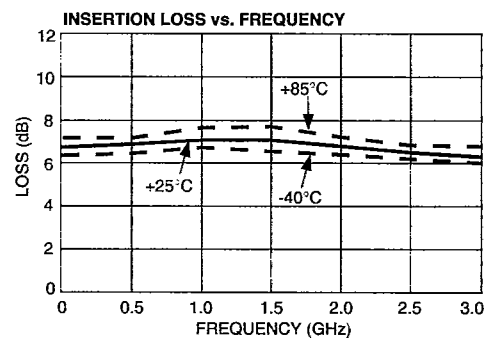
Functional Schematic



Pin Configuration

Pin No.	Description	Pin No.	Description
1	A	8	RF2
2	GND	9	GND
3	GND	10	GND
4	GND	11	GND
5	GND	12	GND
6	GND	13	GND
7	GND	14	RF1

Typical Performance



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