



Voltage Variable Absorptive Attenuator 1700 - 2000 MHz

Features

- Input IP3: +31 dBm Min (Full Attenuation Range)
- Input IP3 is **15 -20 dB** Better than GaAs
- Linear Operation: +20 dBm Min.
- Plastic SOIC, Wide Body, SMT Package
- 35 dB Dynamic Range (With 30 mA Bias Current)
- Single Control Voltage
- 50 ohm Impedance
- Linear Driver, DR65-0002, Available
- Test Boards are Available
- Tape and Reel Packaging Available

Description

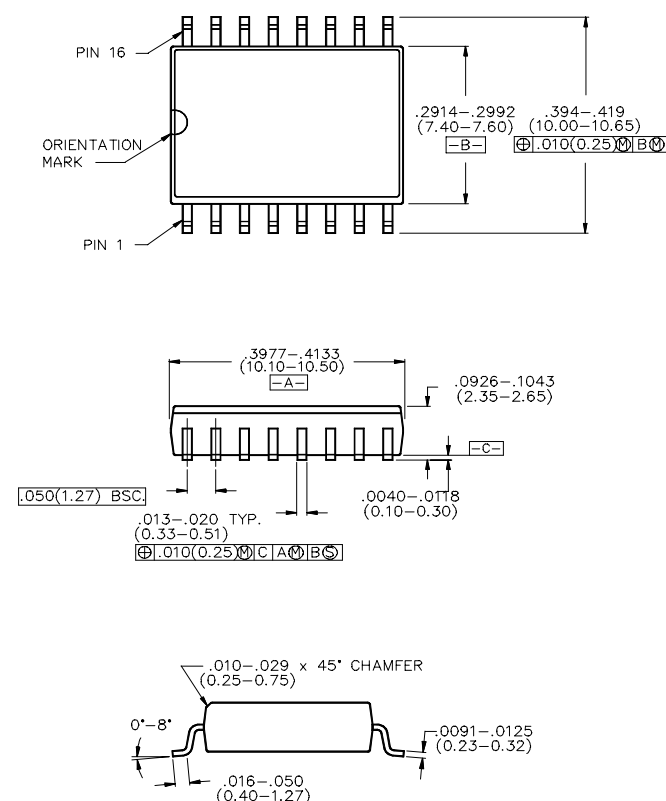
M/A-COM's AT10-0017 is a PIN diode based voltage variable attenuator. This device is in a SOIC-16, wide body plastic surface mount package. These attenuators have linear operating power and input intercept point levels 15 - 20 dB better than GaAs FET MMIC voltage variable attenuators. They are ideally suited for use where low distortion, high linear operating power and high dynamic range are required. These devices are optimized for the PCS frequency band, but exhibit excellent performance and repeatability over the entire specified frequency band. The AT10-0017 is ideally suited for wireless communications systems.

Ordering Information

Part Number	Package
AT10-0017	Bulk Packaging
AT10-0017-TR	Tape and Reel ¹
AT10-0017-TB	Unit Mounted on Test Board
DR65-0002-TBP	Unit with Driver on Test Board

1. Check with factory for available quantities and reel size.

SOW-16



Package outline conforms to JEDEC standard MS-013AA.

Pin Configuration

Pin #	Function	Pin #	Function
1	GND	9	GND
2	RF	10	RF
3	GND	11	GND
4	GND	12	GND
5	GND	13	GND
6	GND	14	GND
7	Bias ²	15	Bias ²
8	GND	16	GND

2. Bias currents may be applied to pin 7 or 15. The unused pins should be isolated.

Specifications subject to change without notice.

V 4.00

■ **North America:** Tel. (800) 366-2266, Fax (800) 618-8883
 ■ **Asia/Pacific:** Tel.+81-44-844-8296, Fax +81-44-844-8298
 ■ **Europe:** Tel. +44 (1344) 869 595, Fax+44 (1344) 300 020

Visit www.macom.com for additional data sheets and product information.

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Electrical Specifications $T_A = +25^\circ\text{C}$

Parameter	Test Conditions	Frequency	Units	Min	Typical	Max
Insertion Loss	0 volts	1700-2000 MHz	dB	—	2.5	3.5
		1930 - 1990 MHz	dB	—		3.0
Attenuation (Above Loss)	10 mA bias current	1700-2000 MHz	dB	28	—	—
		1930 - 1990 MHz	dB	30	35	—
Frequency Flatness	0 to 30 dB attenuation	1700-2000 MHz	dB	—	1.5	2.0
		1930 - 1990 MHz	dB	—	0.4	0.6
VSWR	0 to 30 dB attenuation	1700-2000 MHz	Ratio	—	1.6:1	1.8:1
		1930 - 1990 MHz	Ratio	—	1.5:1	1.7:1
Switching Speed	50% Control to 90%/10% RF	1700-2000 MHz	μS	—	—	3.0
Linear Operation	—	1700-2000 MHz	dBm	—	+20	—
Input IP_3	Two-tone inputs up to +10 dBm	1700-2000 MHz	dBm	+31	—	—
I_{Control}	—	1700-2000 MHz	mA	—	—	30

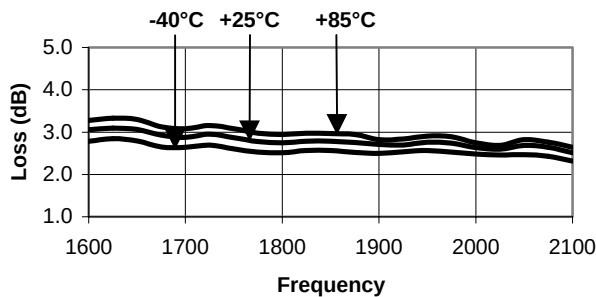
Absolute Maximum Ratings ³

Parameter	Absolute Maximum
Max. Input Power 1700 - 2000 MHz	+27 dBm
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +125°C

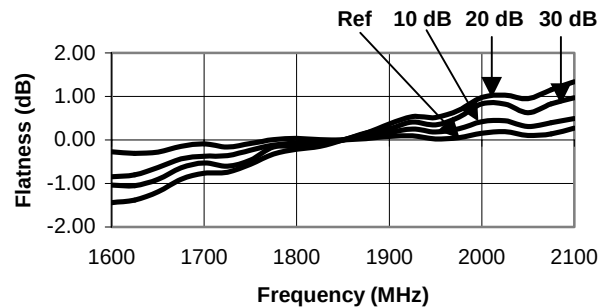
3. Operation of this device above any one of these parameters may cause permanent damage.

Typical Performance

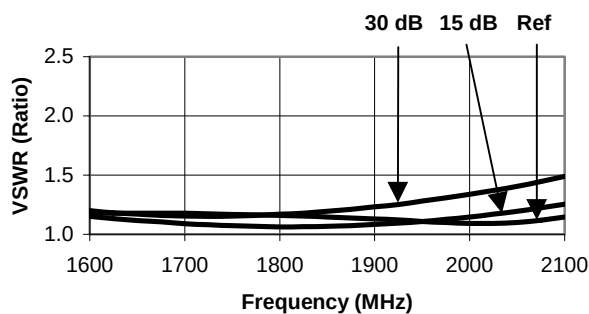
Insertion Loss



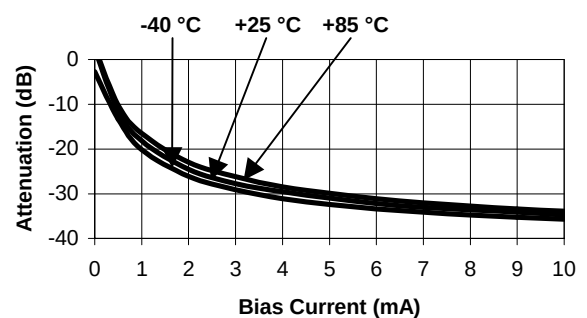
Attenuation Flatness (dB) @ +25°C



Typical VSWR @ 25°C



Atten. vs Bias Current Over Temp.



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