

# Voltage Variable Absorptive Attenuator 800 - 1000 MHz

MAAVCC0001

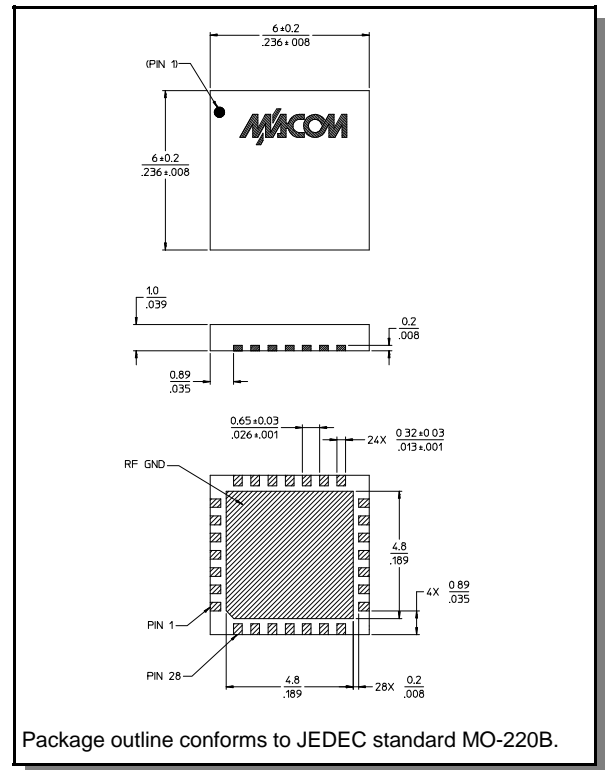
## Features

- Input IP<sub>3</sub>: +31 dBm Min. (Full Attenuation Range)
- Input IP<sub>3</sub> is **15 -20 dB** Better Than GaAs
- Linear Operation: +20 dBm Min.
- Plastic, 28 Lead, 6 mm CSP, SMT Package
- 38 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 MAAVCC0001 is a PIN diode based voltage variable attenuator. This device is in a 6mm square, 28 lead, plastic CSP Package, suitable for surface mounting on PCBs. 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 GSM frequency band, but exhibit excellent performance and repeatability over the entire specified frequency band. The MAAVCC0001 is ideally suited for wireless communications systems.

## CSP-8, 28 Lead, 6mm

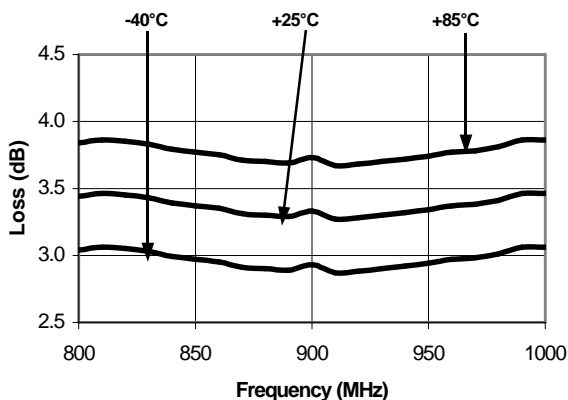


## Electrical Specifications: $T_A = 25^\circ\text{C}$

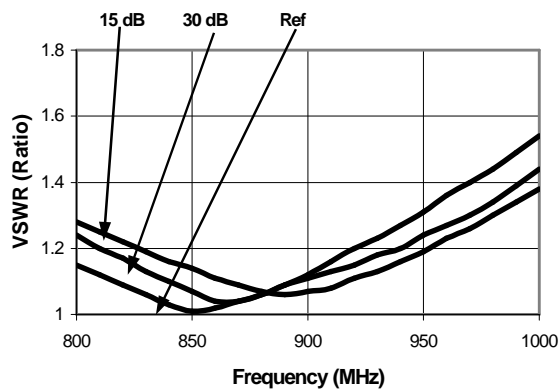
Parameter	Test Conditions	Frequency	Units	Min.	Typ.	Max.
Insertion Loss	0 volts	800-1000 MHz	dB	—	3.6	4.2
		925 - 960 MHz	dB	—	3.5	3.9
Attenuation (Above Loss)	12 mA bias current	800-1000 MHz	dB	30	34	—
		925 - 960 MHz	dB	30	34	—
Frequency Flatness	0 to 30 dB attenuation	800-1000 MHz	dB	—	2.3	3.0
		925 - 960 MHz	dB	—	0.4	0.8
VSWR	0 to 30 dB attenuation	800-1000 MHz	Ratio	—	1.5:1	1.9:1
		925 - 960 MHz	Ratio	—	1.3:1	1.8:1
Switching Speed	50% Control to 90%/10% RF	800-1000 MHz	μS	—	—	10.0
Linear Operation	—	800-1000 MHz	dBm	—	+20	—
Input IP <sub>3</sub>	Two-tone inputs up to +10 dBm	800-1000 MHz	dBm	+35	+40	—
I <sub>Control</sub>	—	800-1000 MHz	mA	—	—	30

### Typical Performance Curves

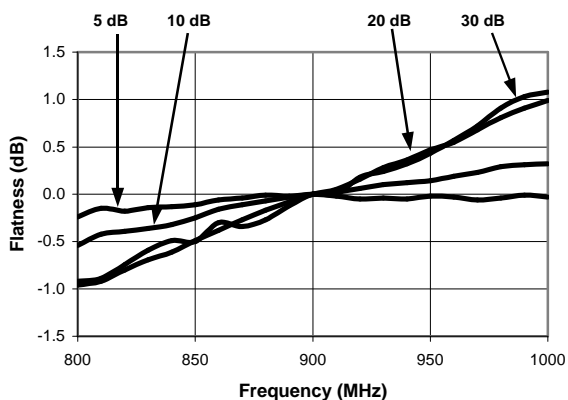
*Insertion Loss*



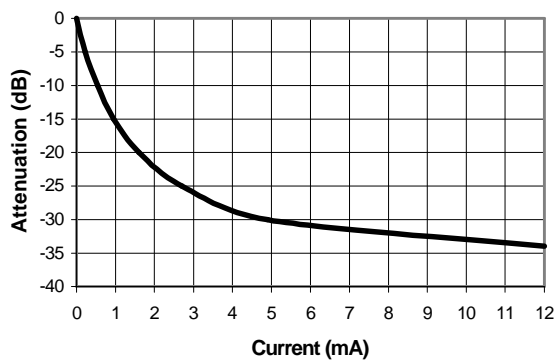
*Typical VSWR @ +25°C*



*Attenuation Flatness @ +25°C*



*Atten. vs. Bias Current @ +25°C*



Specifications subject to change without notice.

- North America: Tel. (800) 366-2266
- 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](http://www.macom.com) for additional data sheets and product information.



## Pin Configuration

Pin #	Function	Pin #	Function
1	N/C	15	N/C
2	N/C	16	N/C
3	N/C	17	N/C
4	N/C	18	N/C
5	N/C	19	N/C
6	N/C	20	N/C
7	N/C	21	N/C
8	N/C	22	N/C
9	Bias <sup>1</sup>	23	N/c
10	N/C	24	Bias <sup>1</sup>
11	N/C	25	N/C
12	GND	26	GND
13	RF out	27	RF in
14	GND	28	GND

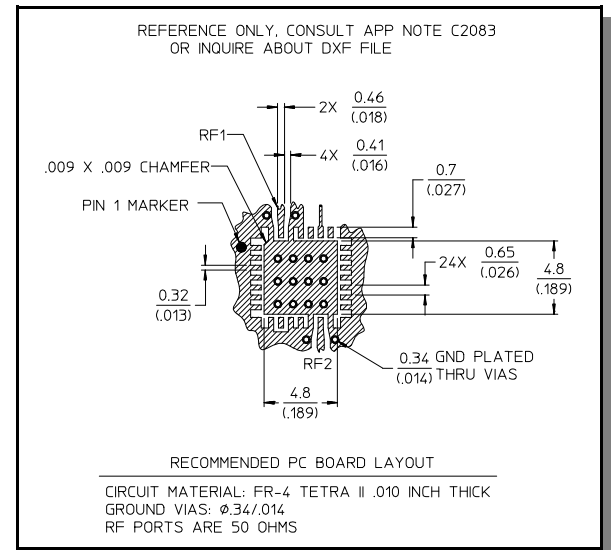
1. Bias current may be applied to Pin 9 or 24. However, the unused Pin must be isolated.

Absolute Maximum Ratings <sup>2</sup>

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

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

## Recommended PCB Layout



## Ordering Information

Part Number	Package
MAAVCC0001	Bulk Packaging
MAAVCC0001TR	Tape and Reel (1K Reel)
MAAVCC0001-TB	Unit Mounted on Test Board

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