

**Cascadable Amplifier
2 to 2400 MHz**

A33-1/ SMA33-1

V3

Features

- ULTRAWIDE BANDWIDTH: 1-2600 MHz (TYP.)
- MEDIUM OUTPUT LEVEL: +6 dBm (TYP.)

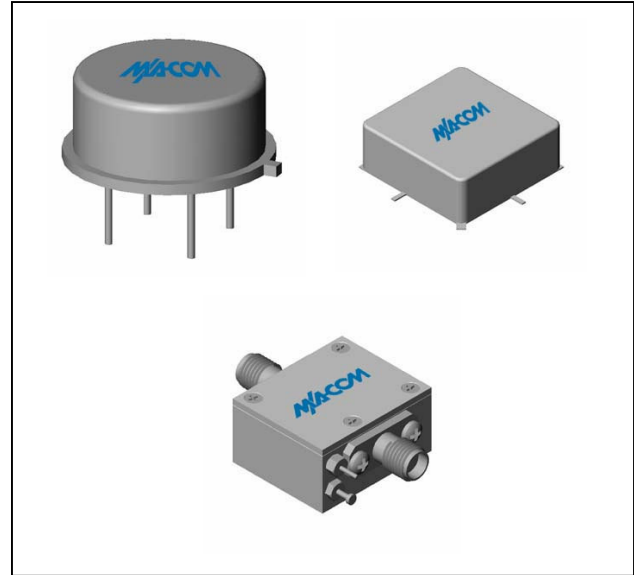
Description

The A33-1 RF amplifier is a discrete thin film hybrid design, which incorporates the use of thin film manufacturing processes for accurate performance and high reliability. This single stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. An active DC biasing network is used for temperature-stable performance, in addition to an RF Choke, used for power supply decoupling. Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

Ordering Information

Part Number	Package
A33-1	TO-8
SMA33-1	Surface Mount
CA33-1 **	SMA Connectorized

Product Image



www.DataSheet4U.com ** The connectorized version is not RoHS compliant.

Electrical Specifications: $Z_0 = 50\Omega$, $V_{CC} = +15 V_{DC}$

Parameter	Units	Typical	Guaranteed	
		25°C	0° to 50°C	-54° to +85°C*
Frequency	MHz	1-2600	2-2400	2-2400
Small Signal Gain (min)	dB	9.0	8.2	7.8
Gain Flatness (max)	dB	±0.4	±0.6	±0.8
Reverse Isolation	dB	15		
Noise Figure (max)	dB	4.0	5.0	5.5
Power Output @ 1 dB comp. (min)	dBm	6.0	4.5	4.0
IP3	dBm	+19		
IP2	dBm	+29		
Second Order Harmonic IP	dBm	+35		
VSWR Input / Output (max)		1.6:1 / 1.4:1	1.9:1 / 1.8:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	19	21	23

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	+125°C
DC Voltage	+20 V
Continuous Input Power	+13 dBm
Short Term Input power (1 minute max.)	50 mW
Peak Power (3 µsec max.)	0.5 W
"S" Series Burn-In Temperature (case)	+125°C

Thermal Data: $V_{CC} = +15 V_{DC}$

Parameter	Rating
Thermal Resistance θ_{jc}	160°C/W
Transistor Power Dissipation P_d	0.124 W
Junction Temperature Rise Above Case T_{jc}	+20°C

* Over temperature performance limits for part number CA33-1, guaranteed from 0°C to +50°C only.

1

M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. M/A-COM makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does M/A-COM assume any liability whatsoever arising out of the use or application of any product(s) or information.

- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

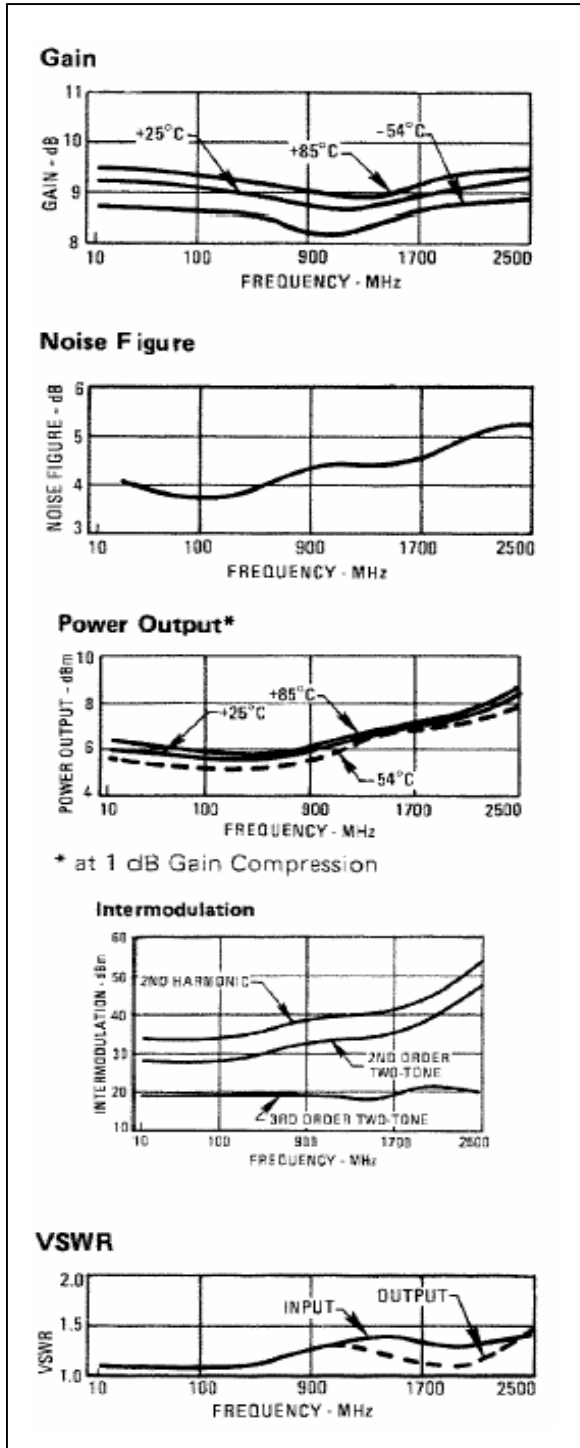
Visit www.macom.com for additional data sheets and product information.

**Cascadable Amplifier
2 to 2400 MHz**

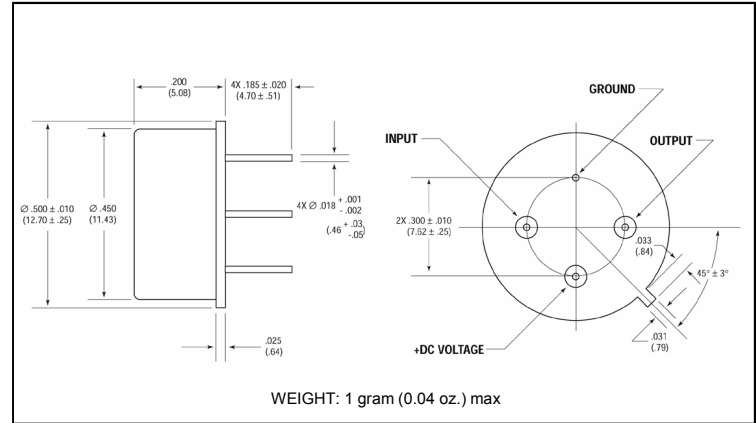
A33-1/ SMA33-1

V3

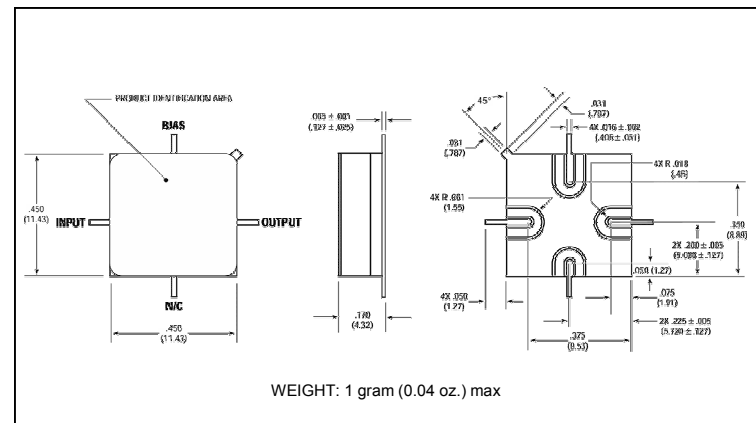
Typical Performance Curves at +25°C



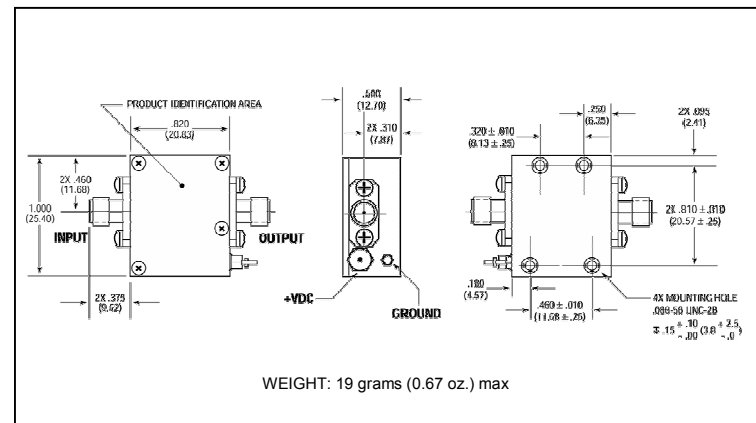
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.