

**Cascadable Amplifier  
5 to 500 MHz**

**A77/ SMA77**  
V3

**Features**

- High Gain: 16.5 dB (TYP.)
- High Level Output: +16.5 dBm (TYP.)
- High Third Order I.P.: +30 dBm (TYP.)
- Low VSWR: 1.3:1 (TYP.)

**Description**

The A77 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

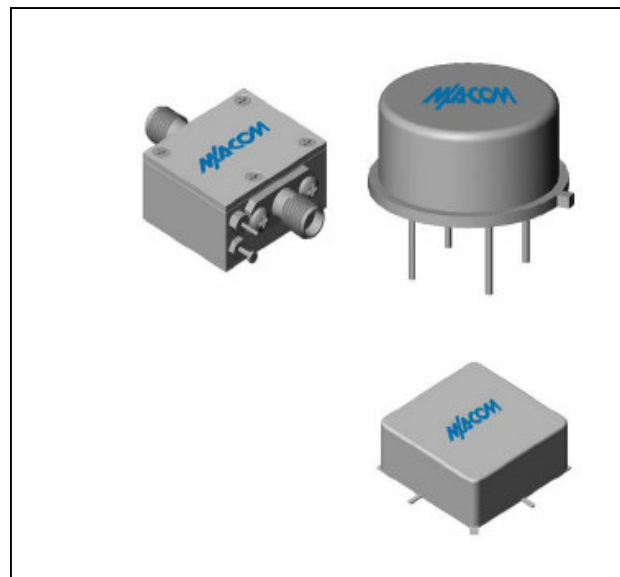
The single stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

**Ordering Information**

Part Number	Package
A77	TO-8
SMA77	Surface Mount
CA77**	SMA Connectorized

\*\* The connectorized version is not RoHS compliant.

**Product Image**



**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	2-600	5-500	5-500
Small Signal Gain (min)	dB	16.5	16.0	15.0
Gain Flatness (max)	dB	±0.3	±0.7	±1.0
Reverse Isolation	dB	17		
Noise Figure (max)	dB	4.5	5.0	5.5
Power Output @ 1 dB comp. (min)	dBm	16.5	15.0	14.5
IP3	dBm	+30		
IP2	dBm	+43		
Second Order Harmonic IP	dBm	+49		
VSWR Input / Output (max)		1.3:1 / 1.3:1	1.7:1 / 1.7:1	2.0:1 / 2.0:1
DC Current (max)	mA	50	53	56

**Absolute Maximum Ratings**

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	125°C
DC Voltage	+17 V
Continuous Input Power	+13 dBm
Short Term Input power (1 minute max.)	100 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 $\theta_{jc}$	130°C/W
Transistor Power Dissipation $P_d$	0.464 W
Junction Temperature Rise Above Case $T_{jc}$	60°C

\* Over temperature performance limits for part number CA77, guaranteed from 0°C to +50°C only.

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.

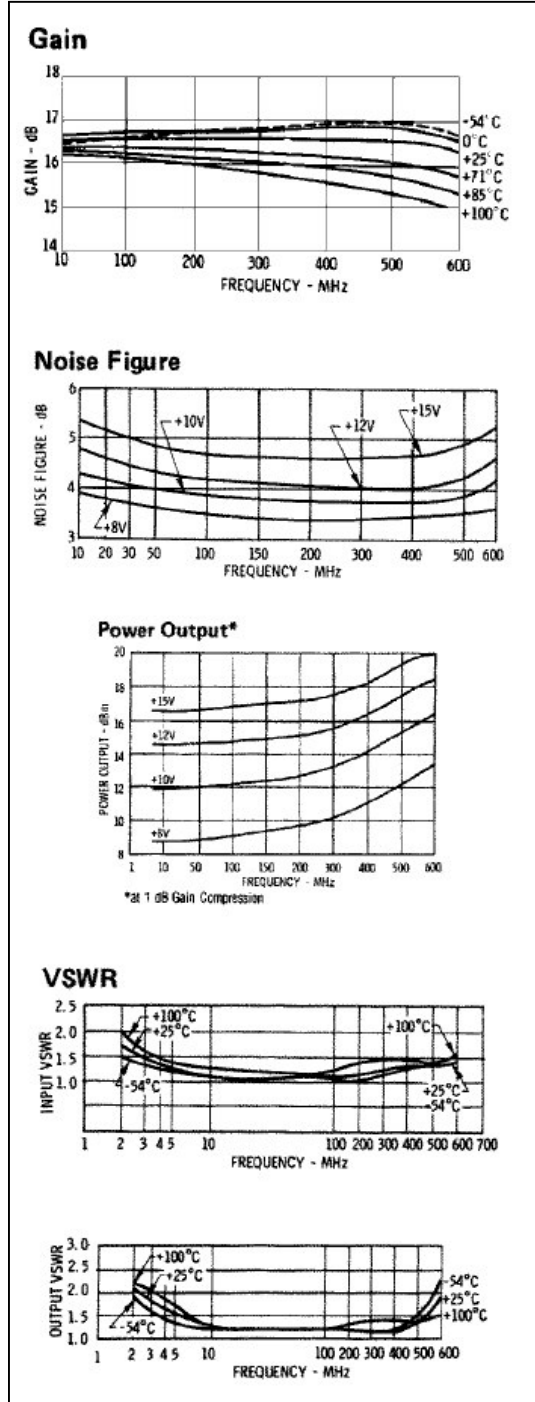
• **North America** Tel: 800.366.2266 / Fax: 978.366.2266  
 • **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300  
 • **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

Visit [www.macom.com](http://www.macom.com) for additional data sheets and product information.

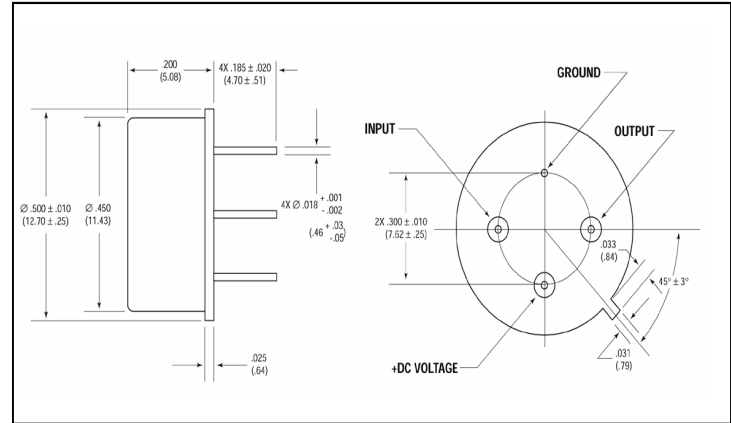
**Cascadable Amplifier  
5 to 500 MHz**

**A77/ SMA77  
V3**

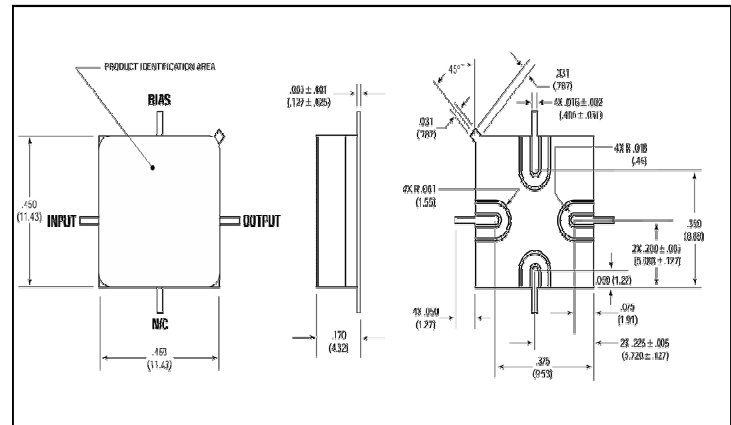
**Typical Performance Curves**



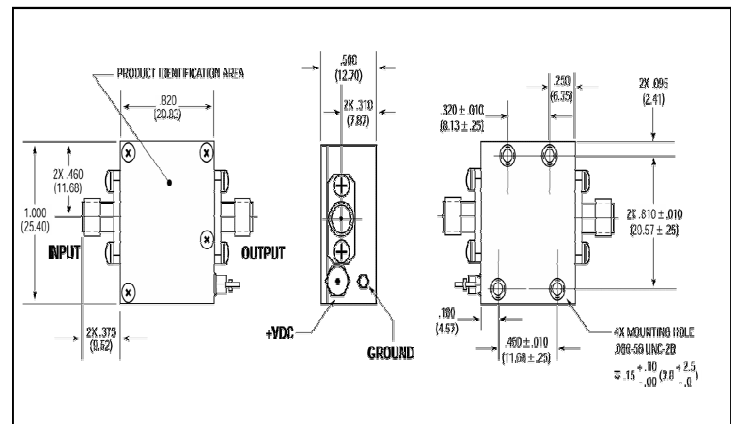
**Outline Drawing: TO-8 \***



**Outline Drawing: Surface Mount**



**Outline Drawing: SMA Connectorized**



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

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](http://www.macom.com) for additional data sheets and product information.