

## Cascadable Amplifier 2000 to 6000 MHz

**RA62/SMRA62**

V2

### Features

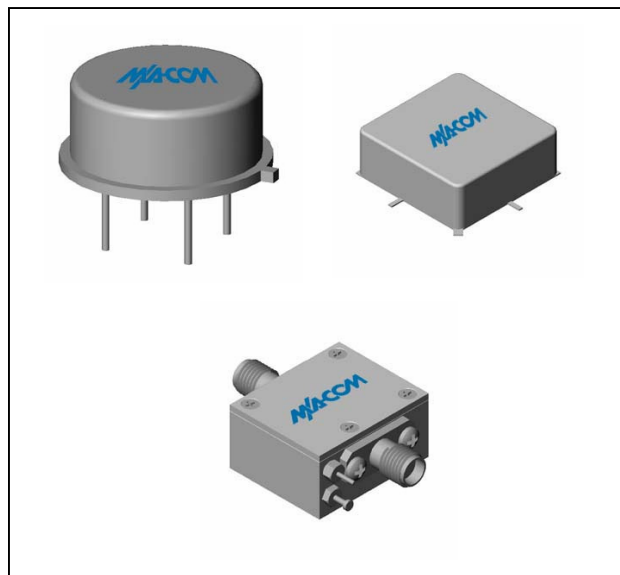
- ULTRAWIDE BANDWIDTH 1.5-6.2 GHz (TYP.)
- MEDIUM GAIN 16 dB (TYP.)
- MEDIUM OUTPUT POWER +13 dBm (TYP.)
- LOW NOISE FIGURE 4 dB (TYP.)

### Description

The RA62 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

This two stage GaAs FET feedback amplifier design displays impressive performance characteristics over a broadband frequency range. Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

### Product Image



### Ordering Information

Part Number	Package
RA62	TO-8
SMRA62	Surface Mount
CRA62	SMA Connectorized

### Electrical Specifications: $Z_0 = 50\Omega$ , $V_{CC} = +5 V_{DC}$

Parameter	Units	Typical	Guaranteed	
		25°C	0° to 50°C	-54° to +85°C*
Frequency	GHz	1.5-6.2	2.0-6.0	2.0-6.0
Small Signal Gain (min)	dB	16.0	14.0	13.5
Gain Flatness (max)	dB	±0.4	±0.7	±1.0
Reverse Isolation	dB	30		
Noise Figure (max)	dB	4.0	5.0	5.5
Power Output @ 1 dB comp. (min)	dBm	13.0	12.0	11.5
IP3	dBm	+28		
IP2	dBm	+40		
Second Order Harmonic IP	dBm	+45		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.9:1 / 1.9:1	2.1:1 / 2.1:1
DC Current @ 5 Volts (max)	mA	65	72	74

### Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	125°C
DC Voltage	+6 V
Continuous Input Power	+7 dBm
Short Term Input power (1 minute max.)	100 mW
Peak Power (3 µsec max.)	0.25 W
"S" Series Burn-In Temperature (case)	125°C

### Thermal Data: $V_{CC} = +5 V_{DC}$

Parameter	Rating
Thermal Resistance $\theta_{jc}$	92.2°C/W
Transistor Power Dissipation $P_d$	0.171 W
Junction Temperature Rise Above Case $T_{jc}$	16°C

\* Over temperature performance limits for part number CRA62, guaranteed from 0°C to +50°C only.

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

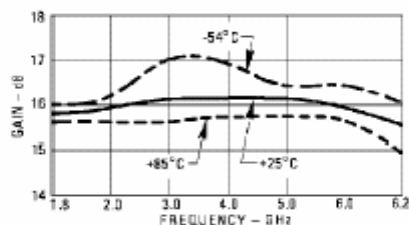
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# RA62/SMRA62

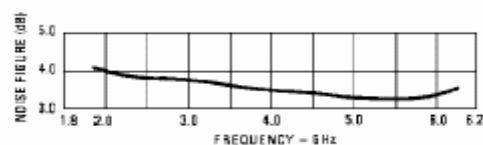
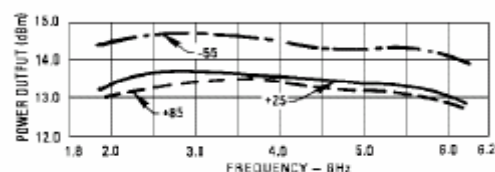
V2

### Typical Performance Curves at +25°C

Gain

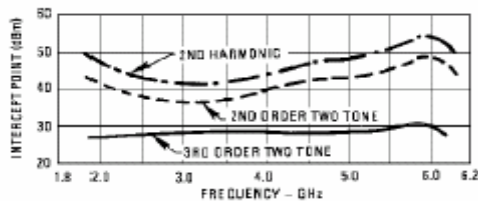


### Noise Figure

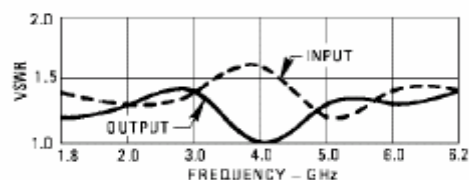
**Power Output\***

\*at 1 dB Gain Compression

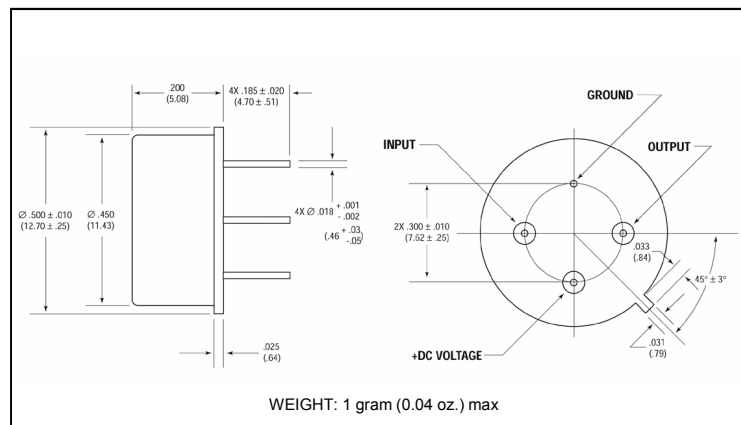
### Intercept Point



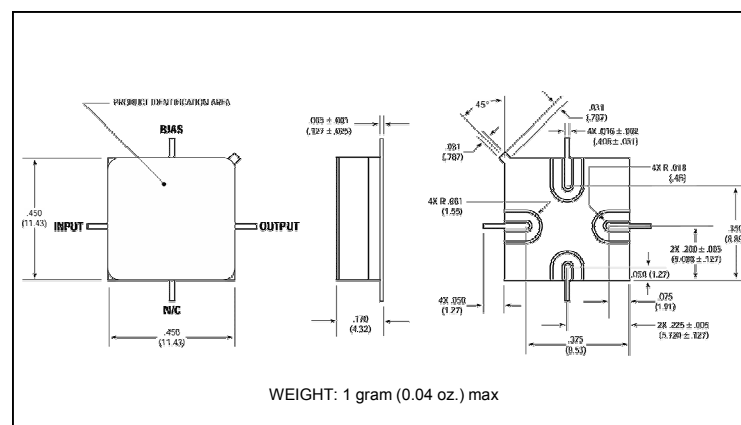
VSWR



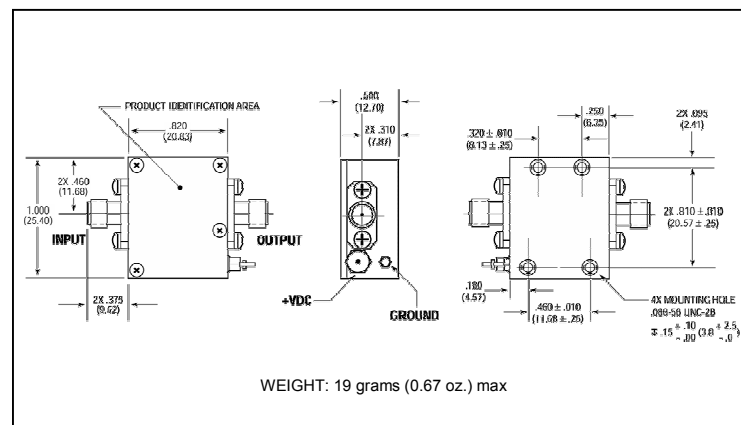
## Outline Drawing: TO-8 \*



## Outline Drawing: Surface Mount \*



## Outline Drawing: SMA Connectorized \*



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