

# Cascadable Amplifier 2000 to 6000 MHz

Rev. V3

#### **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-8B and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available. An SMA connectorized self assembly kit is also available for the TO-8B module.

#### **Ordering Information**

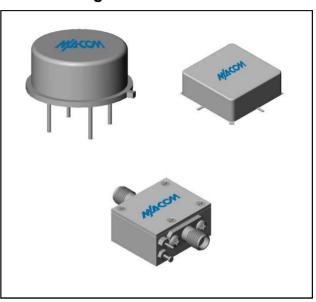
Part Number	Package		
RA62	TO-8B		
SMRA62	Surface Mount		
MAAM-008741-0CRA62	SMA Connectorized **		

<sup>\*\*</sup> The connectorized version is not RoHs compliant.

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

Parameter	Units	Typical	Guaranteed	
Parameter		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

#### **Product Image**



#### **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: $V_{CC} = +5 V_{DC}$

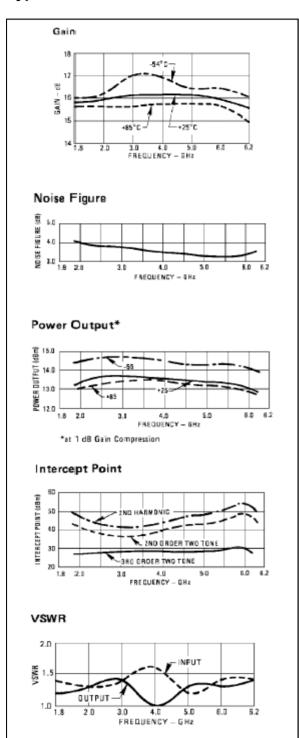
Parameter	Rating	
Thermal Resistance $\theta_{jc}$	92.2°C/W	
Transistor Power Dissipation P <sub>d</sub>	0.171 W	
Junction Temperature Rise Above Case T <sub>jc</sub>	16°C	



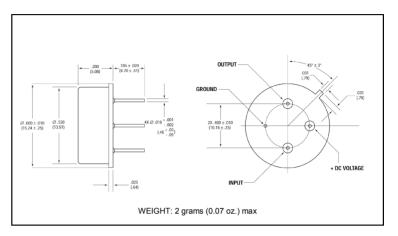
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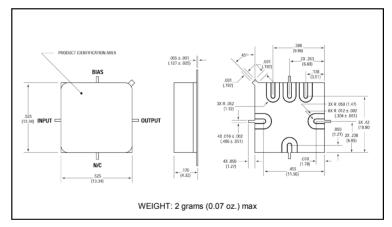
### Typical Performance Curves at +25°C



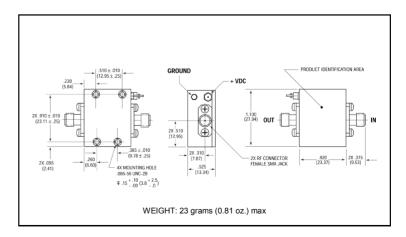
## Outline Drawing: TO-8B \*



## Outline Drawing: Surface Mount \*



## Outline Drawing: SMA Connectorized \*



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

## **RA62 / SMRA62**



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