

## Cascadable Amplifier 2000 to 6000 MHz

Rev. 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.

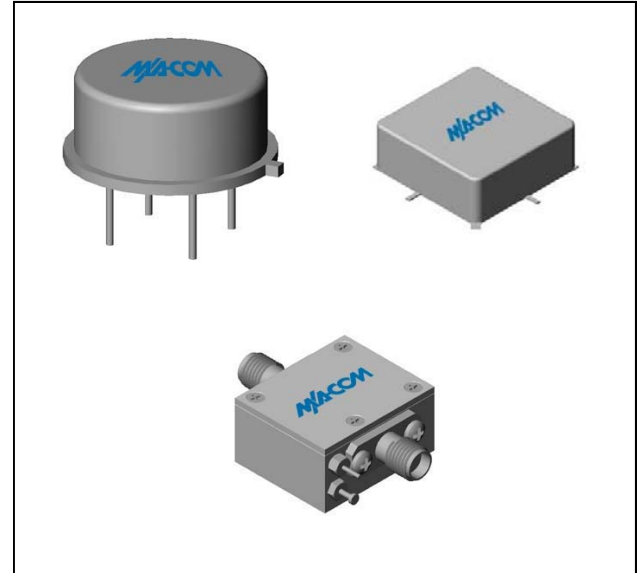
This two stage GaAs FET feedback amplifier design displays impressive performance characteristics over a broadband frequency range. Both TO-8B and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available. An SMA connectorized self assembly kit is also available for the TO-8B module.

### Ordering Information

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

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

### Product Image



### 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<br>@ 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<br>(1 minute max.) | 100 mW           |
| Peak Power (3 µsec max.)                  | 0.25 W           |
| "S" Series Burn-In<br>Temperature (case)  | 125°C            |

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

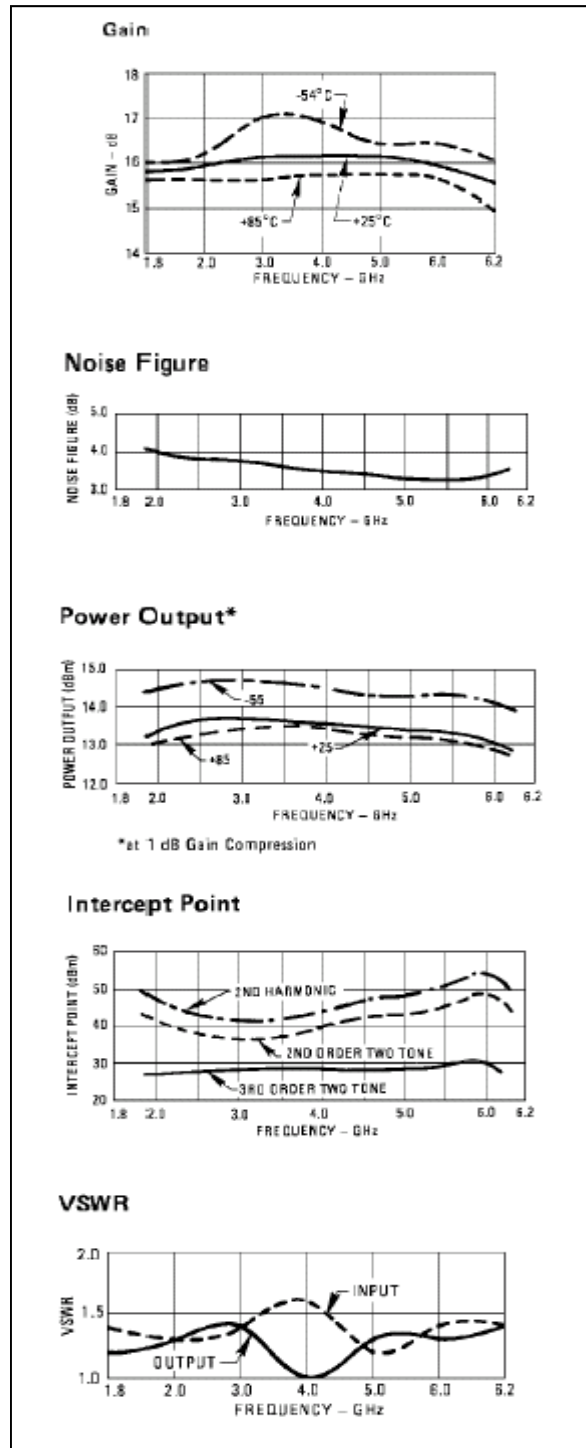
| Parameter                                        | Rating   |
|--------------------------------------------------|----------|
| Thermal Resistance $\theta_{jc}$                 | 92.2°C/W |
| Transistor Power Dissipation $P_d$               | 0.171 W  |
| Junction Temperature Rise<br>Above Case $T_{jc}$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

# RA62 / SMRA62

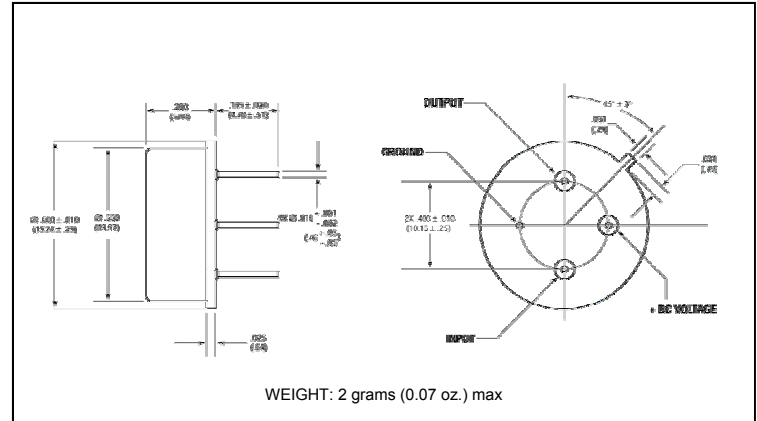
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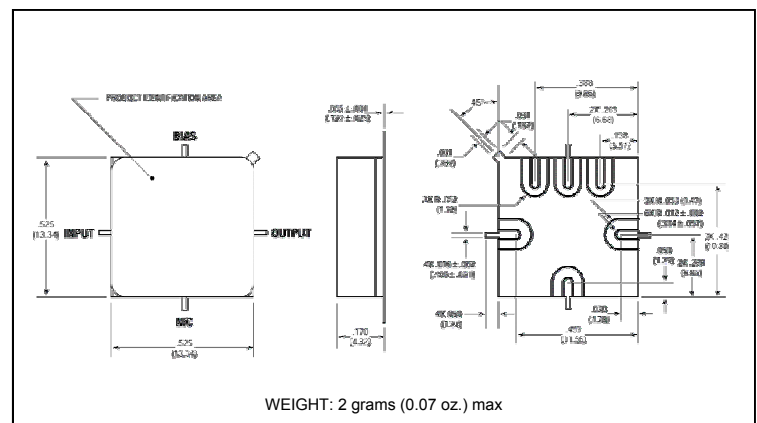
## Typical Performance Curves at +25°C



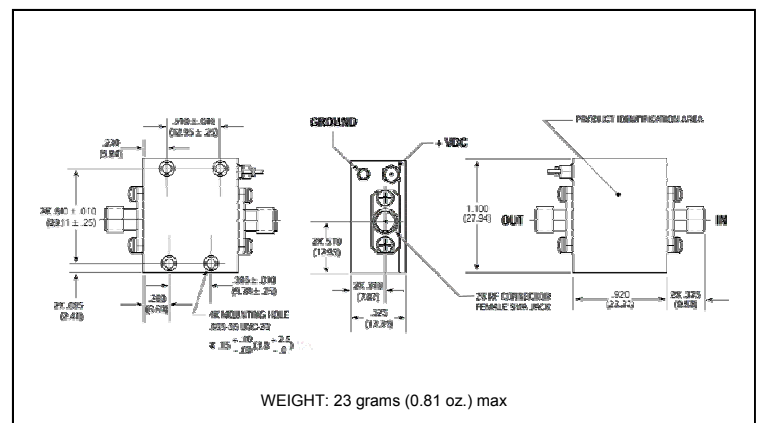
## Outline Drawing: TO-8B \*



## Outline Drawing: Surface Mount \*



## Outline Drawing: SMA Connectorized \*



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

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• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400  
• **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588  
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