

## Features

- HIGH GAIN - TWO STAGES: 23.5 dB (TYP.)
- LOW NOISE: <3.8 dB (TYP.)
- HIGH OUTPUT LEVEL: +15.0 dBm (TYP.)
- WIDE POWER SUPPLY RANGE: 5 TO 15 VOLTS

## Description

The A66 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for consistent performance and high reliability.

This 2 stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. An active DC biasing network insures temperature-stable performance.

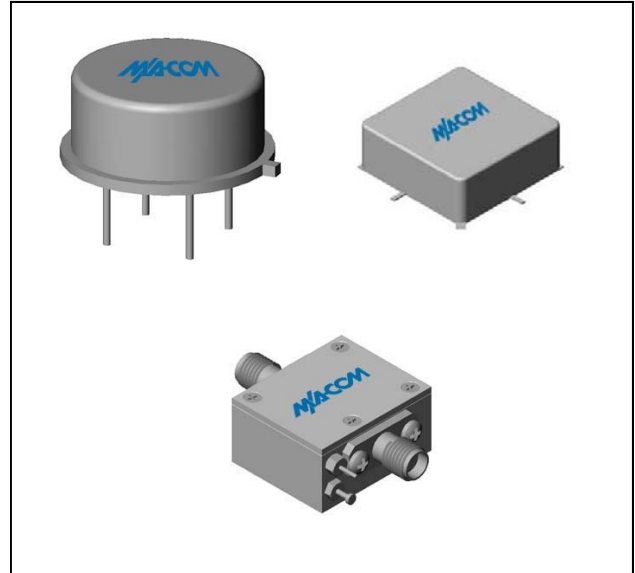
Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

## Ordering Information

| Part Number | Package           |
|-------------|-------------------|
| A66         | TO-8              |
| SMA66       | Surface Mount     |
| CA66 **     | 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   | 5-1250        | 10-1200       | 10-1200        |
| Small Signal Gain (min)         | dB    | 23.5          | 22.0          | 21.0           |
| Gain Flatness (max)             | dB    | ±0.3          | ±0.7          | ±1.0           |
| Reverse Isolation               | dB    | 32            |               |                |
| Noise Figure (max)              | dB    | 4.0           | 5.0           | 5.5            |
| Power Output @ 1 dB comp. (min) | dBm   | 15.0          | 14.0          | 13.5           |
| 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 | 2.0:1 / 2.0:1  |
| DC Current @ 15 Volts (max)     | mA    | 64            | 67            | 70             |

## Absolute Maximum Ratings

| Parameter                              | Absolute Maximum |
|--|------------------|
| Storage Temperature                    | -62°C to +125°C  |
| Case Temperature                       | +125°C           |
| DC Voltage                             | +17 V            |
| Continuous Input Power                 | 10 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 $\theta_{jc}$              | 145°C/W |
| Transistor Power Dissipation $P_d$            | 0.405 W |
| Junction Temperature Rise Above Case $T_{jc}$ | 59°C    |

\* Over temperature performance limits for part number CA66, guaranteed from 0°C to +50°C only.

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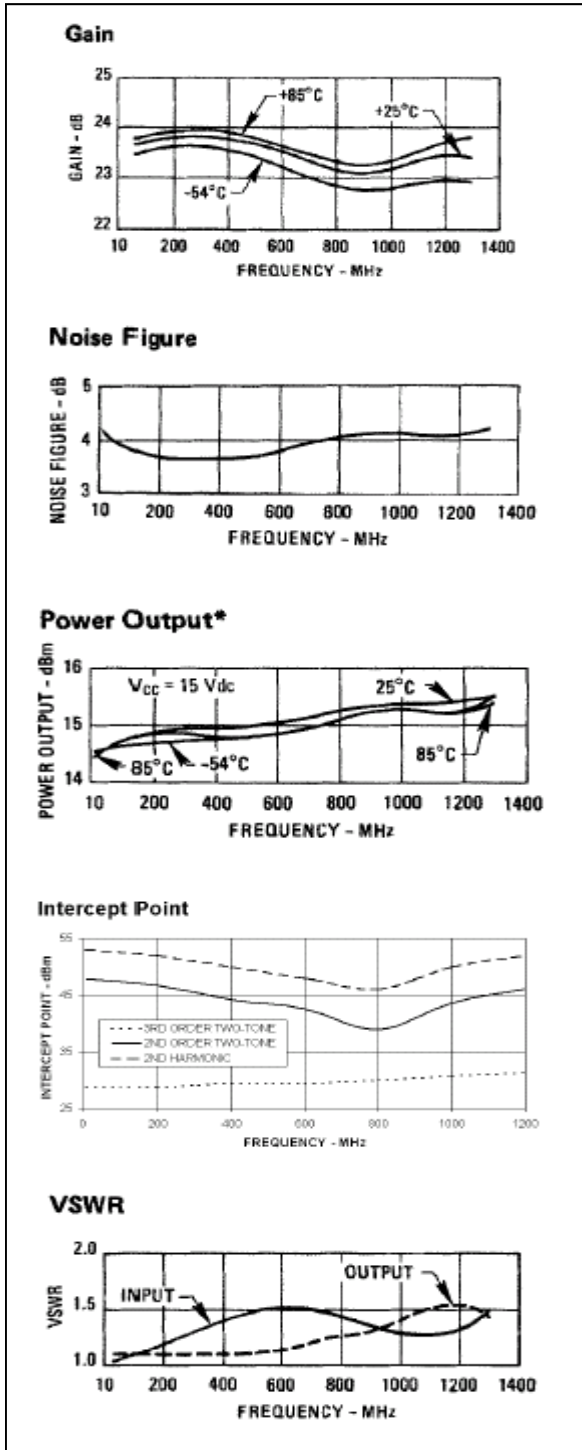
# A66 / SMA66



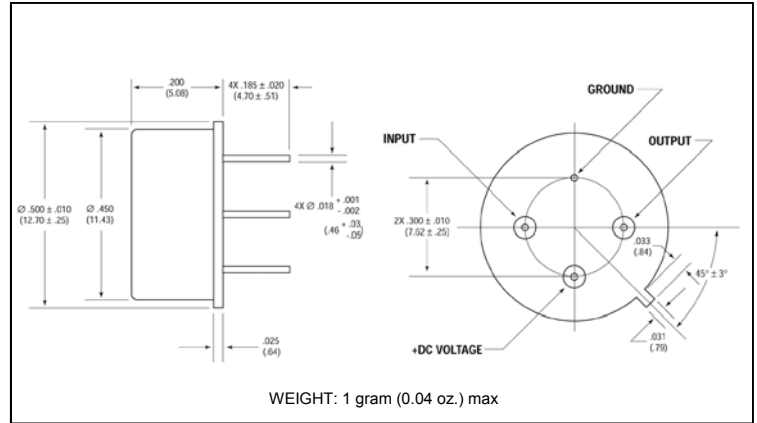
Cascadable Amplifier  
10 to 1200 MHz

Rev. V3

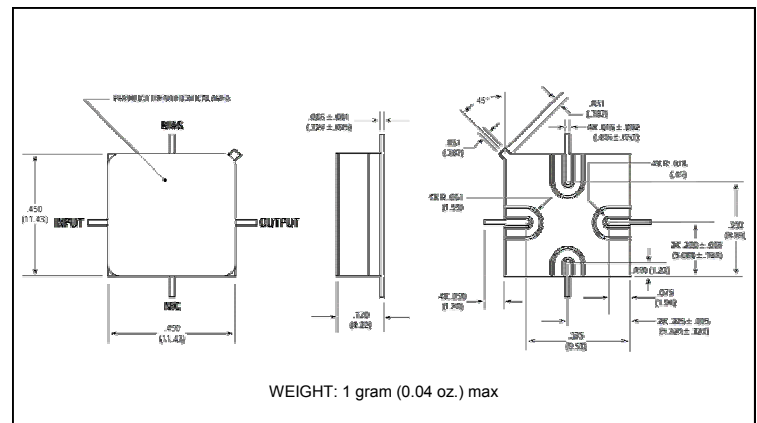
## Typical Performance Curves at +25°C



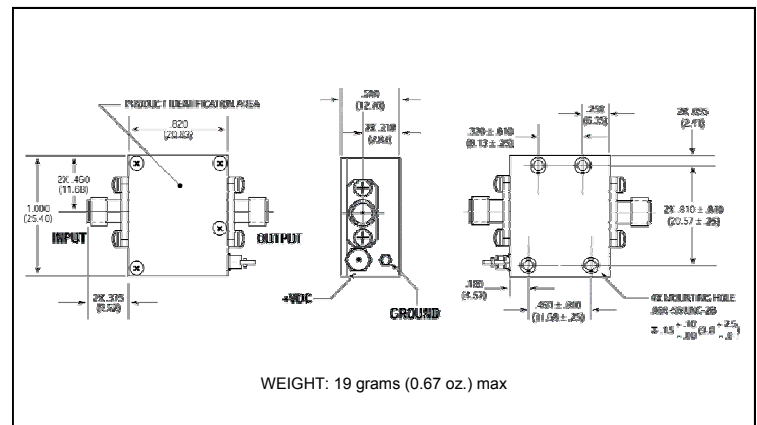
## Outline Drawing: TO-8 \*



## Outline Drawing: Surface Mount \*



## Outline Drawing: SMA Connectorized \*



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

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