

## Cascadable Amplifier 10 to 1200 MHz

Rev. V3

### 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.

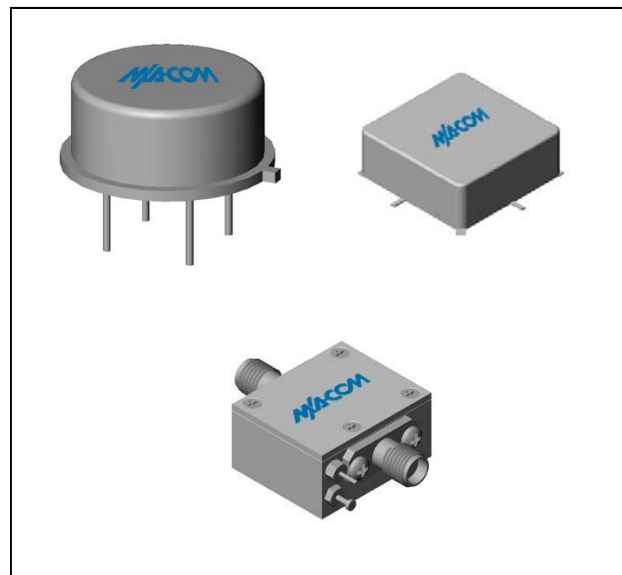
Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

### 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.

**ADVANCED:** Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

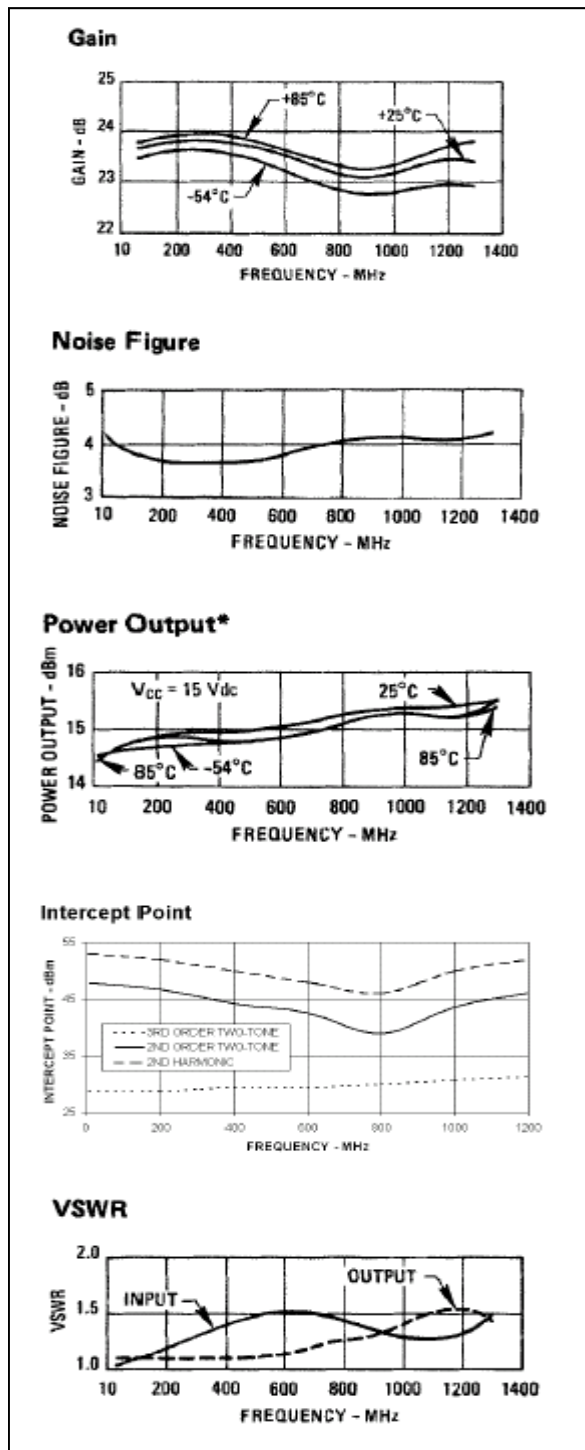
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 Visit [www.macomtech.com](http://www.macomtech.com) for additional data sheets and product information.

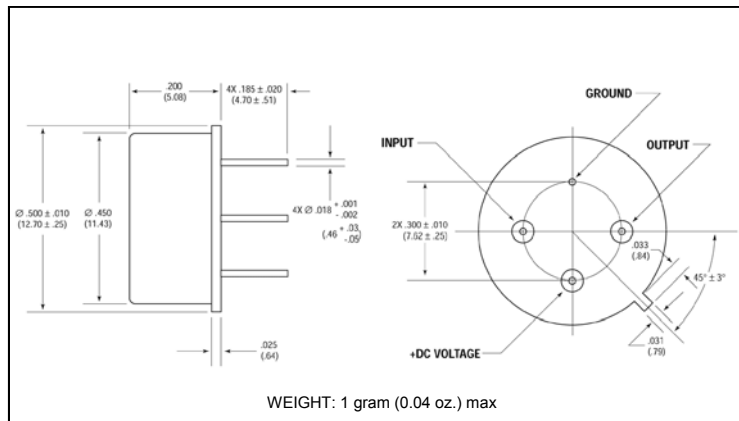
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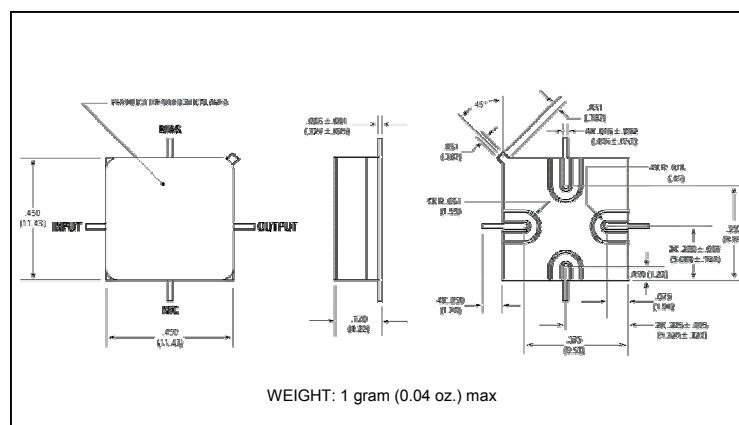
## Typical Performance Curves at +25°C



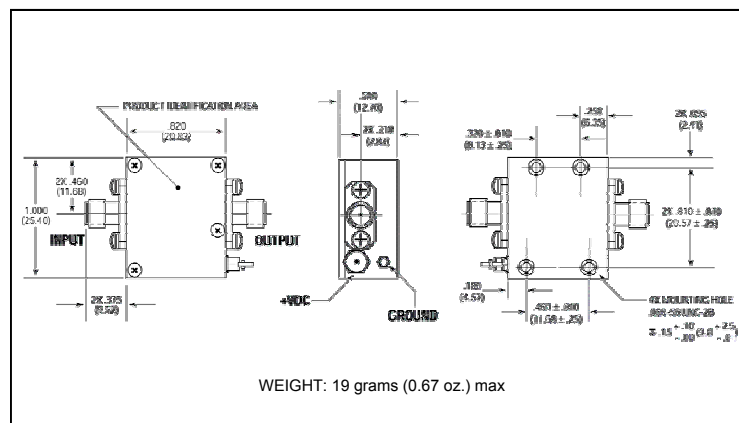
## Outline Drawing: TO-8 \*



## Outline Drawing: Surface Mount \*



## Outline Drawing: SMA Connectorized \*



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