

## Features

- HIGH GAIN - TWO STAGES: 27.5 dB (TYP.)
- LOW NOISE: <3.0 dB (TYP.)
- HIGH POWER OUTPUT: 15.0 dBm (TYP.)
- WIDE POWER SUPPLY RANGE: 5 TO 15 VOLTS

## Description

The A66-1 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
A66-1	TO-8
SMA66-1	Surface Mount
CA66-1 **	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	5-1200	10-1000	10-1000
Small Signal Gain (min)	dB	27.5	26.0	25.5
Gain Flatness (max)	dB	±0.4	±0.7	±1.0
Reverse Isolation	dB	33		
Noise Figure (max)	dB	2.9	3.5	4.0
Power Output @ 1 dB comp. (min)	dBm	15.0	14.5	14.0
IP3	dBm	+28		
IP2	dBm	+38		
Second Order Harmonic IP	dBm	+43		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.8:1 / 1.8:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	66	69	72

## Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	+125°C
DC Voltage	+17 V
Continuous Input Power	6 dBm
Short Term Input power (1 minute max.)	50 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 $P_d$	0.419 W
Junction Temperature Rise Above Case $T_{jc}$	61°C

\* Over temperature performance limits for part number CA66-1, guaranteed from 0°C to +50°C only.

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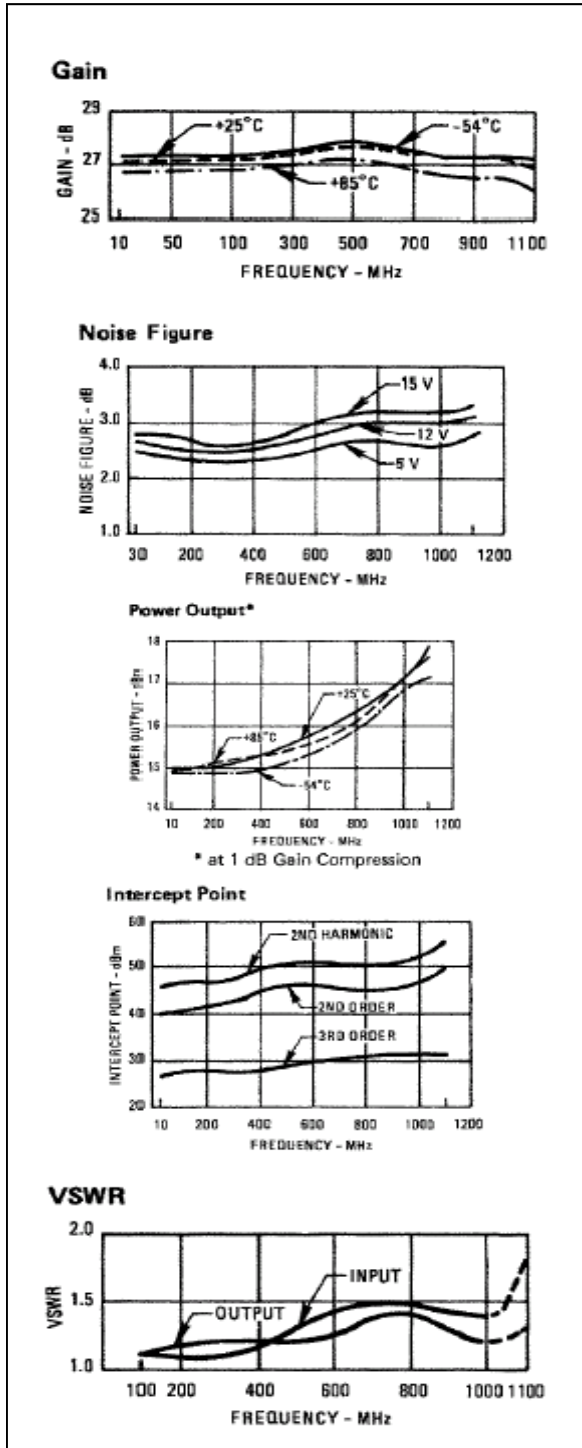
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# A66-1 / SMA66-1

Cascadable Amplifier  
10 to 1000 MHz

Rev. V3

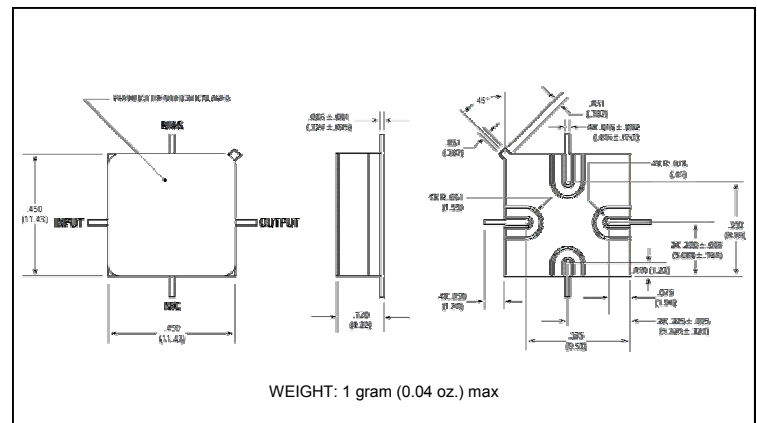
## Typical Performance Curves at +25°C



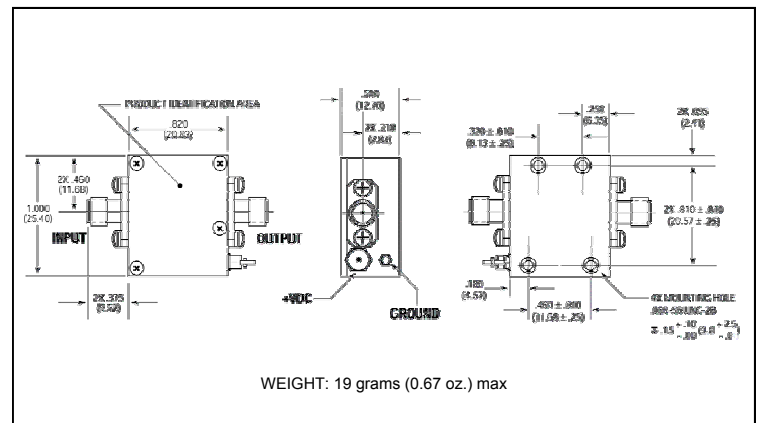
## Outline Drawing: TO-8 \*



## Outline Drawing: Surface Mount \*



## Outline Drawing: SMA Connectorized \*



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

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