tyco Electronics

RoHS Compliant

MACOM

Cascadable Amplifier 10 to 1000 MHz

A66-3/ SMA66-3

V3

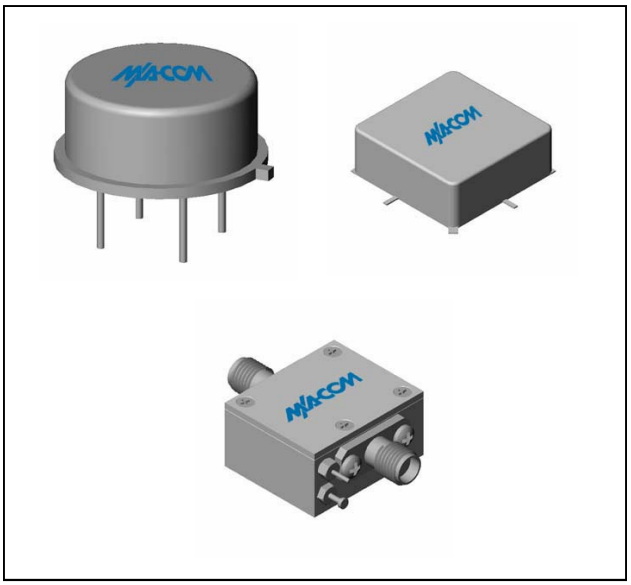
Features

- HIGH GAIN - TWO STAGES: 26.0 dB (TYP.)
- LOW NOISE: <3.0 dB (TYP.)
- HIGH EFFICIENCY: 16 mA (TYP.) AT 5 VOLTS

Description

The A66-3 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.

Product Image



Ordering Information

Part Number	Package
A66-3	TO-8
SMA66-3	Surface Mount
CA66-3 **	SMA Connectorized

** The connectorized version is not RoHs compliant.

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

Parameter	Units	Typical	Guaranteed	
		25ºC	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	5-1100	10-1000	10-1000
Small Signal Gain (min)	dB	26.0	24.5	24.0
Gain Flatness (max)	dB	±0.4	±0.7	±1.0
Reverse Isolation	dB	36		
Noise Figure (max)	dB	3.0	3.5	4.0
Power Output @ 1 dB comp. (min)	dBm	3.0	1.5	1.0
IP3	dBm	+13		
IP2	dBm	+32		
Second Order Harmonic IP	dBm	+37		
VSWR Input / Output (max)		1.3:1 / 1.3:1	1.8:1 / 1.8:1	2.0:1 / 2.0:1
DC Current @ 5 Volts (max)	mA	16	18	19

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62ºC to +125ºC
Case Temperature	+125ºC
DC Voltage	+10 V
Continuous Input Power	10 dBm
Short Term Input power (1 minute max.)	50 mW
Peak Power (3 µsec max.)	0.5 W
"S" Series Burn-In Temperature (case)	+125ºC

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

Parameter	Rating
Thermal Resistance θ_{jc}	170ºC/W
Transistor Power Dissipation P_d	0.016 W
Junction Temperature Rise Above Case T_{jc}	3ºC

* Over temperature performance limits for part number CA66-3, guaranteed from 0°C to +50°C only.

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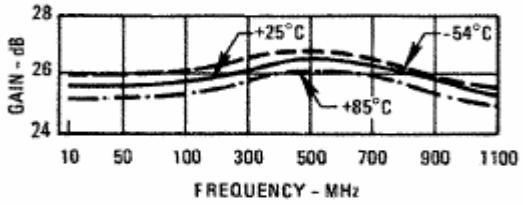
- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

Visit www.macom.com for additional data sheets and product information.

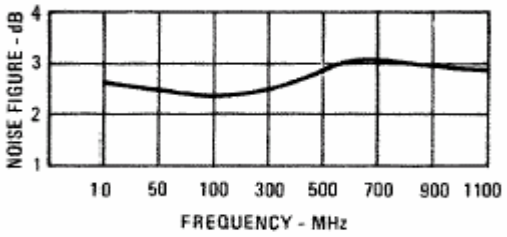
Cascadable Amplifier
10 to 1000 MHz

Typical Performance Curves at +25°C

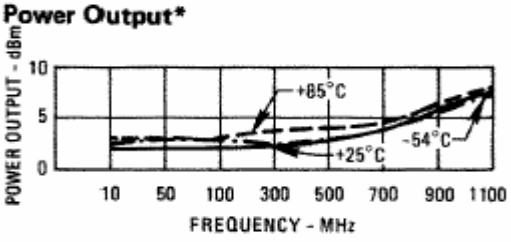
Gain



Noise Figure

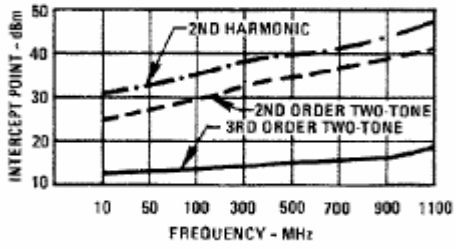


Power Output*

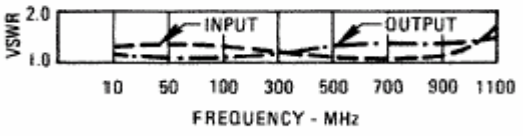


* at 1 dB Gain Compression

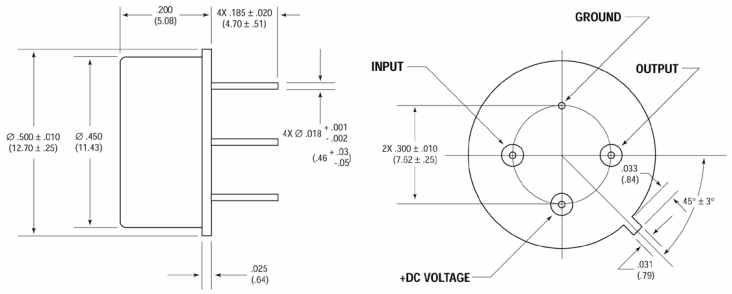
Intercept Point



VSWR

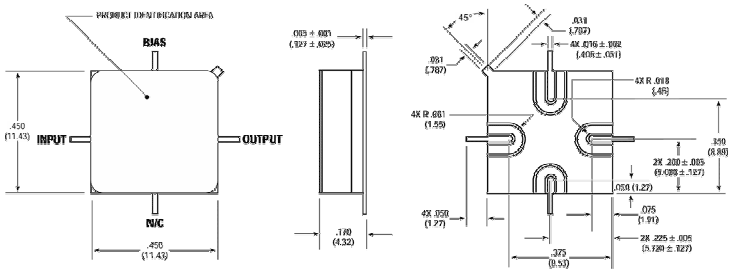


Outline Drawing: TO-8 *



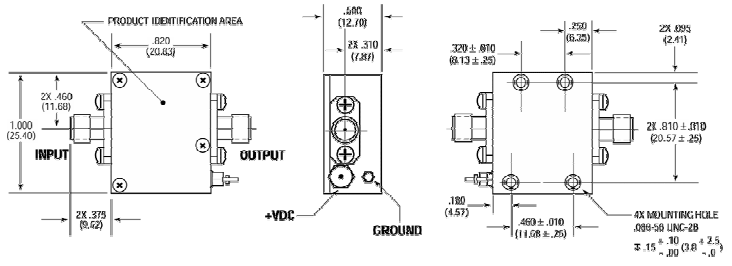
WEIGHT: 1 gram (0.04 oz.) max

Outline Drawing: Surface Mount *



WEIGHT: 1 gram (0.04 oz.) max

Outline Drawing: SMA Connectorized *



WEIGHT: 19 grams (0.67 oz.) max

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

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