

Cascadable Amplifier 10 to 1000 MHz

RA66/SMRA66

V2

Features

- HIGH GAIN - THREE STAGES: 37.0 dB (TYP.)
- LOW NOISE: <3.5 dB (TYP.)
- MEDIUM OUTPUT LEVEL: >+15.5 dBm (TYP.)
- HIGH REVERSE ISOLATION: >50 dB (TYP.)

Description

The RA66 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for consistent performance and high reliability.

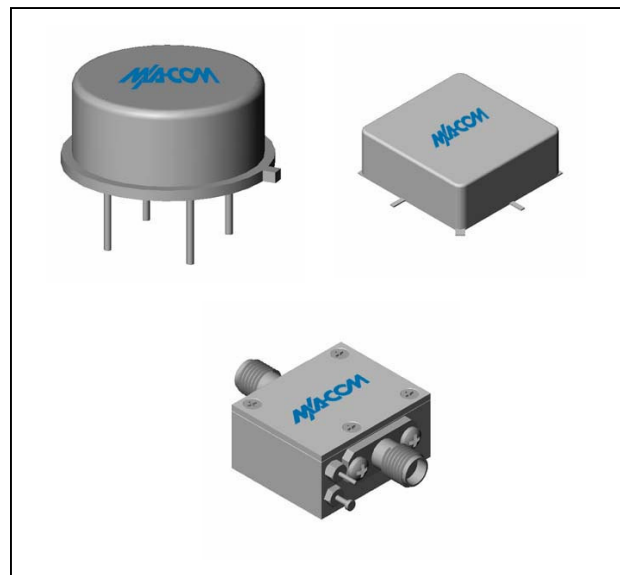
This 3 stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. An active DC biasing network insures temperature-stable performance.

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

Ordering Information

Part Number	Package
RA66	TO-8
SMRA66	Surface Mount
CRA66	SMA Connectorized

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	5-1000	10-1000	10-1000
Small Signal Gain (min)	dB	37.0	35.0	34.0
Gain Flatness (max)	dB	±0.6	±1.0	±1.3
Reverse Isolation	dB	45		
Noise Figure (max)	dB	3.5	4.5	5.0
Power Output @ 1 dB comp. (min)	dBm	15.5	14.0	13.0
IP3	dBm	+30		
IP2	dBm	+45		
Second Order Harmonic IP	dBm	+55		
VSWR Input / Output (max)		1.3:1 / 1.3:1	1.8:1 / 1.8:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	81	85	87

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.)	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 θ_{jc}	131°C/W
Transistor Power Dissipation P_d	0.321 W
Junction Temperature Rise Above Case T_{jc}	42°C

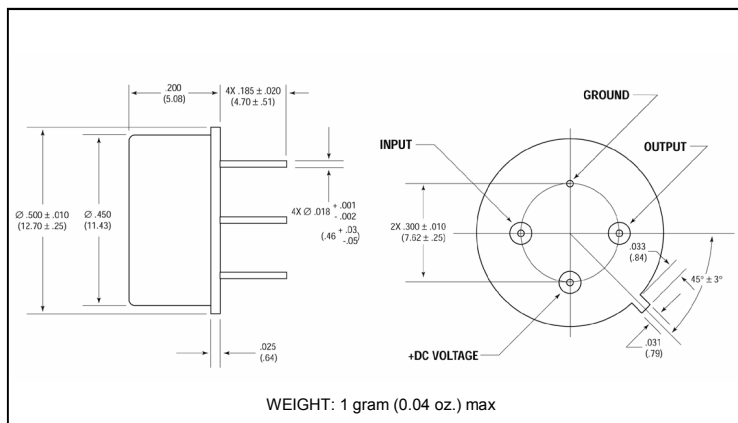
* Over temperature performance limits for part number CRA66, guaranteed from 0°C to +50°C only.

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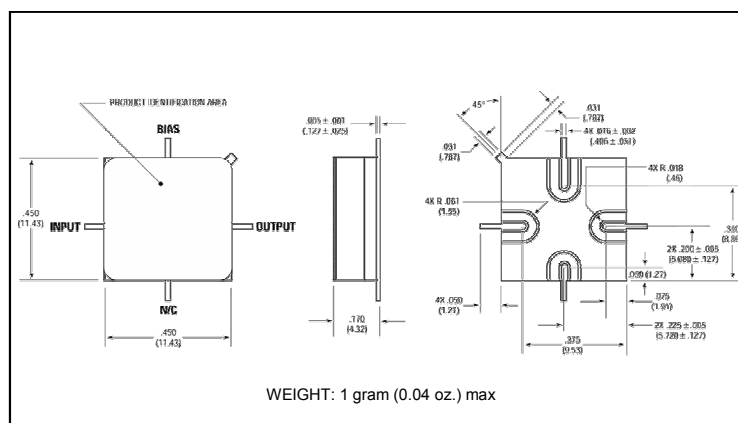
• **North America** Tel: 800.366.2266 / Fax: 978.366.2266
 • **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
 • **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

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

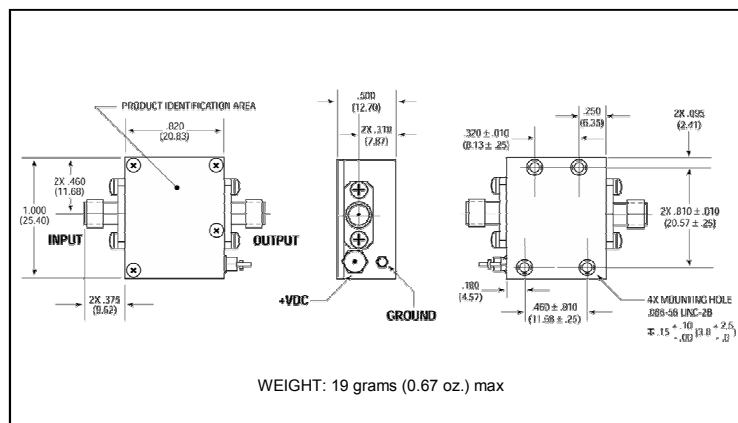
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



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