RA66 / SMRA66

Cascadable Amplifier
10 to 1000 MHz

Rev. V2

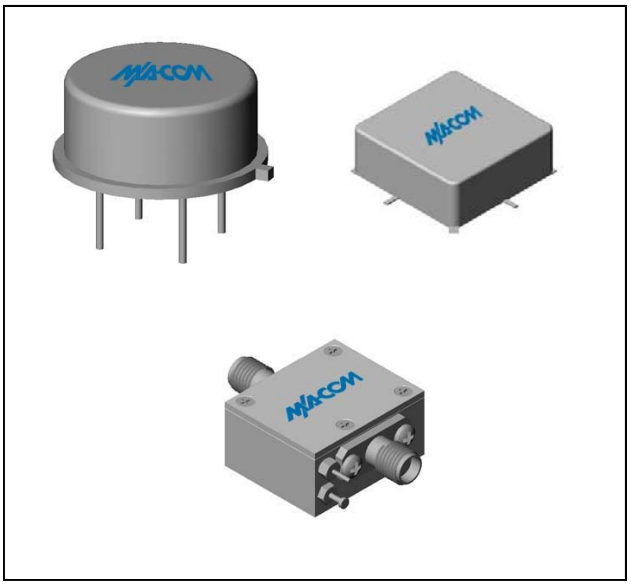
Features

- 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.

Product Image



Ordering Information

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

** The connectorized version is not RoHs compliant.

Electrical Specifications: $Z_0 = 50\Omega$, $V_{CC} = +15\ V_{DC}$

Parameter	Units	Typical	Guaranteed	
		25ºC	0º to 50ºC	-54º to +85ºC*
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

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

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62ºC to +125ºC
Case Temperature	125ºC
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)	125ºC

Thermal Data: $V_{CC} = +15\ V_{DC}$

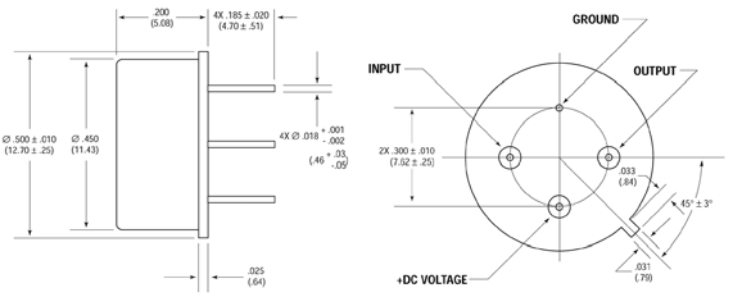
Parameter	Rating
Thermal Resistance θ_{jc}	131ºC/W
Transistor Power Dissipation P_d	0.321 W
Junction Temperature Rise Above Case T_{jc}	42ºC

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• **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588
Visit www.macomtech.com for additional data sheets and product information.

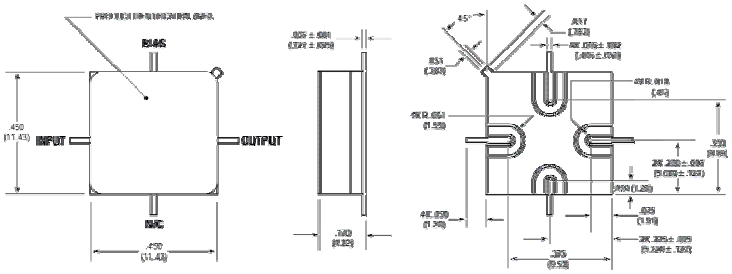
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Outline Drawing: TO-8 *



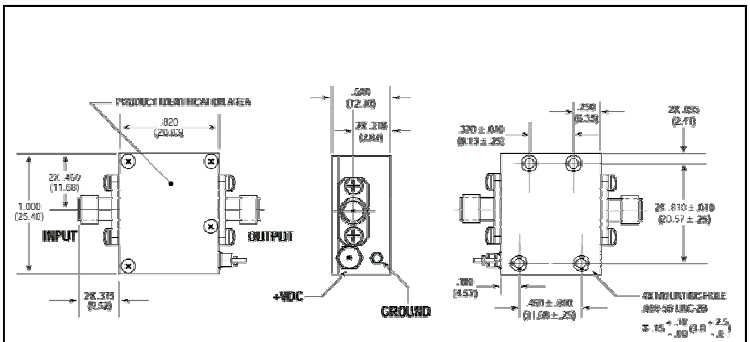
WEIGHT: 1 gram (0.04 oz.) max

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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