

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

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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.

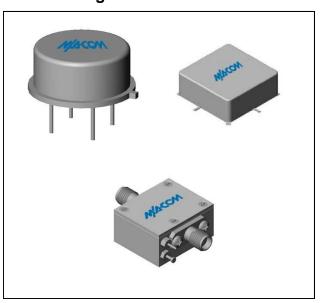
Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

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	0º to 50ºC	-54º to +85ºC*
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: $V_{CC} = +15 V_{DC}$

Thermal Bata: VCC = 110 VDC				
Parameter	Rating			
Thermal Resistance θ_{jc}	145°C/W			
Transistor Power Dissipation P _d	0.405 W			
Junction Temperature Rise Above Case T _{jc}	59°C			

 $^{^{\}star}$ 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.

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

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



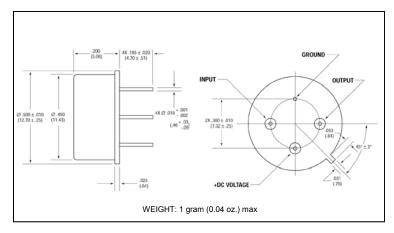
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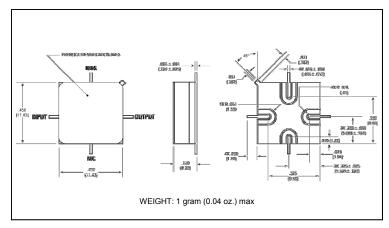
Typical Performance Curves at +25°C

Gain 뜸 23 22 FREQUENCY - MHz Noise Figure 10 200 600 800 1000 1200 FREQUENCY - MHz Power Output* Vcc = 15 Vdc POWER OUTPUT FREQUENCY - MHz Intercept Point POINT FREQUENCY - MHz **VSWR** OUTPUT 200 600 800 1000 FREQUENCY - MHz

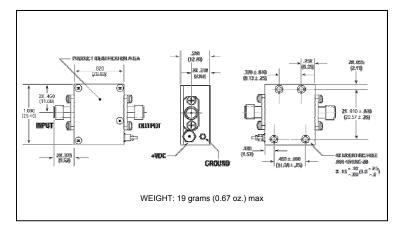
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount



Outline Drawing: SMA Connectorized



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

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