

Cascadable Amplifier 10 to 1000 MHz

Rev. 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.

Ordering Information

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

** The connectorized version is not RoHs compliant.

Product Image



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

Parameter	Units	Typical	Guaranteed	
		25°C	0° to 50°C	-54° to +85°C*
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	-62°C to +125°C
Case Temperature	+125°C
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)	+125°C

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

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

* Over temperature performance limits for part number CA66-3, 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.

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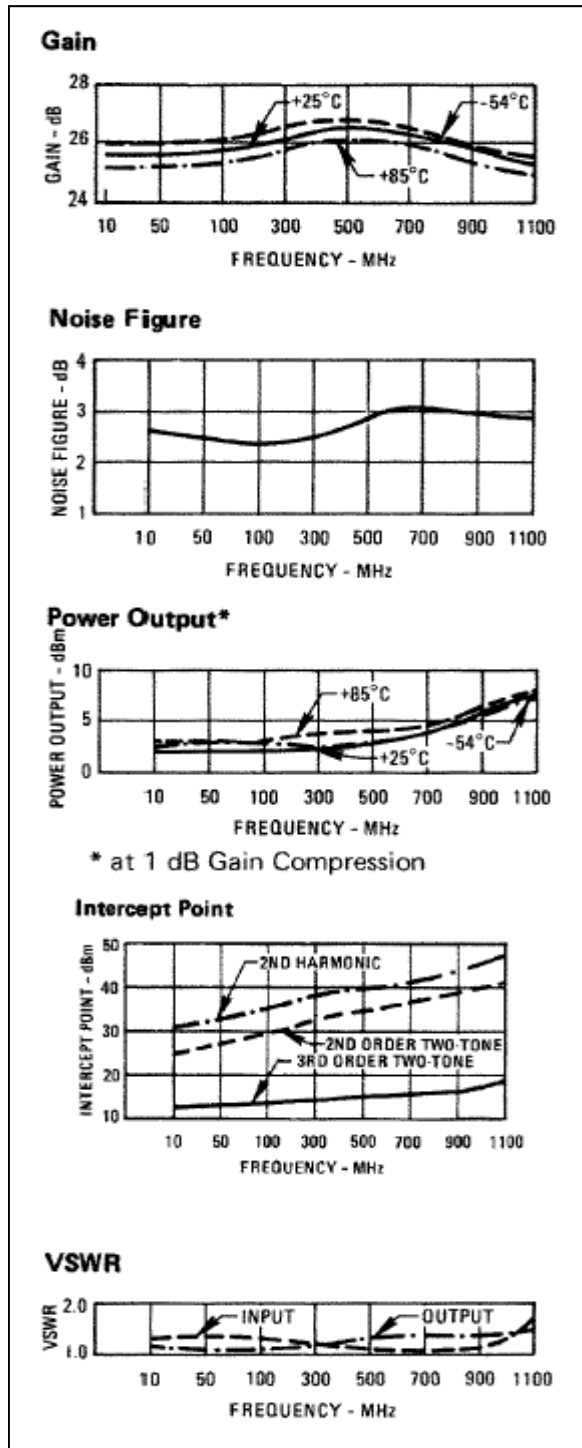
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A66-3 / SMA66-3

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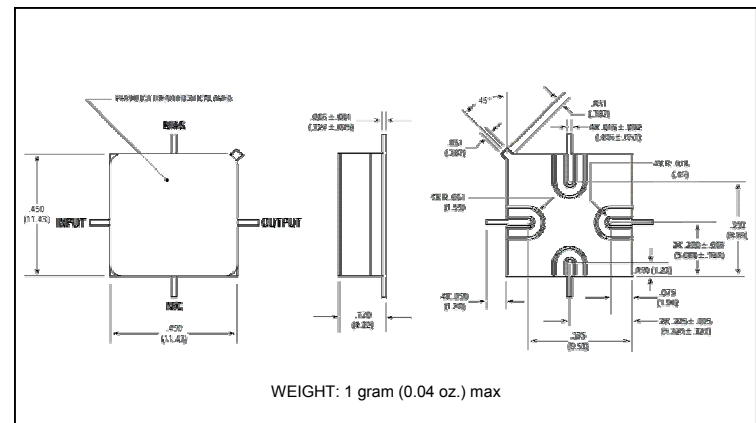
Typical Performance Curves at +25°C



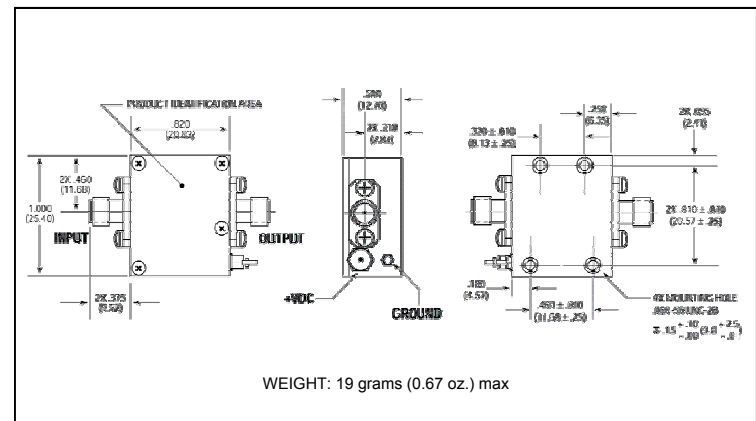
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



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