

Cascadable Amplifier

100 to 2300 MHz

Rev. V4

Features

- HIGH GAIN –TWO STAGES: 16.2 dB (TYP.)
- LOW VSWR: < 1.6:1 (TYP.)
- MEDIUM OUTPUT LEVEL +12 dBm (TYP.)

Description

The A36-1 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.

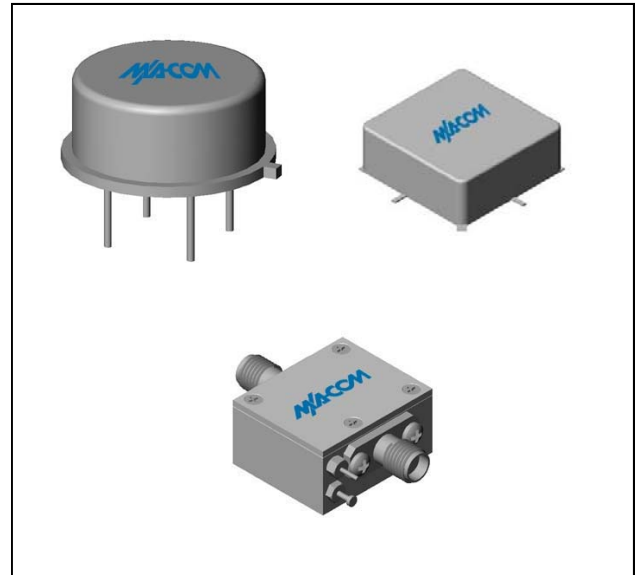
Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available

Ordering Information

Part Number	Package
A36-1	TO-8
SMA36-1	Surface Mount
CA36-1 **	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	0° to 50°C	-54° to +85°C*
Frequency	MHz	80-2400	100-2300	100-2300
Small Signal Gain (min)	dB	16.2	15.0	14.0
Gain Flatness (max)	dB	±0.2	±0.7	±1.2
Reverse Isolation	dB	29		
Noise Figure (max)	dB	6.0	7.0	7.5
Power Output @ 1 dB comp. (min)	dBm	12.0	11.0	10.5
IP3	dBm	+23		
IP2	dBm	+33		
Second Order Harmonic IP	dBm	+38		
VSWR Input / Output (max)		1.6:1 / 1.6:1	2.0:1 / 2.0:1	2.2:1 / 2.2:1
DC Current @ 15 Volts (max)	mA	63	64	67

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.)	50 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}	150°C/W
Transistor Power Dissipation P_d	0.371 W
Junction Temperature Rise Above Case T_{jc}	+56°C

* Over temperature performance limits for part number CA36-1 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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 Visit www.macomtech.com for additional data sheets and product information.

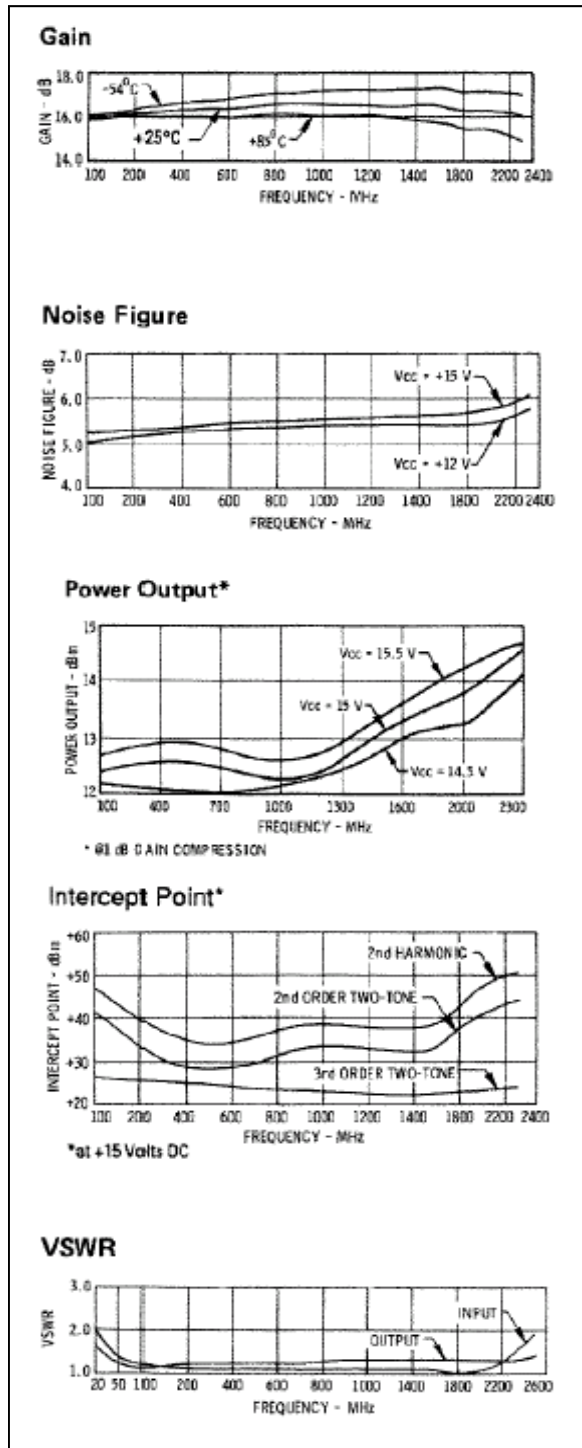
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A36-1 / SMA36-1

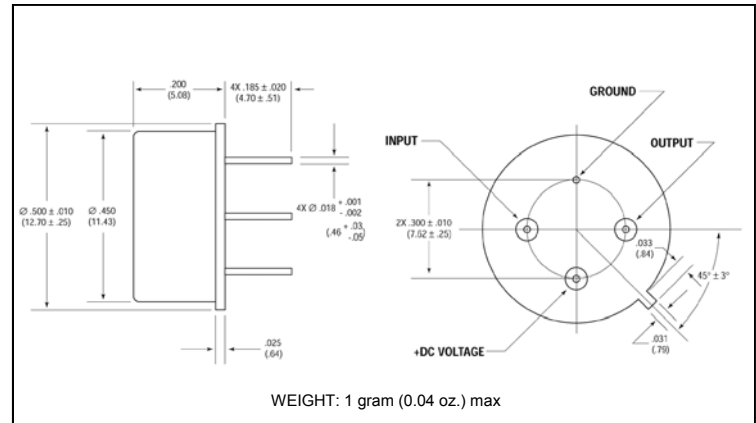
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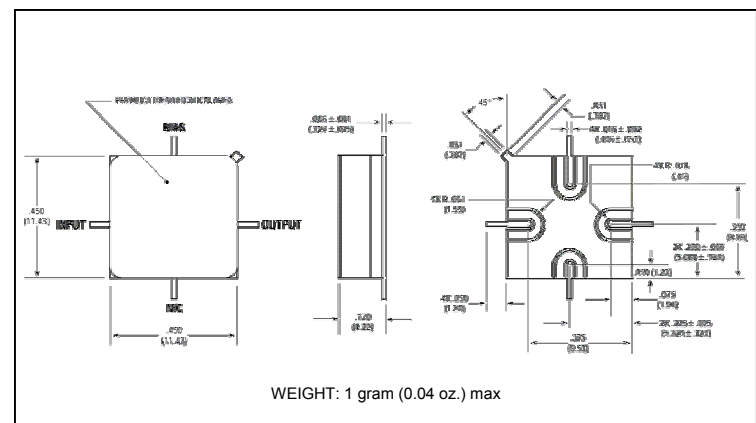
Typical Performance Curves at +25°C



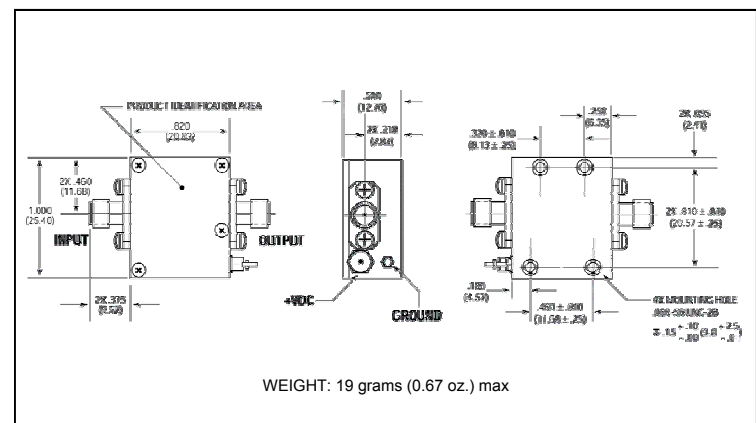
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



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