

**Cascadable Amplifier  
5 to 400 MHz**

**A56/ SMA56**

V2

**Features**

- AVAILABLE IN SURFACE MOUNT
- HIGH GAIN-TWO STAGES 26 dB
- MEDIUM OUTPUT LEVEL: +13.5 dBm (TYP.)
- HIGH THIRD ORDER I.P. + 27 dBm (TYP.)

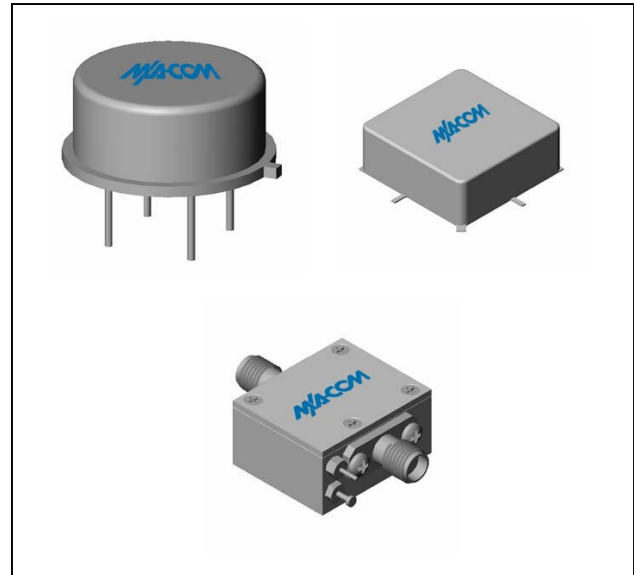
**Description**

The A56 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

**Product Image**



**Ordering Information**

Part Number	Package
A56	TO-8
SMA56	Surface Mount
CA56	SMA Connectorized

**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	3-500	5-400	5-400
Small Signal Gain (min)	dB	26.0	24.0	23.0
Gain Flatness (max)	dB	±0.3	±1.0	±1.0
Reverse Isolation	dB	38		
Noise Figure (max)	dB	5.5	7.0	7.5
Power Output @ 1 dB comp. (min)	dBm	13.5	12.5	12.0
IP3	dBm	+27		
IP2	dBm	+48		
Second Order Harmonic IP	dBm	+54		
VSWR Input / Output (max)		1.4:1 / 1.4:1	1.9:1 / 1.9:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	69	75	79

**Absolute Maximum Ratings**

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	+125°C
DC Voltage	+17 V
Continuous Input Power	12 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 $\theta_{jc}$	45°C/W
Transistor Power Dissipation $P_d$	0.159 W
Junction Temperature Rise Above Case $T_{jc}$	7°C

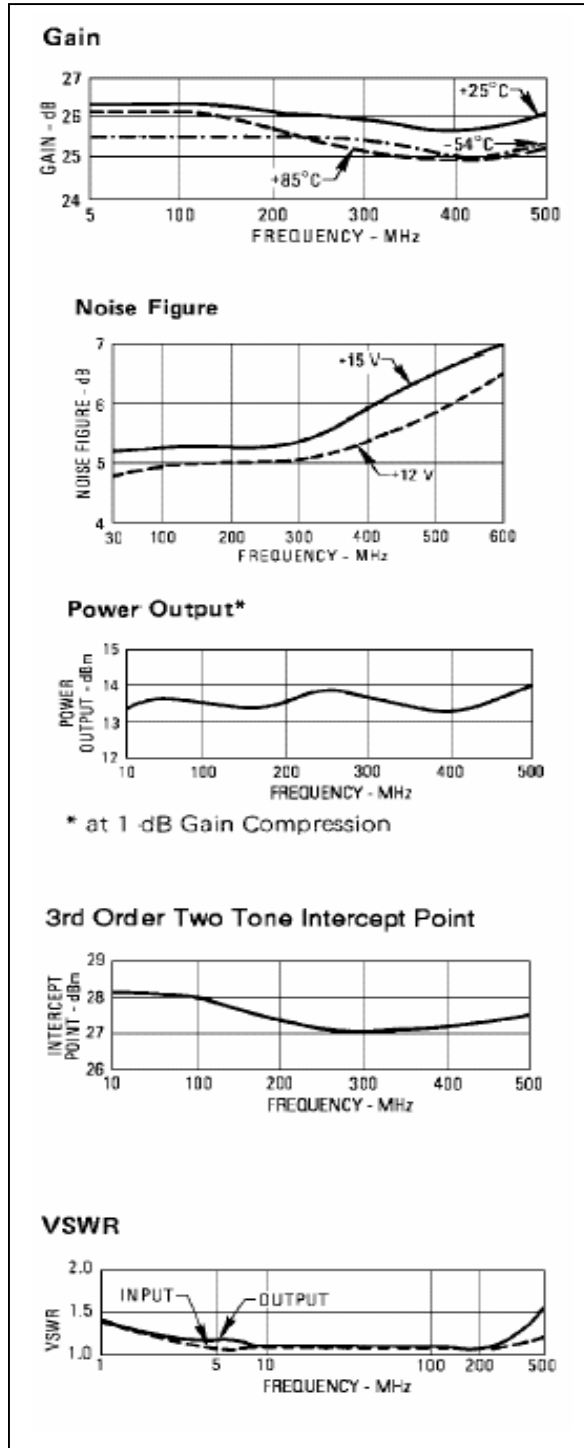
\* Over temperature performance limits for part number CA56, guaranteed from 0°C to +50°C only.

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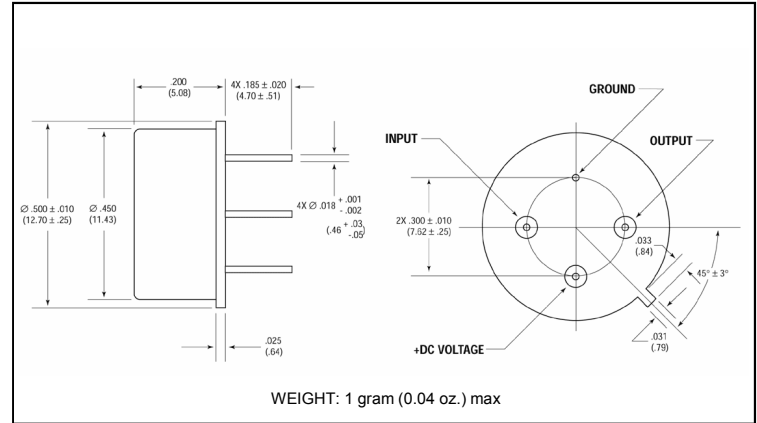
**A56/ SMA56**

V2

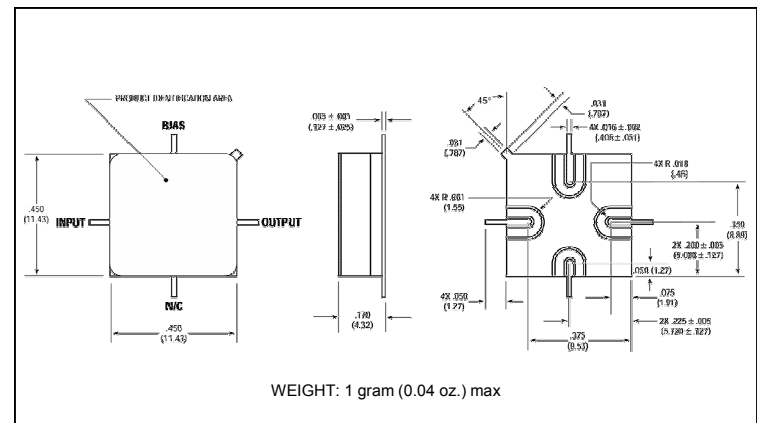
**Typical Performance Curves at +25°C**



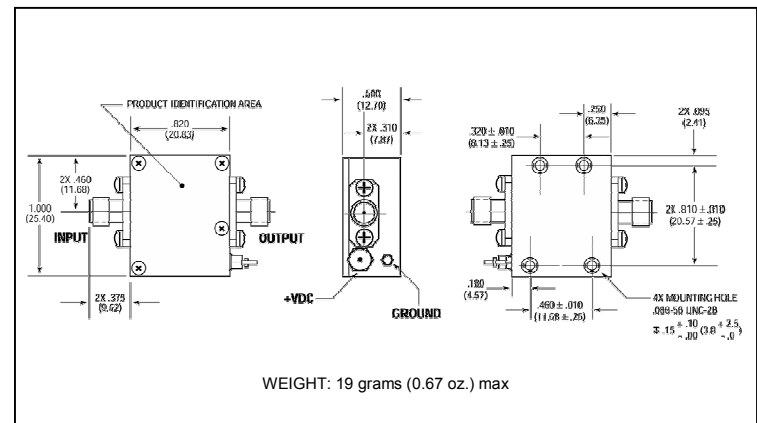
**Outline Drawing: TO-8 \***



**Outline Drawing: Surface Mount \***



**Outline Drawing: SMA Connectorized \***



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