

## Cascadable Amplifier 5 to 1000 MHz

Rev. V2

### Features

- LOW NOISE: 2.5 dB (TYP.)
- HIGH GAIN: 16 dB (TYP.)

### Description

The A11-2 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

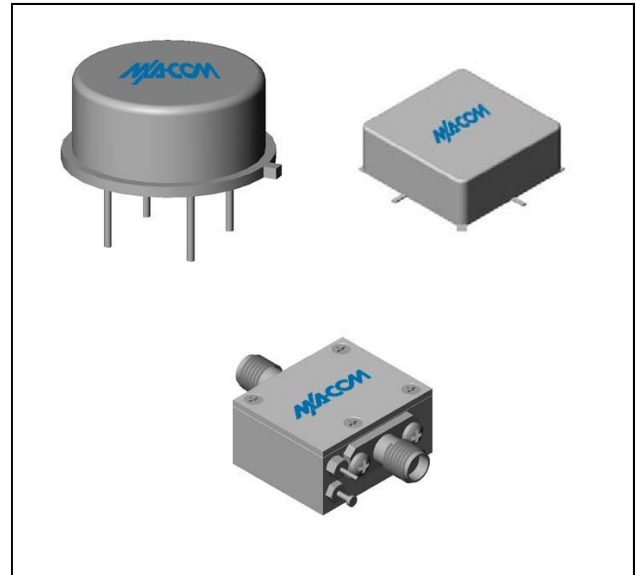
This single stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. Both TO-8 and Surface Mount packages are Hermetically sealed, and MIL-STD-883 environmental screening is available.

### Ordering Information

Part Number	Package
A11-2	TO-8
SMA11-2	Surface Mount
MAAM-008716-0CA112	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	1-1100	5-1000	5-1000
Small Signal Gain (min)	dB	16.0	15.0	14.0
Gain Flatness (max)	dB	±0.3	±0.9	±1.0
Reverse Isolation	dB	21		
Noise Figure (max)	dB	2.5	3.0	3.5
Power Output @ 1 dB comp. (min)	dBm	-1.0	-3.0	-3.5
IP3	dBm	+10		
IP2	dBm	+10		
Second Order Harmonic IP	dBm	+15		
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	9	11	12

### Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	+125°C
DC Voltage	+20 V
Continuous Input Power	+13 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 $P_d$	0.057 W
Junction Temperature Rise Above Case $T_{jc}$	+3°C

\* Over temperature performance limits for part number CA11-2, guaranteed from 0°C to +50°C only.

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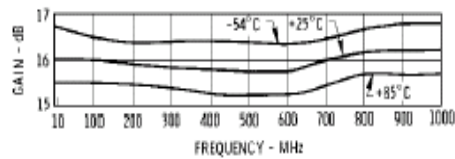
# A11-2 / SMA11-2

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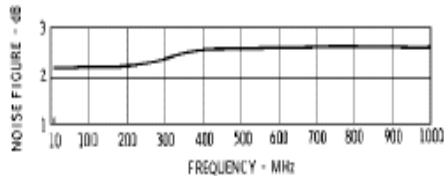
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### Typical Performance Curves at +25°C

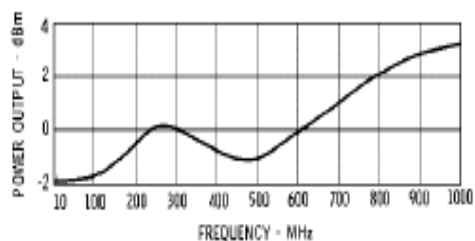
Gain



Noise Figure

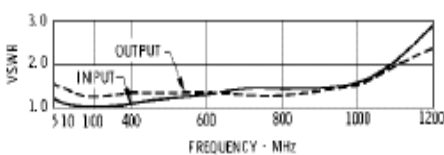


Power Output\*

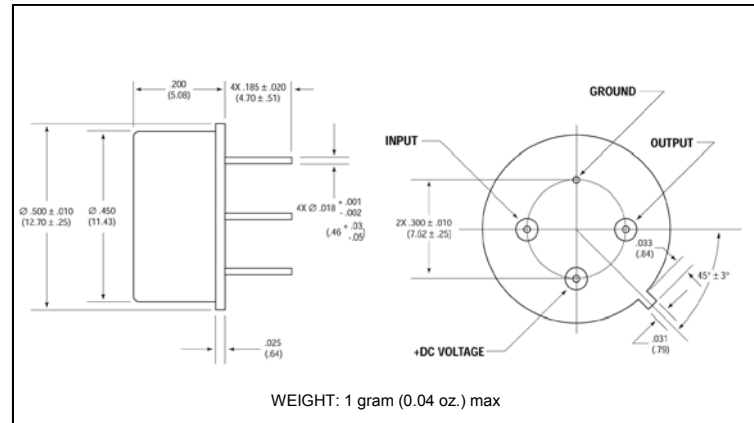


\* at 1 dB Gain Compression

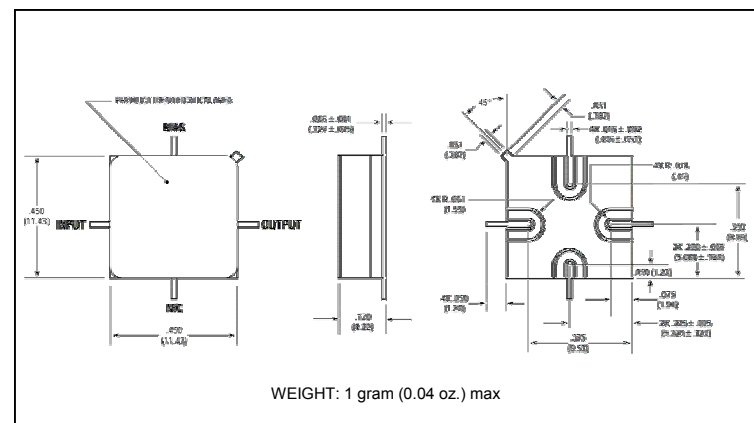
VSWR



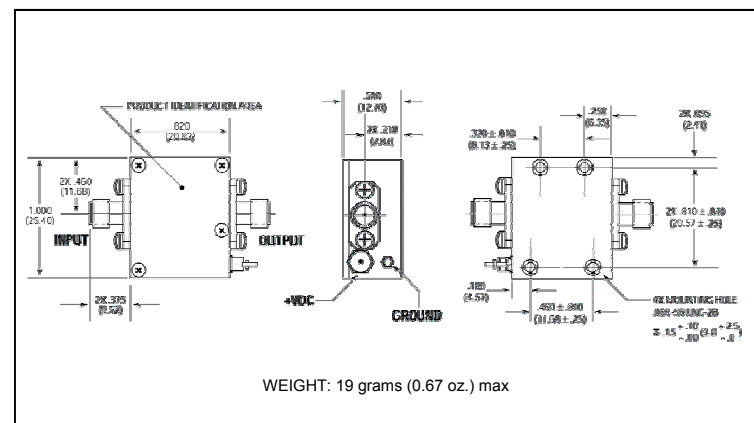
### Outline Drawing: TO-8 \*



### Outline Drawing: Surface Mount \*



### Outline Drawing: SMA Connectorized \*



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

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