

A11 / SMA11

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Cascadable Amplifier 5 to 1000 MHz

Rev. V2

Features

- LOW NOISE: 3.1 dB (TYP.)
- LOW VSWR: 1.3:1 (TYP.)
- FLAT BANDWIDTH: ± 0.25 dB (TYP.)

Description

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

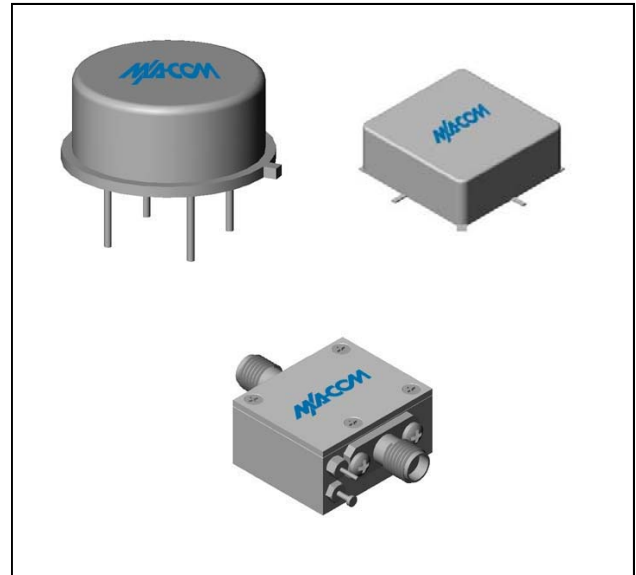
This single stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. Both TO-8 and Surface Mount packages are Hermetically sealed, and MIL-STD-883 environmental screening is available.

Ordering Information

Part Number	Package
A11	TO-8
MAAM-008715-0SMA11	Surface Mount
MAAM-008715-00CA11	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	14.7	14.0	13.5
Gain Flatness (max)	dB	± 0.3	± 1.0	± 1.2
Reverse Isolation	dB	20		
Noise Figure (max)	dB	3.1	3.5	4.0
Power Output @ 1 dB comp. (min)	dBm	-2.0	-3.0	-4.0
IP3	dBm	+10		
IP2	dBm	+10		
Second Order Harmonic IP	dBm	+15		
VSWR Input / Output (max)		1.3:1 / 1.3:1	1.8:1 / 1.8:1	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 μ sec 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}	45°C/W
Transistor Power Dissipation P_d	0.048 W
Junction Temperature Rise Above Case T_{jc}	+2°C

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

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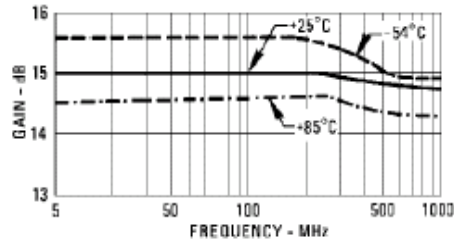
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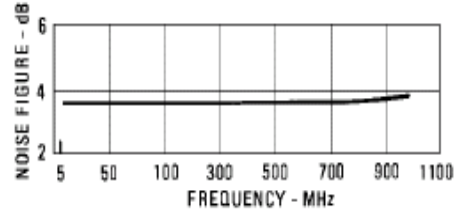
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Typical Performance Curves at +25°C

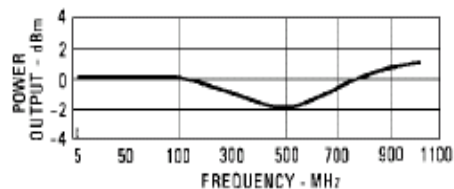
Gain



Noise Figure

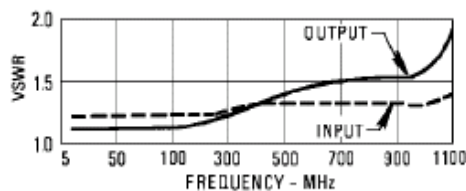


Power Output*

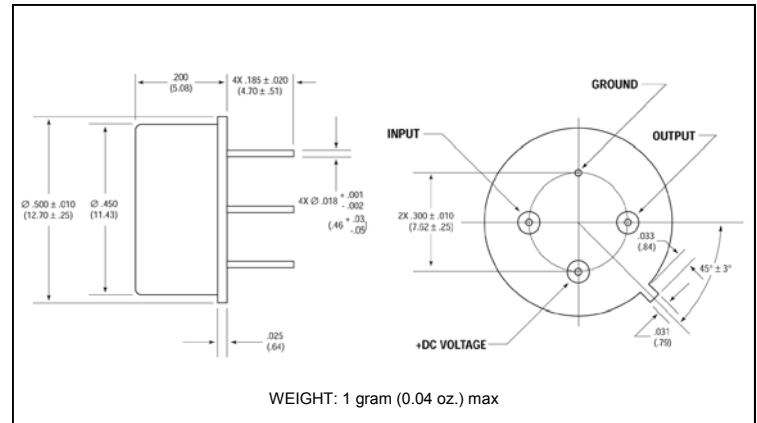


at 1 dB Gain Compression

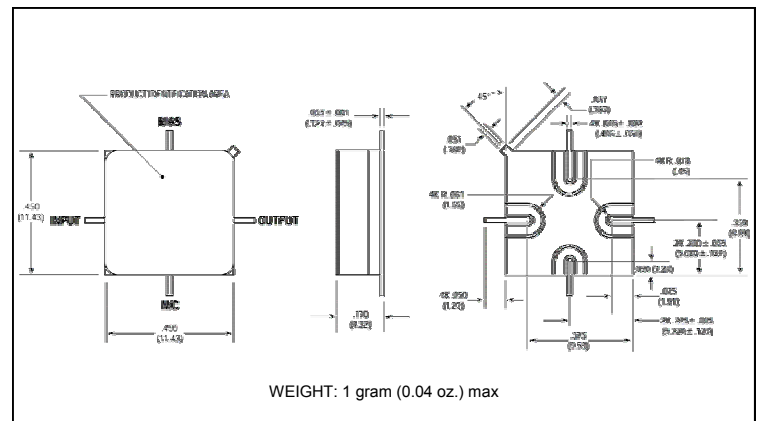
VSWR



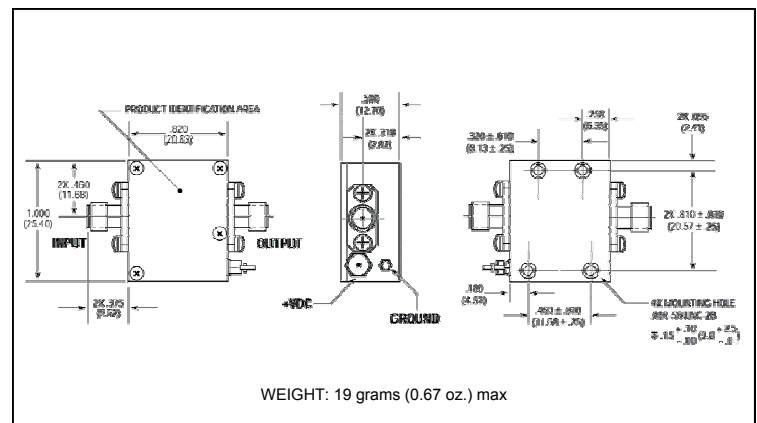
Outline Drawing: TO-8 *



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

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