

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.

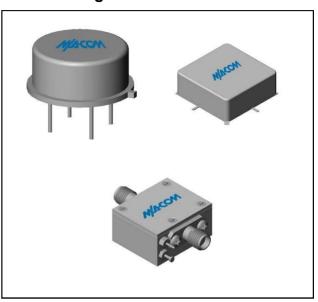
This single stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. Both TO-8 and Surface Mount packages are Hermetically sealed, and MIL-STD-883 environmental screening is available.

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: $Z_0 = 50\Omega$, $V_{CC} = +15 V_{DC}$

D	Heite	Typical	Guaranteed	
Parameter	Units	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 θ_{jc}	45°C/W	
Transistor Power Dissipation P _d	0.057 W	
Junction Temperature Rise Above Case T _{jc}	+3°C	

^{1 *} Over temperature performance limits for part number CA11-2, guaranteed from 0°C to +50°C only.



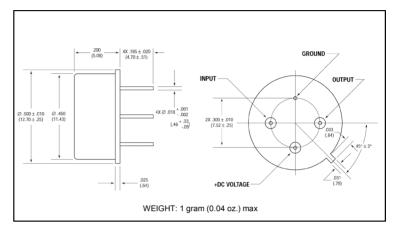
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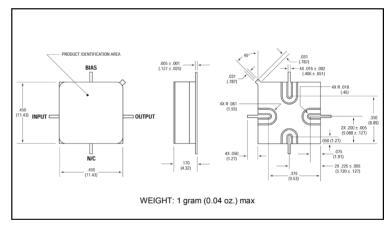
Typical Performance Curves at +25°C

Gain +85° € 900 300 500 800 100 200 10 FREQUENCY - MHz Noise Figure 500 600 100 200 300 410 10 FREQUENCY - MHz Power Output* DUTPUT 10 100 200 400 500 600 700 800 900 FREQUENCY - MHz at 1 dB: Gain Compression VSWR OUTPUT INPUT 5 10 100 FREQUENCY - MHz

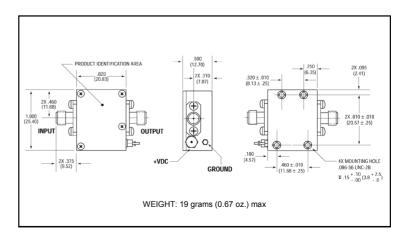
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount



Outline Drawing: SMA Connectorized *



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

A11-2 / SMA11-2



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