A1211 / SMA1211

Cascadable Amplifier
10 to 1200 MHz

Rev. V3

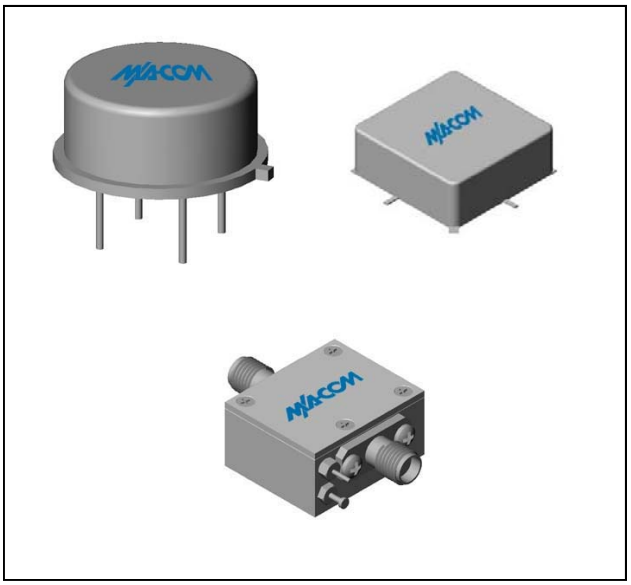
Features

- HIGH EFFICIENCY: 16 mA at +5 Vdc
- LOW NOISE FIGURE: 2.8 dB at 5 Vdc (TYP.)
- LOW CURRENT DRAIN: 15.5 mA at 5 Vdc
- MEDIUM OUTPUT POWER: +11 dBm at 8 Vdc (TYP.)
- MEDIUM THIRD I.P.: +25 dBm at 8 Vdc

Description

The A1211 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.
This single stage GaAs FET feedback amplifier design displays impressive performance characteristics over a broadband frequency range. An RF choke is used for DC power supply decoupling.
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
A1211	TO-8
SMA1211	Surface Mount
CA1211 **	SMA Connectorized

** The connectorized version is not RoHs compliant.

Electrical Specifications: $Z_0 = 50\Omega$, $V_{CC} = +5\ V_{DC}$

Parameter	Units	Typical	Guaranteed	
		25ºC	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	5-1300	10-1200	10-1200
Small Signal Gain (min)	dB	14.0	12.5	12.0
Gain Flatness (max)	dB	±0.3	±0.6	±0.8
Reverse Isolation	dB	16		
Noise Figure (max)	dB	2.8	3.5	4.0
Power Output @ 1 dB comp. (min)	dBm	6.0	5.0	4.5
IP3	dBm	+20		
IP2	dBm	+27		
Second Order Harmonic IP	dBm	+33		
VSWR Input / Output (max)		1.4:1 / 1.4:1	1.9:1 / 1.9:1	2.0:1 / 2.0:1
DC Current @ 5 Volts (max)	mA	15.5	18	19

* Over temperature performance limits for part number CA1211, guaranteed from 0°C to +50°C only.

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62ºC to +125ºC
Case Temperature	125ºC
DC Voltage	+10 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)	125ºC

Thermal Data: $V_{CC} = +5\ V_{DC}$

Parameter	Rating
Thermal Resistance θ_{jc}	184ºC/W
Transistor Power Dissipation P_d	0.051 W
Junction Temperature Rise Above Case T_{jc}	9ºC

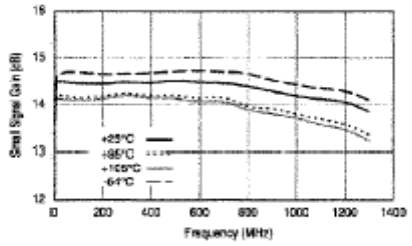
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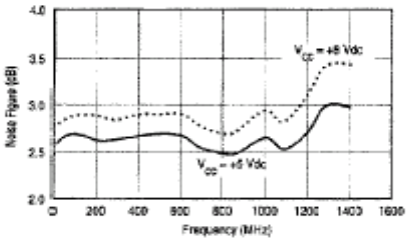
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Typical Performance Curves at +25°C

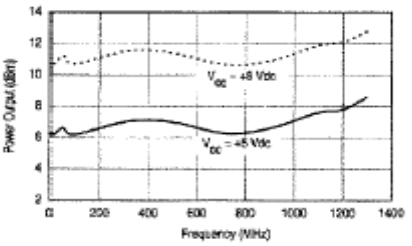
Small Signal Gain



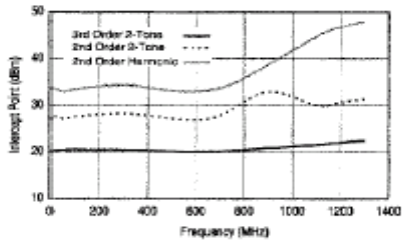
Noise Figure



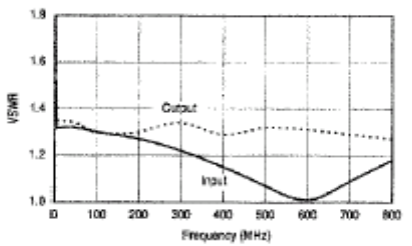
Power Output (1dB Gain Compression)



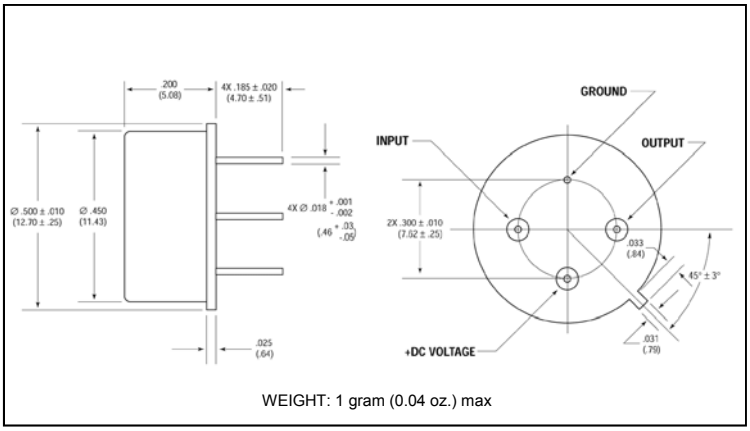
Intercept Point



VSWR

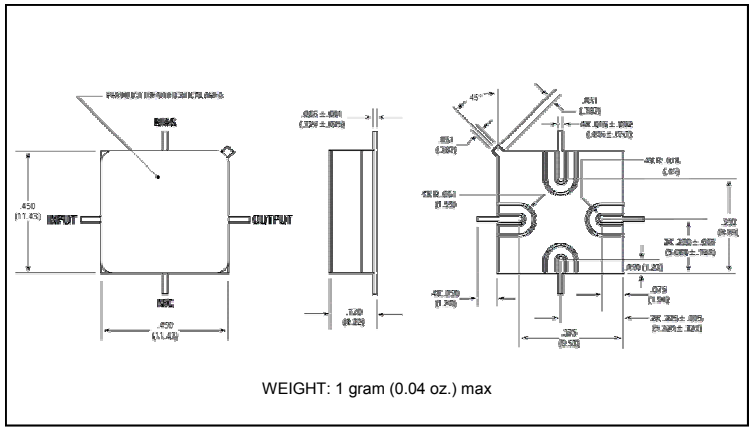


Outline Drawing: TO-8 *



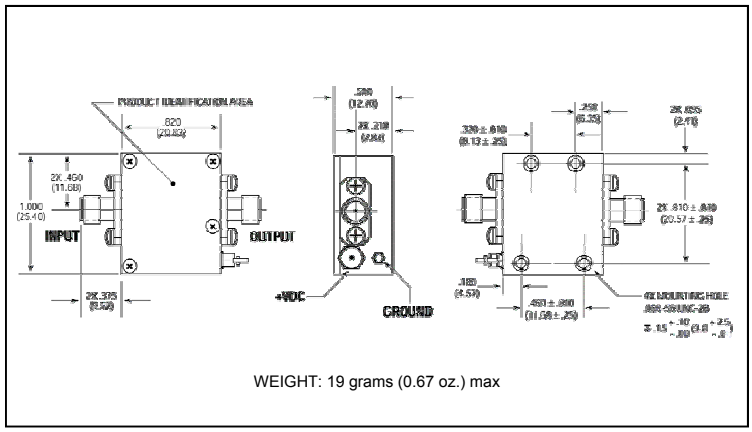
WEIGHT: 1 gram (0.04 oz.) max

Outline Drawing: Surface Mount *



WEIGHT: 1 gram (0.04 oz.) max

Outline Drawing: SMA Connectorized *



WEIGHT: 19 grams (0.67 oz.) max

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

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