A1212 / SMA1212

Cascadable Amplifier
100 to 1200 MHz

Rev. V3

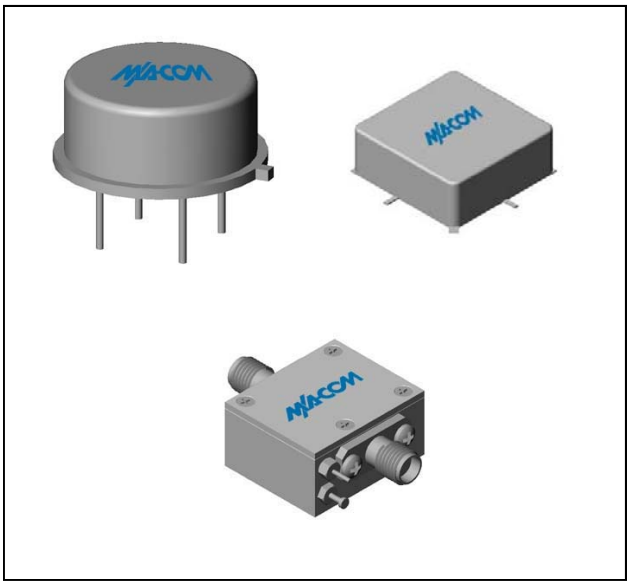
Features

- VERY LOW NOISE: 1.8 dB (TYP.)
- HIGH OUTPUT POWER: +19 dBm (TYP.)
- HIGH POWER ADDED EFFICIENCY: 20%

Description

The A1212 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.
This feedback amplifier design uses 2 GaAs FET transistors In parallel, and 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
A1212	TO-8
SMA1212	Surface Mount
CA1212 **	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	GHz	0.1-1.2	0.1-1.2	0.1-1.2
Small Signal Gain (min)	dB	14.0	12.5	11.5
Gain Flatness (max)	dB	±0.6	±1.0	±1.2
Reverse Isolation	dB	23		
Noise Figure (max)	dB	1.8	2.3	2.7
Power Output @ 1 dB comp. (min)	dBm	19.0	17.0	16.0
IP3	dBm	+29		
IP2	dBm	+40		
Second Order Harmonic IP	dBm	+46		
VSWR Input / Output (max)		1.8:1 / 1.8:1	2.1:1 / 2.1:1	2.3:1 / 2.3:1
DC Current @ 5 Volts (max)	mA	70	75	85

* Over temperature performance limits for part number CA1212, guaranteed from 0°C to +50°C only.

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62ºC to +125ºC
Case Temperature	+125ºC
DC Voltage	+8 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)	+125ºC

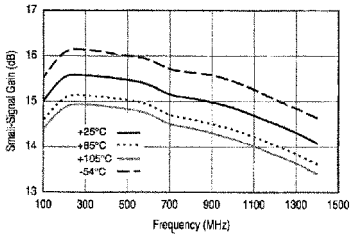
Thermal Data: $V_{CC} = +5\ V_{DC}$

Parameter	Rating
Thermal Resistance θ_{jc}	182ºC/W
Transistor Power Dissipation P_d	0.147W
Junction Temperature Rise Above Case T_{jc}	+26ºC

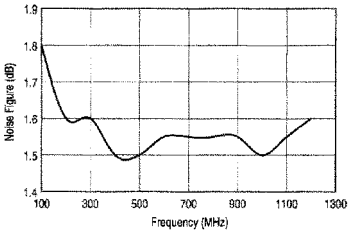
• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400
• **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588
Visit www.macomtech.com for additional data sheets and product information.

Typical Performance Curves at +25°C

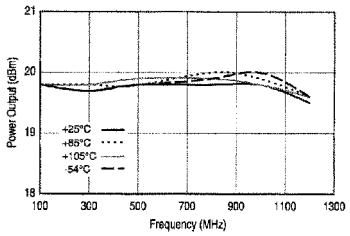
Small Signal Gain



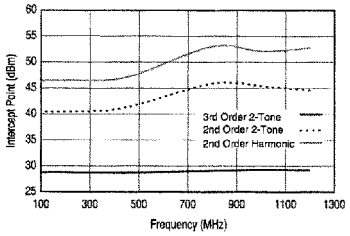
Noise Figure



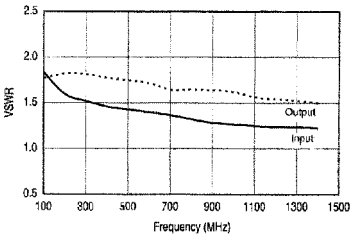
Power Output (1dB Gain Compression)



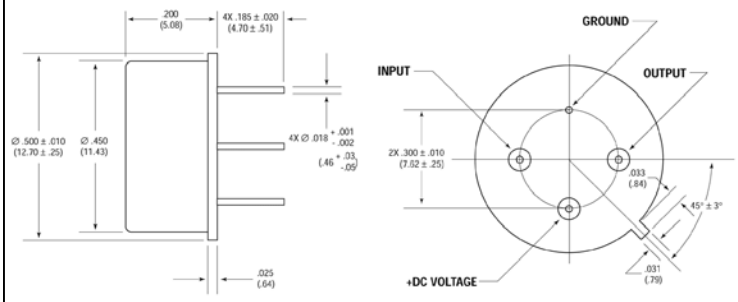
Intercept Point



VSWR

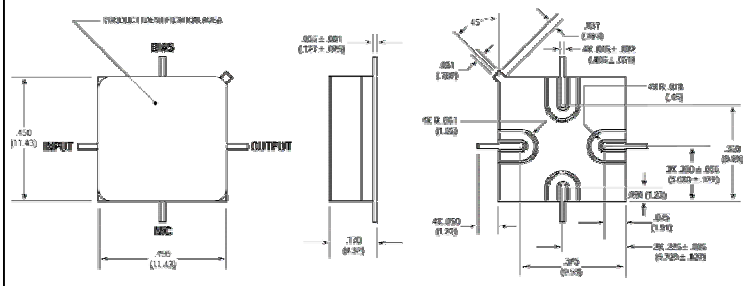


Outline Drawing: TO-8 *



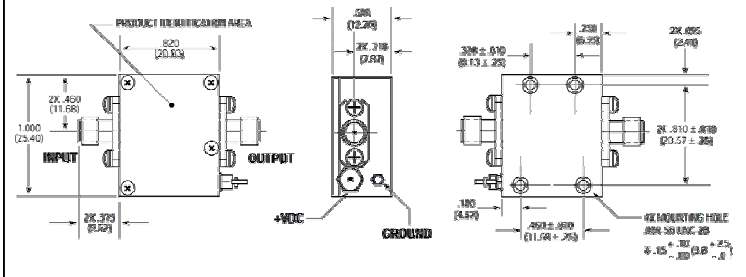
WEIGHT: 1 gram (0.04 oz.) max

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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

MACOM:

A1212 CA1212