

## 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.

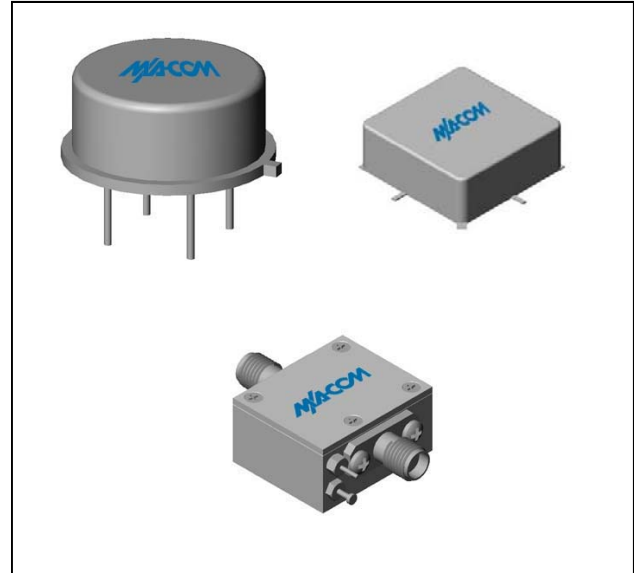
Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

## Ordering Information

| Part Number | Package           |
|-------------|-------------------|
| A1212       | TO-8              |
| SMA1212     | Surface Mount     |
| CA1212 **   | SMA Connectorized |

\*\* The connectorized version is not RoHs compliant.

## Product Image



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

| Parameter                       | Units | Typical       | Guaranteed    |                |
|---------------------------------|-------|---------------|---------------|----------------|
|                                 |       | 25°C          | 0° to 50°C    | -54° to +85°C* |
| 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             |

## Absolute Maximum Ratings

| Parameter                              | Absolute Maximum |
|--|------------------|
| Storage Temperature                    | -62°C to +125°C  |
| Case Temperature                       | +125°C           |
| 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)  | +125°C           |

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

| Parameter                                     | Rating  |
|---|---------|
| Thermal Resistance $\theta_{jc}$              | 182°C/W |
| Transistor Power Dissipation $P_d$            | 0.147W  |
| Junction Temperature Rise Above Case $T_{jc}$ | +26°C   |

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

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