

Features

Description

The A1021 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for consistent performance and high reliability.

This 2 stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. An active DC biasing network insures temperature-stable performance.

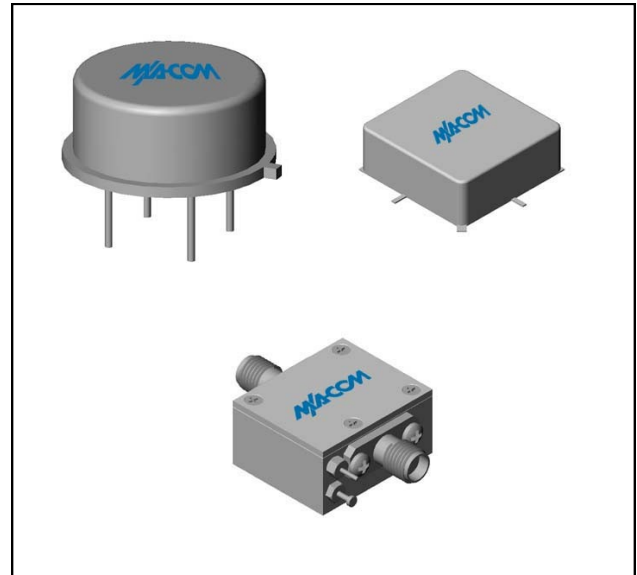
Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

Ordering Information

| Part Number | Package |
|-------------|-------------------|
| A1021 | TO-8 |
| SMA1021 | Surface Mount |
| CA1021 ** | 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 | MHz | 5-1000 | 10-1000 | 10-1000 |
| Small Signal Gain (min) | dB | 26.0 | 25.0 | 24.0 |
| Gain Flatness (max) | dB | ±0.5 | ±0.7 | ±0.9 |
| Reverse Isolation | dB | 35 | | |
| Noise Figure (max) | dB | 3.8 | 4.5 | 5.0 |
| Power Output @ 1 dB comp. (min) | dBm | 14.5 | 14.0 | 13.0 |
| IP3 | dBm | +26 | | |
| IP2 | dBm | +50 | | |
| Second Order Harmonic IP | dBm | +55 | | |
| VSWR Input / Output (max) | | 1.4:1 / 1.3:1 | 1.9:1 / 1.9:1 | 2.0:1 / 2.0:1 |
| DC Current @ 5 Volts (max) | mA | 60 | 60 | 62 |

Absolute Maximum Ratings

| Parameter | Absolute Maximum |
|--|------------------|
| Storage Temperature | -62°C to +150°C |
| Case Temperature | 125°C |
| DC Voltage | +8 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) | 125°C |

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

| Parameter | Rating |
|---|---------|
| Thermal Resistance θ_{jc} | 126°C/W |
| Transistor Power Dissipation P_d | 0.159W |
| Junction Temperature Rise Above Case T_{jc} | 20°C |

1 * Over temperature performance limits for part number CA1021, guaranteed from 0°C to +50°C only.

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