

**Cascadable Amplifier
5 to 500 MHz**

A5 / SMA5

V2

Features

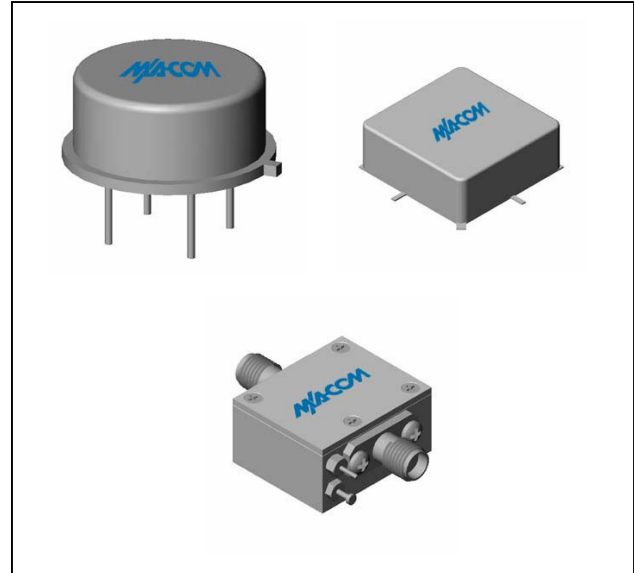
- AVAILABLE IN SURFACE MOUNT
- FLAT BANDWIDTH ± 2 dB (TYP.)
- LOW VSWR <1.2:1 INPUT, <1.5:1 OUTPUT (TYP.)
- WIDE POWER SUPPLY RANGE: +8 TO +20 VOLTS

Description

The A5 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.

Product Image



Ordering Information

| Part Number | Package |
|-------------|-------------------|
| A5 | TO-8 |
| SMA5 | Surface Mount |
| CA5 | SMA Connectorized |

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

| Parameter | Units | Typical | Guaranteed | |
|---------------------------------|-------|---------------|---------------|----------------|
| | | 25°C | 0° to 50°C | -54° to +85°C* |
| Frequency | MHz | 3-550 | 5-500 | 5-500 |
| Small Signal Gain (min) | dB | 14.8 | 14.0 | 13.5 |
| Gain Flatness (max) | dB | ± 0.2 | ± 0.7 | ± 0.7 |
| Reverse Isolation | dB | 17 | | |
| Noise Figure (max) | dB | 4.5 | 5.5 | 6.0 |
| Power Output @ 1 dB comp. (min) | dBm | 8.5 | 7.0 | 7.0 |
| IP3 | dBm | +22 | | |
| IP2 | dBm | +36 | | |
| Second Order Harmonic IP | dBm | +41 | | |
| VSWR Input / Output (max) | | 1.3:1 / 1.3:1 | 1.8:1 / 1.8:1 | 2.0:1 / 2.0:1 |
| DC Current @ 15 Volts (max) | mA | 25 | 28 | 30 |

Absolute Maximum Ratings

| Parameter | Absolute Maximum |
|--|------------------|
| Storage Temperature | -62°C to +125°C |
| Case Temperature | +125°C |
| DC Voltage | +21 V |
| Continuous Input Power | +13 dBm |
| Short Term Input power (1 minute max.) | 50 mW |
| Peak Power (3 μ sec 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 | 0.198 W |
| Junction Temperature Rise Above Case T_{jc} | +9°C |

* Over temperature performance limits for part number CA5, guaranteed from 0°C to +50°C only.

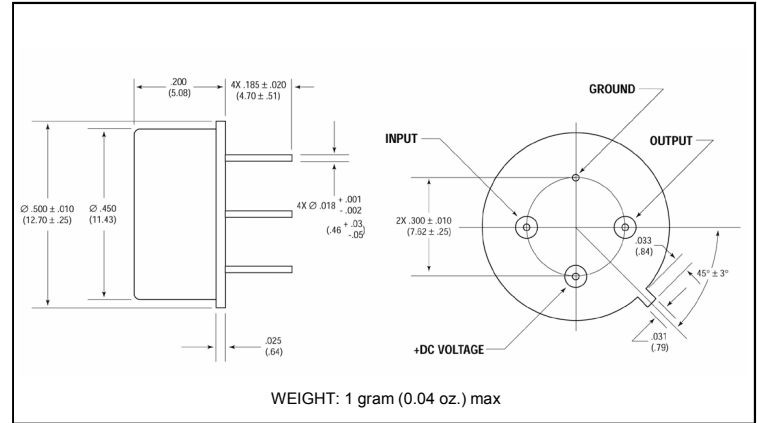
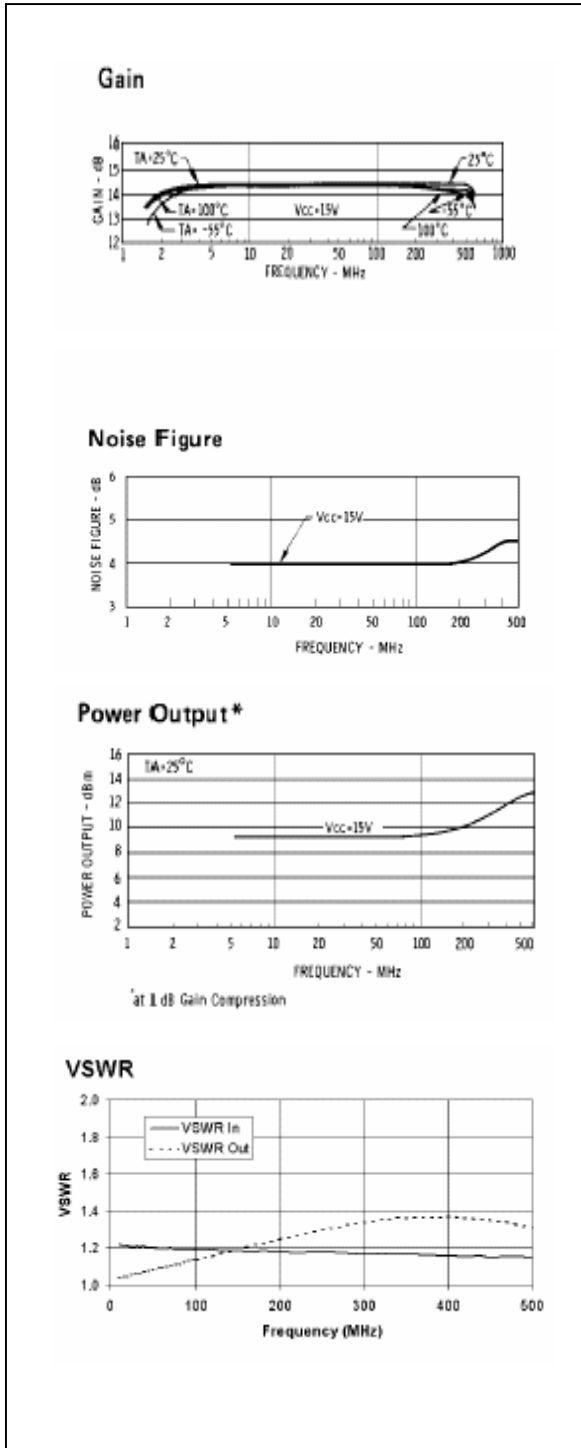
**Cascadable Amplifier
5 to 500 MHz**

A5 / SMA5

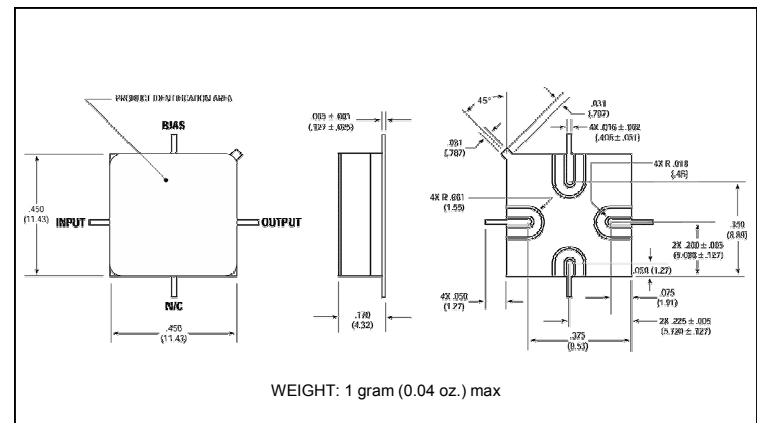
V2

Typical Performance Curves at +25°C

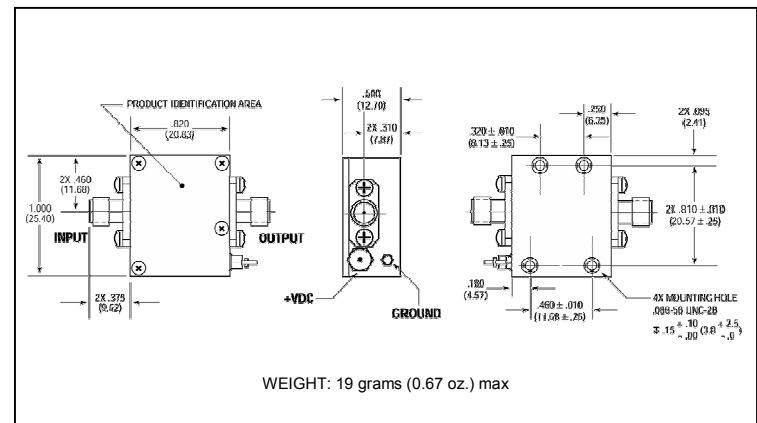
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



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