

## Cascadable Amplifier 5 to 400 MHz

Rev. V2

### Features

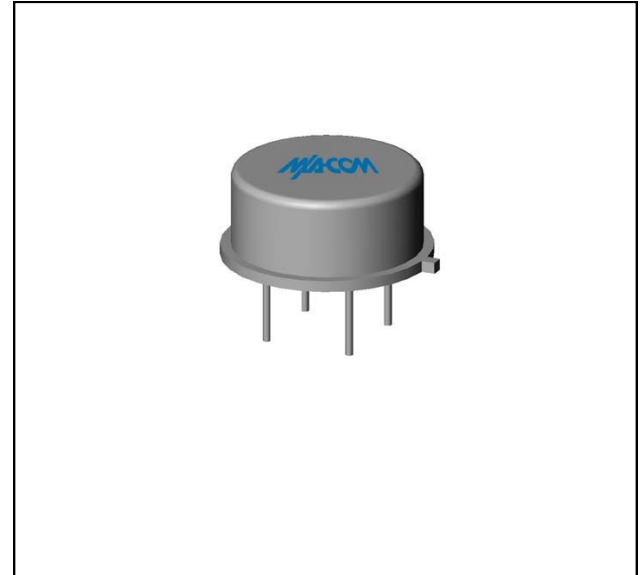
- LOW COST
- MEDIUM OUTPUT LEVEL: +9 dBm (TYP.)
- ULTRA SMALL SIZE

### Description

The EA2 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. The unit is packaged in a TO-5 hermetically sealed, and MIL-STD-883 environmental screening is available.

### Product Image



### Ordering Information

| Part Number | Package |
|-------------|---------|
| EA2         | TO-5    |

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

| Parameter                                | Units | Typical | Guaranteed |               |
|--|-------|---------|------------|---------------|
|  |       |         | 0° to 50°C | -54° to +85°C |
| Frequency                                | MHz   | 5-400   | 5-400      | 5-400         |
| Small Signal Gain (min)                  | dB    | 13.5    | 13.0       | 12.5          |
| Gain Flatness (max)                      | dB    | ±0.3    | ±1.0       | ±1.2          |
| Noise Figure (max)                       | dB    | 5.7     | 6.5        | 7.0           |
| Power Output<br>@ 1 dB Compression (min) | dBm   | +9.0    | +6.5       | +6.0          |
| IP3                                      | dBm   | +21     |            |               |
| IP2                                      | dBm   | +28     |            |               |
| 2nd Order Harmonic IP                    | dBm   | +33     |            |               |
| VSWR Input / Output (max)                |       | 1.6:1   | 1.9:1      | 2.0:1         |
| DC Current @ 15 Volts (max)              | mA    | 26      | 27         | 29            |

### Absolute Maximum Ratings

| Parameter                                | Absolute Maximum |
|--|------------------|
| Storage Temperature                      | -62°C to +125°C  |
| Case Temperature                         | +125°C           |
| DC Voltage                               | +17 V            |
| Continuous Input Power                   | 13 dBm           |
| CW Input power<br>(1 minute max.)        | 50 mW            |
| Peak Power (3 µsec max.)                 | 0.5 W            |
| "S" Series Burn-In<br>Temperature (case) | +125°C           |

### Thermal Data: $V_{CC} = +15 V_{DC}$

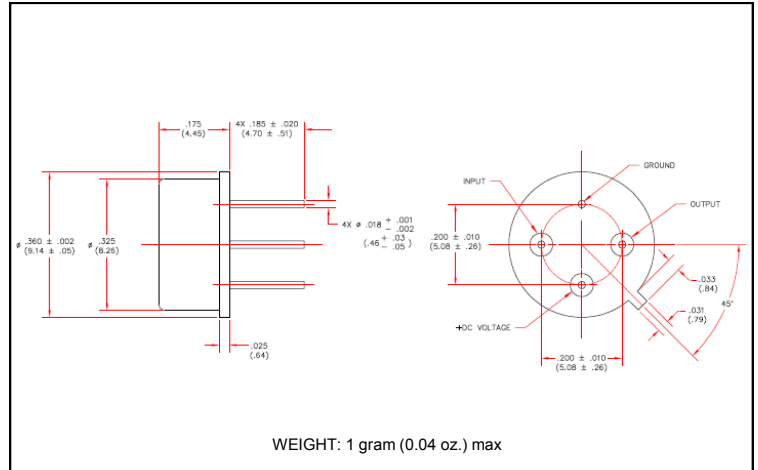
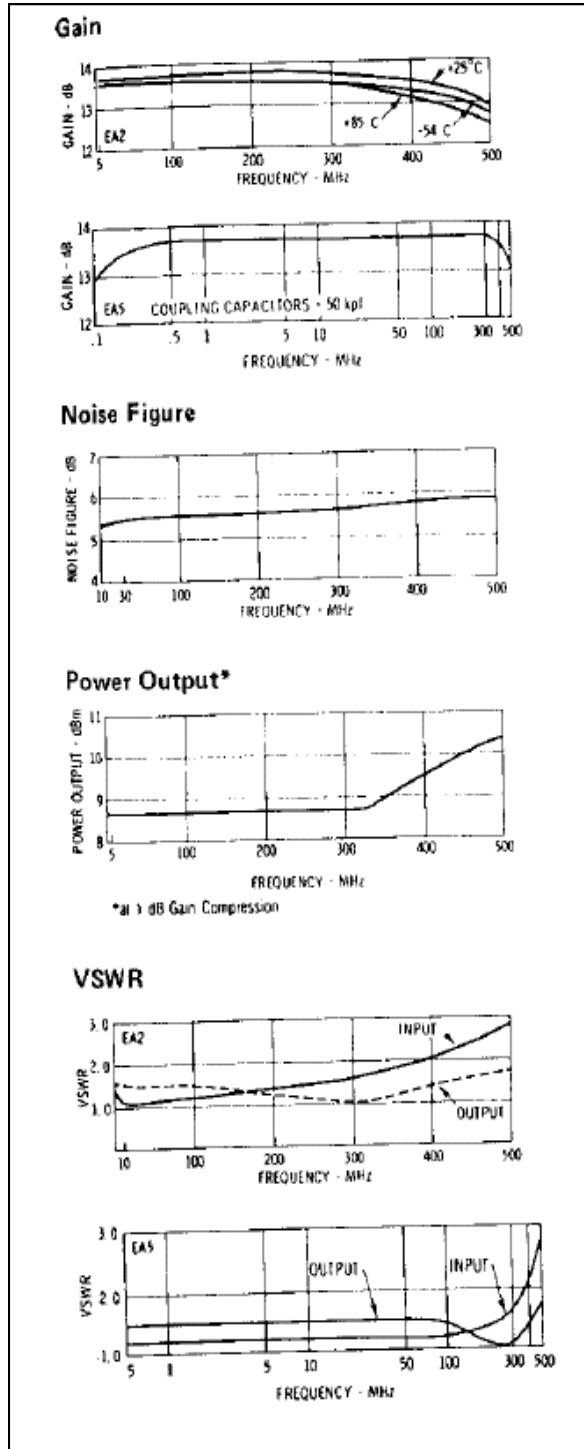
| Parameter  | Rating  |
|--|---------|
| Thermal Resistance $\theta_{jc}$                 | 45°C/W  |
| Transistor Power Dissipation $P_d$               | 0.068 W |
| Junction Temperature Rise<br>Above Case $T_{jc}$ | 3°C     |

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### Typical Performance Curves at +25°C

### Outline Drawing: TO-5 \*



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

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2

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