

# PA2003



## Ultra Linear Driver Amplifier 1800 to 2000 MHz

Rev. V4

### Features

- LOW NOISE FIGURE: 2.7 dB (TYP.)
- GAIN: 21 dB (TYP.)
- HIGH P1dB: +32.5 dBm (TYP.)
- HIGH IP<sup>3</sup>: +46 dBm (TYP.)
- BROADBAND RESPONSE: 1.5 GHz TO 2.2 GHz (TYP.)

### Description

The PA2003 is a discrete hybrid design, which uses thick film solder manufacturing processes for accurate performance and high reliability.

This 2 stage GaAs FET transistor design uses feedback loops for flat broadband linear performance, with low noise figure.

The model is particularly suited for power driver applications used in the base station & repeater infrastructure, and for commercial & military radios.

### Product Image



### Ordering Information

| Part Number | Package              |
|-------------|----------------------|
| PA2003      | Flange Mount Carrier |

### Electrical Specifications: $Z_0 = 50\Omega$ , $V_{CC} = +12 V_{DC}$

| Parameter                             | Units | Typical       | Guaranteed    |
|---------------------------------------|-------|---------------|---------------|
|                                       |       | 25°C          | 0°C to +70°C  |
| Frequency                             | MHz   | 1800-2000     | 1800-2000     |
| Small Signal Gain (min)               | dB    | 21.3          | 19.0          |
| Gain Flatness (max)                   | dB    | $\pm 0.25$    | $\pm 0.5$     |
| Noise Figure (max)                    | dB    | 2.7           | 3.3           |
| Reverse Isolation                     | dB    | 37.0          |               |
| Power Output<br>@ 1.0 dB Comp. (min.) | dBm   | +32.5         | +31.5         |
| Output IP <sup>3</sup>                | dBm   | +46.0         |               |
| VSWR Input / Output (max.)            |       | 1.6:1 / 1.8:1 | 2.0:1 / 2.0:1 |
| DC Current<br>@ +12 Volts (max.)      | mA    | 495           | 520           |

### Absolute Maximum Ratings

| Parameter                      | Absolute Maximum |
|--------------------------------|------------------|
| Storage Temperature            | -40°C to +85°C   |
| Operation Base Temperature     | +70°C            |
| Max. DC Voltage                | +15 Vdc          |
| Max. Continuous RF Input Power | +15 dBm          |

### Thermal Data: $V_{CC} = +12 V_{DC}$

| Parameter                                     | Rating |
|---|--------|
| Thermal Resistance $\theta_{jc}$              | 22°C/W |
| Junction Temperature Rise Above Case $T_{jc}$ | 51°C   |

1

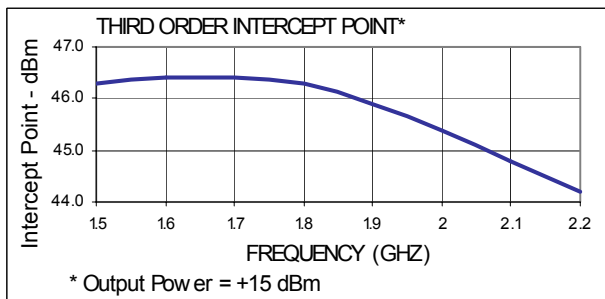
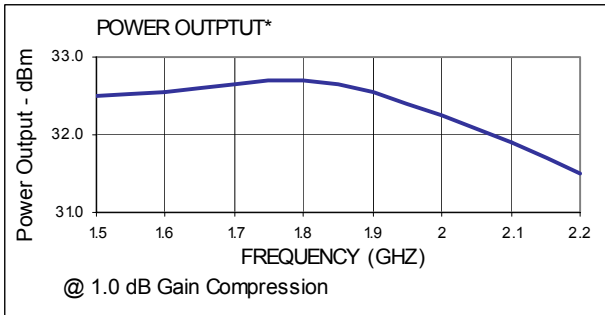
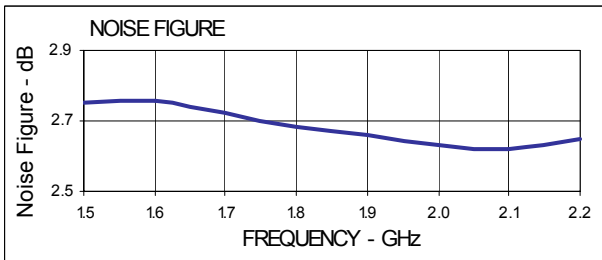
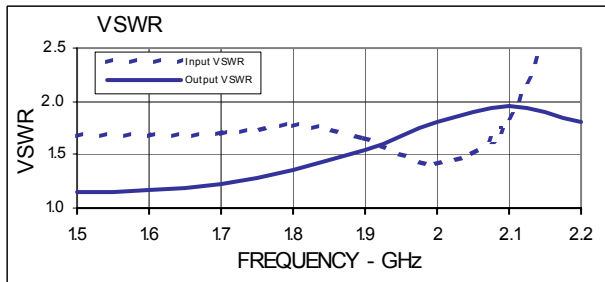
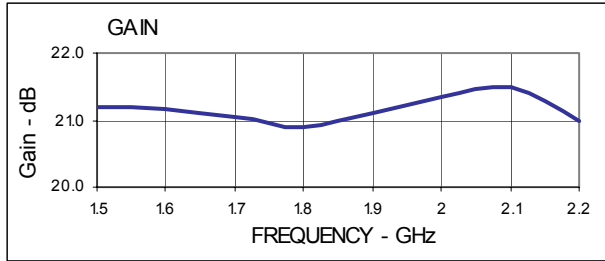
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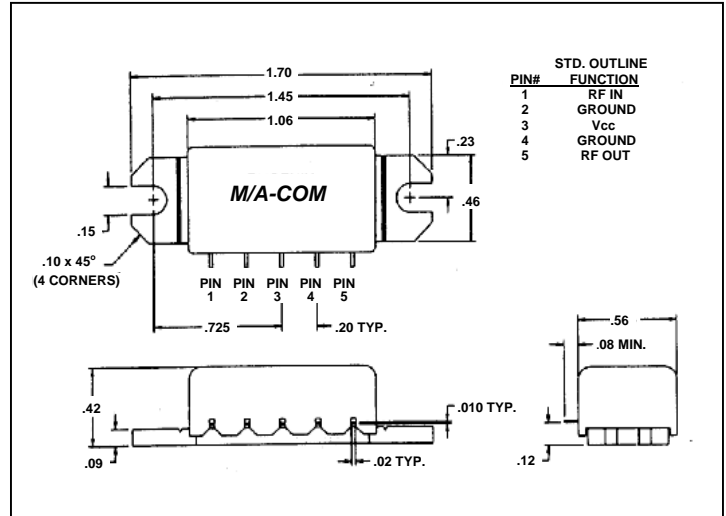
• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400  
 • **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588  
 Visit [www.macomtech.com](http://www.macomtech.com) for additional data sheets and product information.

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### Typical Performance Curves at +25°C



### Outline Drawing: Flange Mount Carrier \*



\* Dimensions are inches ± 0.015 unless otherwise specified.