

Cascadable Amplifier 5 to 1500 MHz

Rev. V3

Features

- HIGH GAIN - TWO STAGES: 20.0 dB (TYP.)
- ULTRA LOW PHASE DEVIATION FROM LINEARITY: $<\pm 2.5^\circ$, 100-1500 MHz
- LOW VSWR: $<1.4:1$ (TYP.)

Description

The A24 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 |
|-------------|----------------------|
| A24 | TO-8 |
| SMA24 | Surface Mount |
| CA24 | SMA Connectorized ** |

** The connectorized version is not RoHs compliant.

Product Image



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 | 2-1700 | 5-1500 | 5-1500 |
| Small Signal Gain (min) | dB | 20.0 | 19.0 | 18.0 |
| Gain Flatness (max) | dB | ± 0.4 | ± 0.8 | ± 1.0 |
| Reverse Isolation | dB | 30 | | |
| Noise Figure (max) | dB | 4.2 | 5.3 | 5.8 |
| Power Output @ 1 dB comp. (min) | dBm | 8.0 | 7.0 | 6.5 |
| IP3 | dBm | +20.5 | | |
| IP2 | dBm | +42 | | |
| Second Order Harmonic IP | dBm | +47 | | |
| VSWR Input / Output (max) | | 1.4:1 / 1.4:1 | 2.0:1 / 2.0:1 | 2.0:1 / 2.0:1 |
| DC Current @ 15 Volts (max) | mA | 34 | 38 | 40 |

Absolute Maximum Ratings

| Parameter | Absolute Maximum |
|--|------------------|
| Storage Temperature | -62°C to +125°C |
| Case Temperature | +125°C |
| DC Voltage | +20 V |
| Continuous Input Power | 7 dBm |
| Short Term Input power (1 minute max.) | 32 mW |
| Peak Power (3 μ sec max.) | 0.5 W |
| "S" Series Burn-In Temperature (case) | +125°C |

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

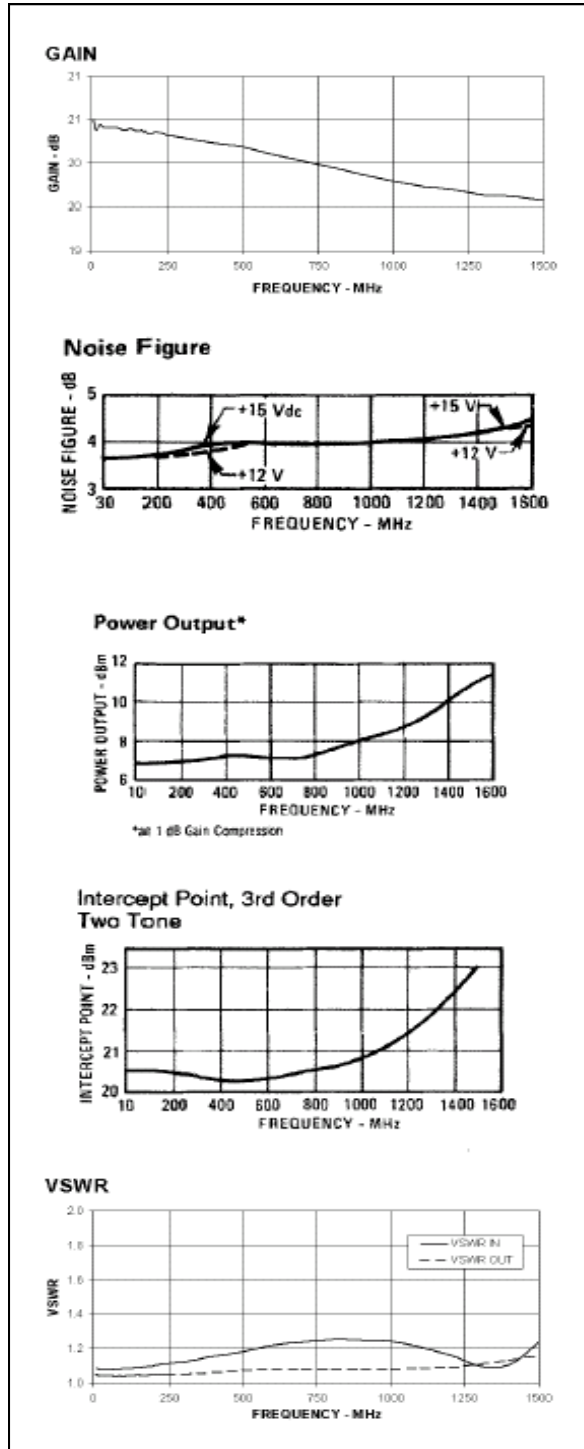
| Parameter | Rating |
|---|---------|
| Thermal Resistance θ_{jc} | 141°C/W |
| Transistor Power Dissipation P_d | 0.185 W |
| Junction Temperature Rise Above Case T_{jc} | +26°C |

1 * Over temperature performance limits for part number CA24, guaranteed from 0°C to +50°C only.

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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.

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- Поставка более 17-ти миллионов наименований электронных компонентов;
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- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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