

Cascadable Amplifier 100 to 2300 MHz

Rev. V4

Features

- HIGH GAIN –TWO STAGES: 16.2 dB (TYP.)
- LOW VSWR: < 1.6:1 (TYP.)
- MEDIUM OUTPUT LEVEL +12 dBm (TYP.)

Description

The A36-1 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 |
|-------------|-------------------|
| A36-1 | TO-8 |
| SMA36-1 | Surface Mount |
| CA36-1 ** | 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 | 80-2400 | 100-2300 | 100-2300 |
| Small Signal Gain (min) | dB | 16.2 | 15.0 | 14.0 |
| Gain Flatness (max) | dB | ±0.2 | ±0.7 | ±1.2 |
| Reverse Isolation | dB | 29 | | |
| Noise Figure (max) | dB | 6.0 | 7.0 | 7.5 |
| Power Output @ 1 dB comp. (min) | dBm | 12.0 | 11.0 | 10.5 |
| IP3 | dBm | +23 | | |
| IP2 | dBm | +33 | | |
| Second Order Harmonic IP | dBm | +38 | | |
| VSWR Input / Output (max) | | 1.6:1 / 1.6:1 | 2.0:1 / 2.0:1 | 2.2:1 / 2.2:1 |
| DC Current @ 15 Volts (max) | mA | 63 | 64 | 67 |

Absolute Maximum Ratings

| Parameter | Absolute Maximum |
|--|------------------|
| Storage Temperature | -62°C to +125°C |
| Case Temperature | +125°C |
| DC Voltage | +17 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: $V_{CC} = +15 V_{DC}$

| Parameter | Rating |
|---|---------|
| Thermal Resistance θ_{jc} | 150°C/W |
| Transistor Power Dissipation P_d | 0.371 W |
| Junction Temperature Rise Above Case T_{jc} | +56°C |

1 * Over temperature performance limits for part number CA36-1 guaranteed from 0°C to +50°C only.

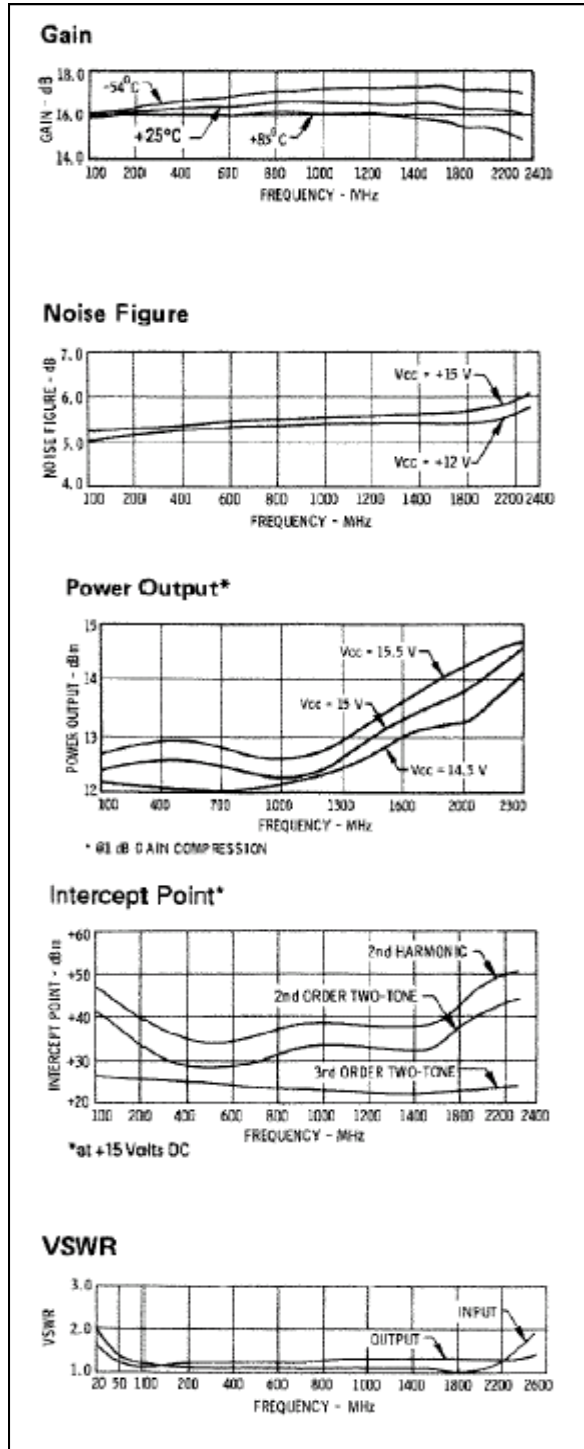
A36-1 / SMA36-1



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Typical Performance Curves at +25°C



Outline Drawing: TO-8 *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



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