

Electronics

Cascadable Amplifier 10 to 1000 MHz





Features

- HIGH OUTPUT POWER: +15.3 dB (TYP.)
- HIGH THIRD ORDER I.P. +27 dBm (TYP.)
- LOW VSWR:<1.3:1 (TYP.)
- WIDE POWER SUPPLY RANGE: +5 TO +15 VOLTS

Description

The A17 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.

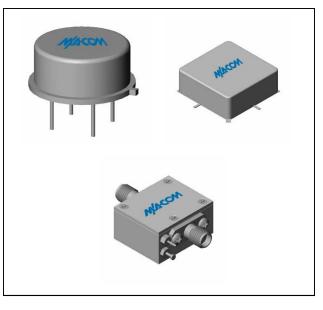
Ordering Information

| Part Number | Package | |
|-------------|-------------------|--|
| A17 | TO-8 | |
| SMA17 | Surface Mount | |
| CA17 | SMA Connectorized | |

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

| Parameter | Units | Typical | Guaranteed | |
|------------------------------------|-------|---------------|---------------|----------------|
| Falameter | Units | 25°C | 0º to 50ºC | -54º to +85ºC* |
| Frequency | MHz | 2-1100 | 10-1000 | 10-1000 |
| Small Signal Gain (min) | dB | 12.0 | 10.5 | 10.00 |
| Gain Flatness (max) | dB | ±0.2 | ±0.7 | ±1.0 |
| Reverse Isolation | dB | 16 | | |
| Noise Figure (max) | dB | 6.0 | 6.5 | 7.0 |
| Power Output @ 1 dB comp. (min) | dBm | 15.3 | 14.0 | 13.5 |
| IP3 | dBm | +27 | | |
| IP2 | dBm | +49 | | |
| Second Order Harmonic IP | dBm | +48 | | |
| 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 | 44 | 47 | 49 |

Product Image



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 | |
| 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} | 130°C/W |
| Transistor Power Dissipation P_d | 0.376 W |
| Junction Temperature Rise Above Case T _{jc} | +49°C |

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* Over temperature performance limits for part number CA17, guaranteed from 0°C to +50°C only.

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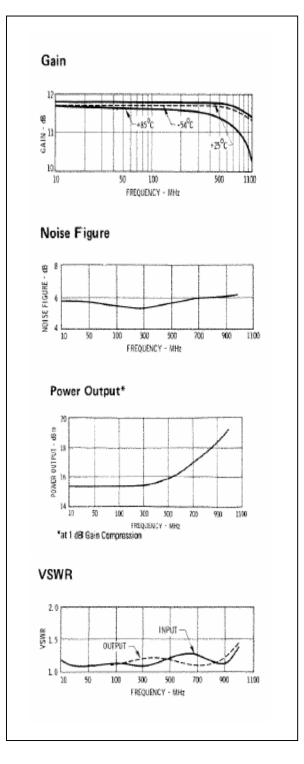


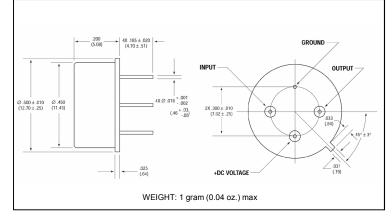


A17/ SMA17

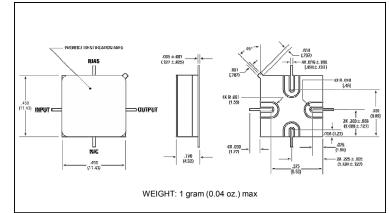
Typical Performance Curves at +25°C

Outline Drawing: TO-8 *

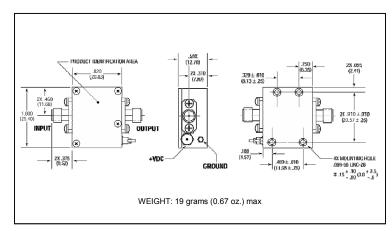




Outline Drawing: Surface Mount



Outline Drawing: SMA Connectorized *



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

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