A231 / SMA231

Cascadable Amplifier 10 to 250 MHz

Features

- LOW NOISE FIGURE: 1.7 dB (TYP.)
- HIGH GAIN: 26.0 dB (TYP.)
- HIGH EFFICIENCY: 16 mA at +5 Vdc
- MEDIUM OUTPUT LEVEL: +14 dBm at +8 Vdc (TYP.)

Description

The A231 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

The 2 stage silicon bipolar feedback amplifier design displays impressive performance over a broadband frequency range. An isolation transformer is used in the feedback loop, with the benefit of high reverse isolation.

Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

Ordering Information

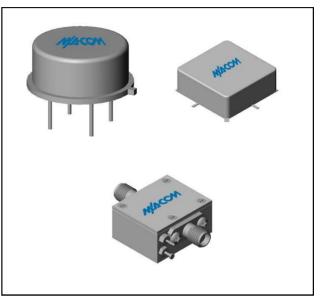
Part Number	Package	
A231	TO-8	
SMA231	Surface Mount	
CA231 **	SMA Connectorized	

** The connectorized version is not RoHs compliant.

Electrical Specifications: $Z_0 = 50\Omega$, $V_{CC} = +5 V_{DC}$

Typical Guaranteed **Parameter** Units 0° to 50°C -54° to +85°C* 25°C Frequency MHz 10-300 10-250 10-250 Small Signal Gain (min) dB 26.0 25.0 24.0 Gain Flatness (max) dB ±0.2 ±0.5 ±0.8 **Reverse Isolation** dB 32 Noise Figure (max) dB 17 24 2.8 Power Output dBm 10.0 90 85 @ 1 dB comp. (min) IP3 dBm +22 IP2 dBm +25 Second Order Harmonic IP dBm +31 VSWR Input / Output (max) 1.5:1 / 1.5:1 1.8:1 / 1.8:1 2.0:1 / 2.0:1 DC Current @ 5 Volts (max) mΑ 16 19 21

Product Image



Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	125°C
DC Voltage	+10 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: $V_{CC} = +5 V_{DC}$

Parameter	Rating
Thermal Resistance θ_{jc}	184°C/W
Transistor Power Dissipation P_d	0.033 W
Junction Temperature Rise Above Case T _{jc}	6°C

1 * Over temperature performance limits for part number CA231, guaranteed from 0°C to +50°C only.

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ΜΛΟΜ

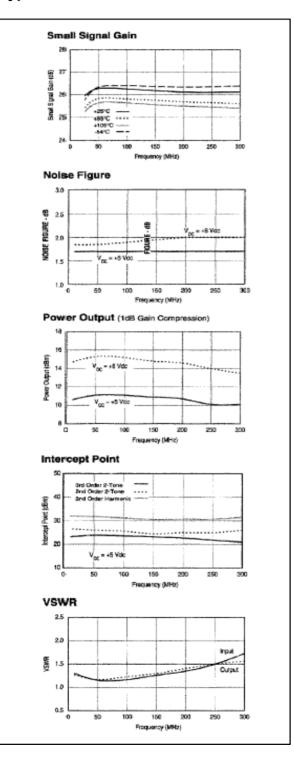
Rev. V3

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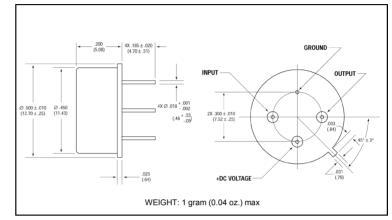


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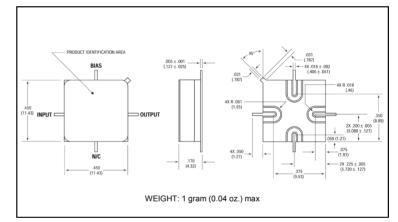
Typical Performance Curves at +25°C



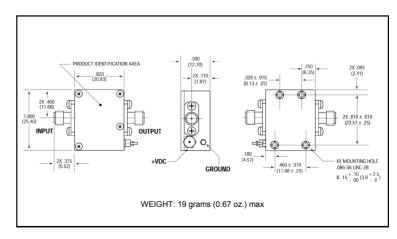
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount



Outline Drawing: SMA Connectorized *



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

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