

**Product Type: Broadband RF Amplifier**  
**Frequency: 5 to 500 MHz**

Rev. V4

## Features

- HIGH DYNAMIC RANGE: +116 dBm (1 MHz Band)
- HIGH OUTPUT POWER: +19 dBm (TYP.)
- HIGH THIRD ORDER I.P. + 34.0 dBm (TYP.)
- LOW NOISE: 4.0 dB (TYP.)

## Description

The AM-131-PIN RF amplifier is a discrete thin film hybrid design, which incorporates the use of 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. An active DC biasing network is used for temperature-stable performance, in addition to an RF Choke, used for power supply decoupling.

## Product Image



## Ordering Information

Part Number	Package
AM-131 PIN <sup>4</sup>	TO-8-1

4. Mounting kit part number AU00071 required for PCB applications.

## 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	5-500	5-500	5-500
Small Signal Gain (min)	dB	11.5	10.0	9.5
Gain Flatness (max)	dB	±0.3	±0.7	±1.0
Reverse Isolation	dB	16		
Noise Figure (max)	dB	4.0	5.0	5.5
Power Output @ 1 dB comp. (min)	dBm	19.0	18.0	17.5
IP3	dBm	+34		
IP2	dBm	+48		
Second Order Harmonic IP	dBm	+54		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.9:1 / 1.9:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	65	69	72

## 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

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

Parameter	Rating
Thermal Resistance $\theta_{jc}$	75°C/W
Transistor Power Dissipation $P_d$	0.651 W
Junction Temperature Rise Above Case $T_{jc}$	49°C

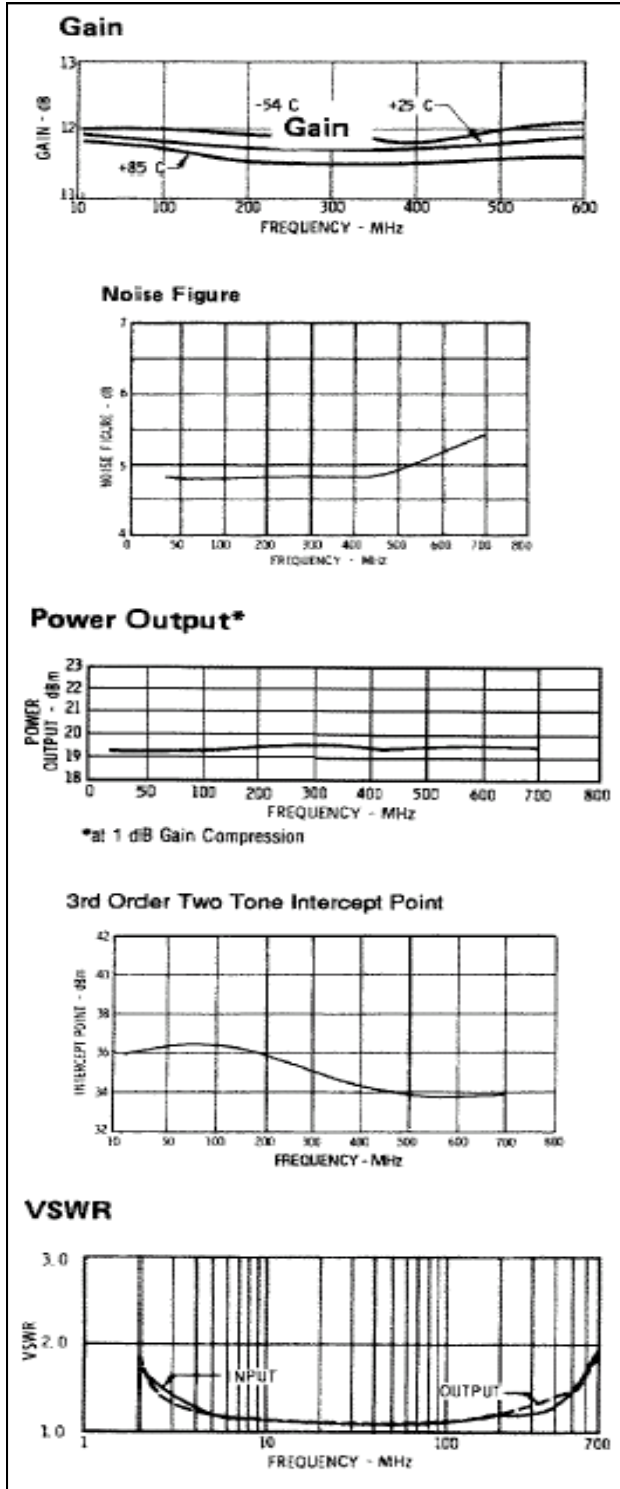
# AM-131-PIN



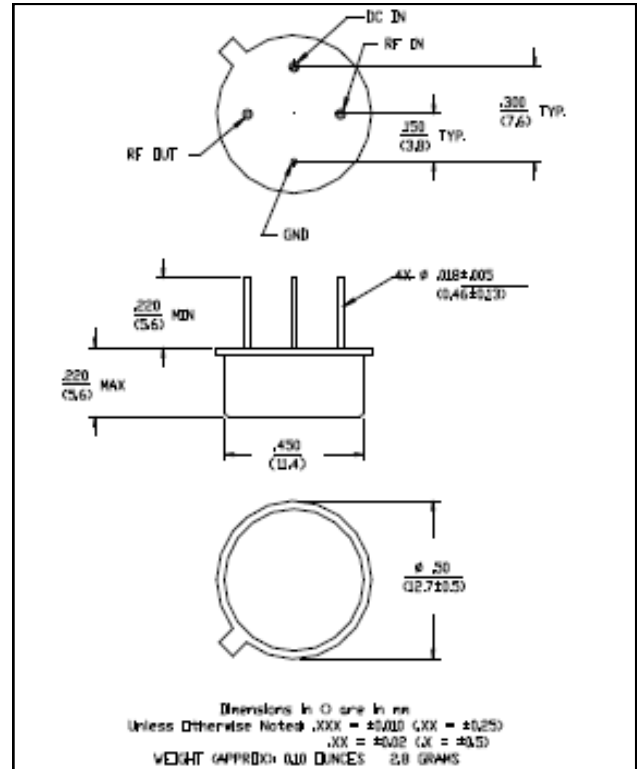
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## Typical Performance Curves at +25°C



## Outline Drawing: TO-8-1



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