AM-131-PIN



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.

Ordering Information

Part Number	Package
AM-131 PIN ⁴	TO-8-1

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

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

B	11	Typical	Guaranteed	
Parameter	Units	25°C	0º to 50ºC	-54º to +85ºC*
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

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	

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

Parameter	Rating
Thermal Resistance θ_{jc}	75°C/W
Transistor Power Dissipation P _d	0.651 W
Junction Temperature Rise Above Case T _{jc}	49°C

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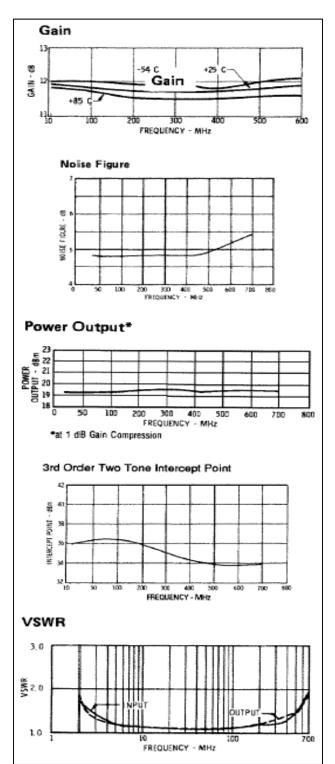


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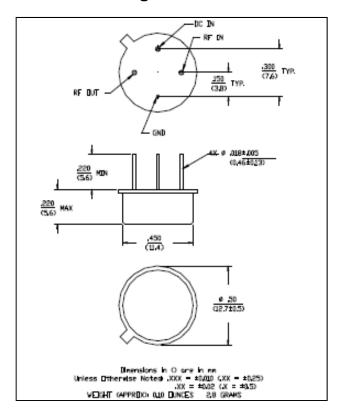
Frequency: 5 to 500 MHz

Rev. V4

Typical Performance Curves at +25°C



Outline Drawing: TO-8-1



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Visit www.macomtech.com for additional data sheets and product information.