

Cascadable Thin Film Amplifier, 12 dB Gain, 5 - 500 MHz

AM-/AMC-151

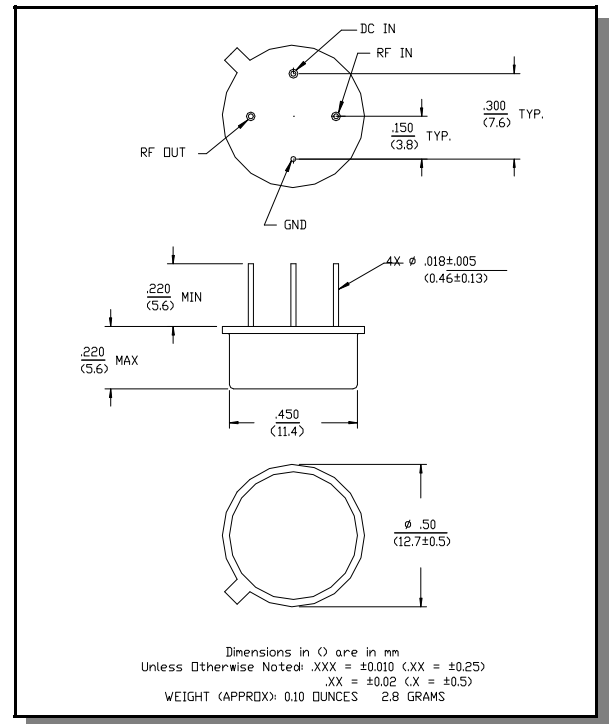
Features

- 5 dB Typical Midband Noise Figure
- +38 dBm Typical Midband Third Order Intercept
- +21 dBm Typical Midband 1 dB Compression

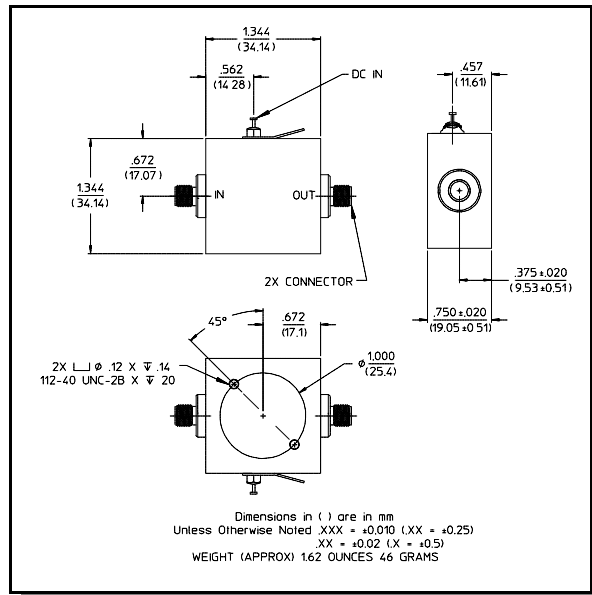
Description

M/A-COM's AM-151 is a coupler feedback amplifier with high intercept and compression points. The use of coupler feedback minimizes noise figure and current in a high intercept amplifier. This amplifier is packaged in a TO-8 package. Due to the internal power dissipation the thermal rise minimized. The ground plane on the PC board should be configured to remove heat from under the package. AM-151 is ideally suited for use where a high intercept, high reliability amplifier is required.

TO-8-1



C-32



Absolute Maximum Ratings ¹

Parameter	Absolute Maximum
Max. Input Power	+20 dBm
V _{bias}	+15.75 V
Operating Temperature	-55°C to +85°C
Storage Temperature	-65°C to +125°C

1. Operation of this device above any one of these parameters may cause permanent damage.

Electrical Specifications ^{2,3} $T_A = -55^\circ\text{C}$ to $+85^\circ\text{C}$ Case Temperature

Parameter	Test Conditions	Frequency	Units	Min.	Typ.	Max.
Gain	@ +25°C	50 MHz	dB	11.5	12.0	12.5
Frequency Response	—	5 - 500 MHz	dB	—	—	±1.0
Gain Variation with Temperature	—	5 - 500 MHz	dB	—	—	±0.8
1 dB Compression	Output Power	5 - 500 MHz 10 - 500 MHz	dBm dBm	+19 +20	— —	— —
Noise Figure	—	5 - 500 MHz	dB	—	—	7.0
Reverse Transmission	—	5 - 500 MHz	dB	—	-16	-13
VSWR	—	5 - 500 MHz	Ratio	—	—	2:1
Output IP ₂	Two-tone inputs up to +10 dBm	5 - 500 MHz	dBm	+48	—	—
Output IP ₃	Two-tone inputs up to +10 dBm	5 - 500 MHz	dBm	+34	—	—
Vbias	—	—	V	+14.5	+15.0	+15.5
Ibias	Vbias = +15.0 VDC	—	mA	—	85	100
Power Dissipation	@ +15V Bias	—	mW	—	1275	—

2. All specifications apply when operated at +15 VDC, with 50 ohms source and load impedance.

3. Heat Sinking: Operation at case temperature above 95°C is not recommended. Heat sinking adequate to dissipate 1.3W must be provided in use.

Specifications subject to change without notice.

- North America: Tel. (800) 366-2266
- Asia/Pacific: Tel.+81-44-844-8296, Fax +81-44-844-8298
- Europe: Tel. +44 (1344) 869 595, Fax+44 (1344) 300 020

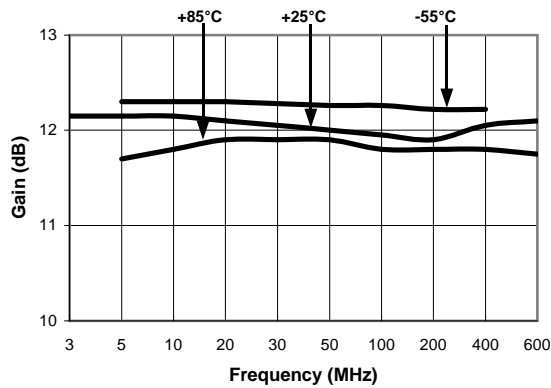
Visit www.macom.com for additional data sheets and product information.

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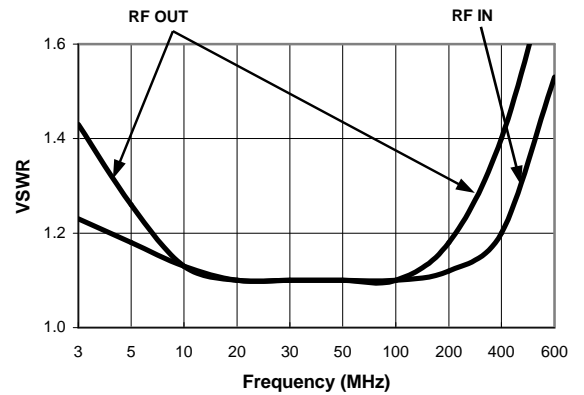
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Typical Performance Curves

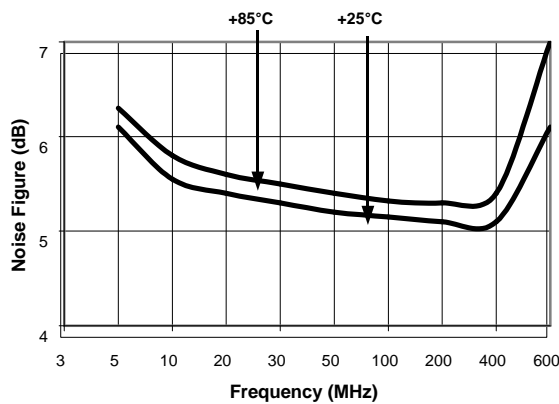
Gain vs. Frequency



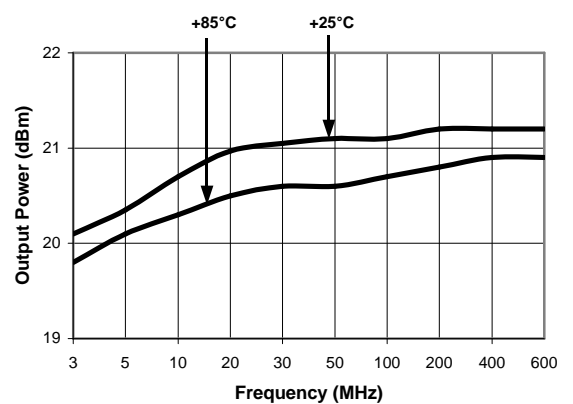
VSWR vs. Frequency



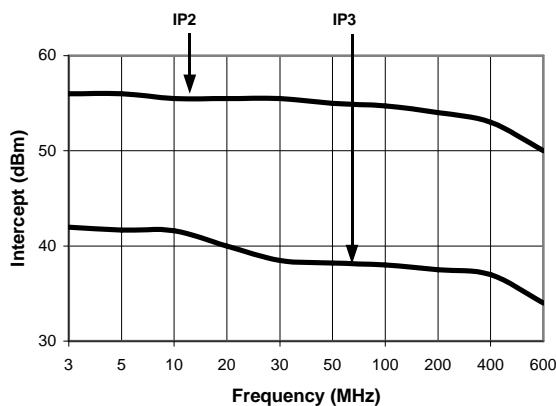
Noise Figure



1 dB Compression



Intermodulation Intercept



Ordering Information

Part Number	Package
AM-151 PIN ⁴	TO-8-1
AMC-151 SMA	Connectorized

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

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