

Cascadable Thin Film Amplifier, 12 dB Gain, 10 - 1000 MHz

AM-177

Features

- +22 dBm Typical High 1 dB Compression
- +38 dBm Typical High Third Order Intercept
- 1.2:1 Typical VSWR

Description

M/A-COM's AM-177 is a feedback amplifier with high intercept and compression points. This amplifier is packaged in a TO-8 package. Due to the internal power dissipation the thermal rise should be minimized. The ground plane on the PC board should be configured to remove heat from under the package. AM-177 is ideally suited for use where a high intercept, high reliability amplifier is required.

Absolute Maximum Ratings ¹

Parameter	Absolute Maximum
Max Input Power	+20 dBm
Vbias	+15.75 V
Operating Temperature	-55°C to +85°C
Storage Temperature	-65°C to +125°C

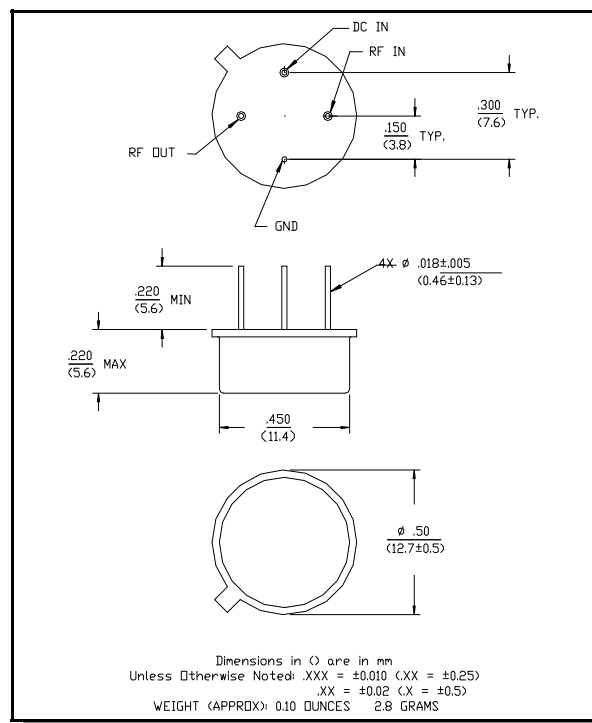
1. Operation of this device above any one of these parameters may cause permanent damage.

Electrical Specifications ^{2,3} T_A = -55°C to +85°C Case Temperature

Parameter	Test Conditions	Frequency	Units	Min.	Typ.	Max.
Gain	@ +25°C	500 MHz	dB	11.5	12.0	12.5
Frequency Response	—	10 - 1000 MHz	dB	—	—	±0.5
Gain Variation with Temperature	—	10 - 1000 MHz	dB	—	—	±0.8
1 dB Compression	Output Power	10 - 1000 MHz	dBm	+20	—	—
Noise Figure	—	10 - 1000 MHz	dB	—	—	8.5
Reverse Transmission	—	10 - 1000 MHz	dB	—	-16	-14
VSWR	—	10 - 1000 MHz	Ratio	—	—	2.0:1
Output IP ₂	Two-tone inputs up to 0 dBm	10 - 1000 MHz	dBm	+42	—	—
Output IP ₃	Two-tone inputs up to 0 dBm	10 - 1000 MHz	dBm	+30	—	—
Vbias	—	—	V	+14.5	+15.0	+15.5
Ibias	Vbias = +15.0 VDC	—	mA	—	105	115
Power Dissipation	@ +15V Bias	—	mW	—	1575	—

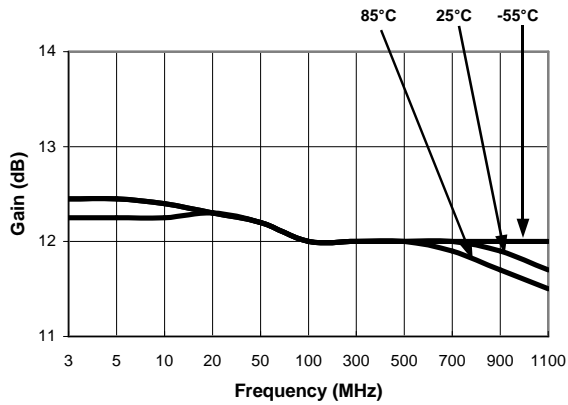
2. All specifications apply when operated at +15 VDC, with 50 ohms source and load impedance.
3. Heat Sinking: Operation at case temperature above 95°C is not recommended. Heat sinking adequate to dissipate 1.75W must be provided in use.

TO-8-1

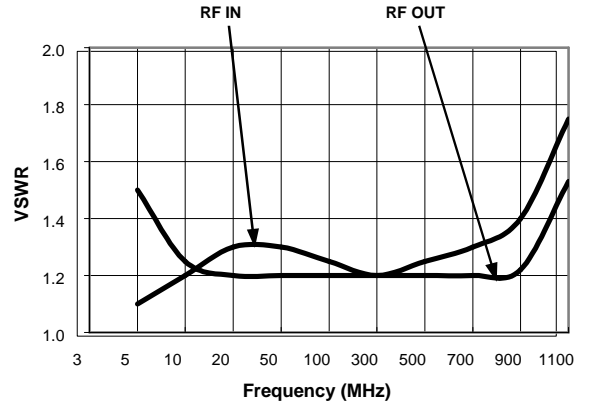


Typical Performance Curves

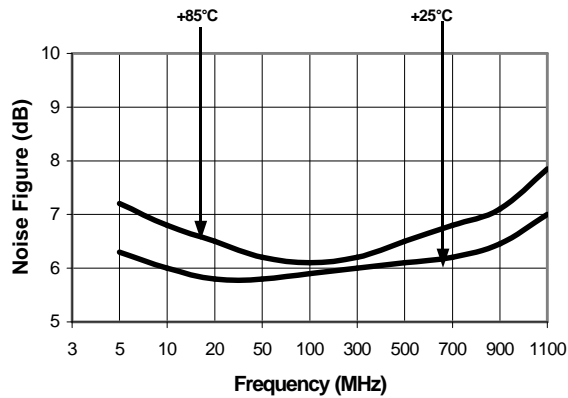
Gain vs. Frequency



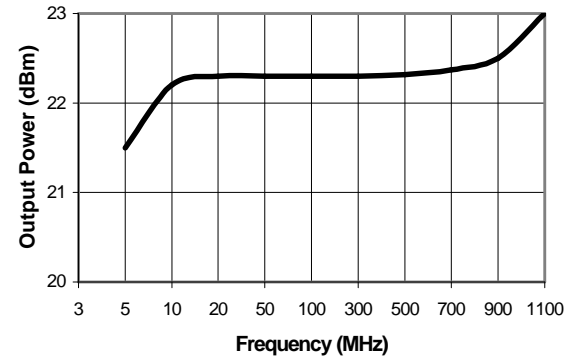
VSWR vs. Frequency



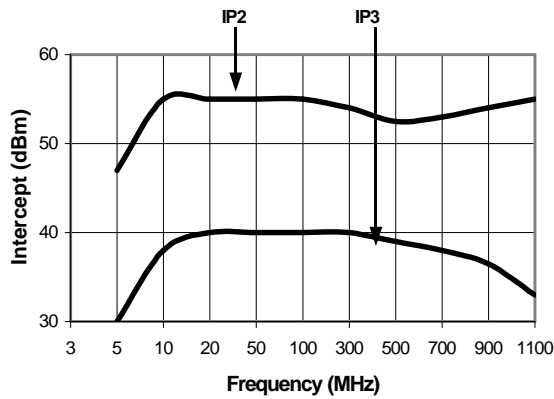
Noise Figure



1 dB Compression



Intermodulation Intercept



Ordering Information

Part Number	Package
AM-177 PIN ⁴	TO-8-1

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

Specifications subject to change without notice.

- North America: Tel. (800) 366-2266
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Visit www.macom.com for additional data sheets and product information.