

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

Rev. V4

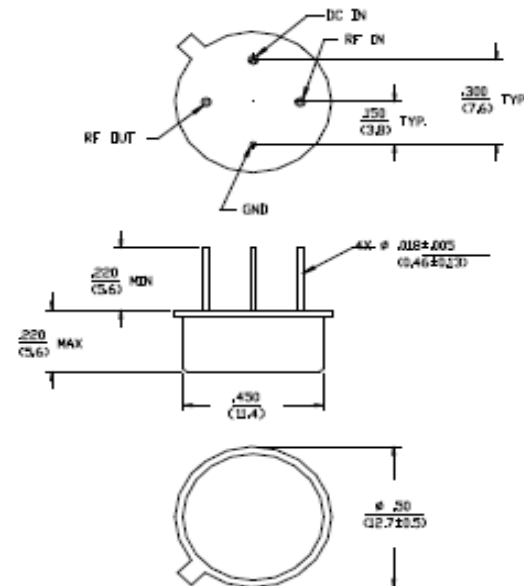
Features

- +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.

TO-8-1



Dimensions in ϕ are in mm
Unless Otherwise Noted .XXX = ± 0.010 (XX = ± 0.25)
.XX = ± 0.02 (X = ± 0.5)
WEIGHT APPROX 0.00 UNCES 0.0 GRAMS

Electrical Specifications: ^{1,2} $T_A = -55^\circ\text{C}$ to $+85^\circ\text{C}$ Case Temperature

Parameter	Test Conditions	Frequency	Units	Min.	Typ.	Max.
Gain	@+25°C	500 MHz	dB	9.5	10.0	10.5
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	+22	—
Noise Figure	—	10 - 1000 MHz	dB	—	5.8	8.5
Reverse Transmission	—	10 - 1000 MHz	dB	—	-16	-14
VSWR	—	10 - 1000 MHz	Ratio	—	1.6:1	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	—	—	VDC	+14.5	+15.0	+15.5
Ibias	Vbias = +15.0 VDC	—	mA	—	105	115
Power Dissipation	@ +15 V Bias	—	mW	—	1575	—

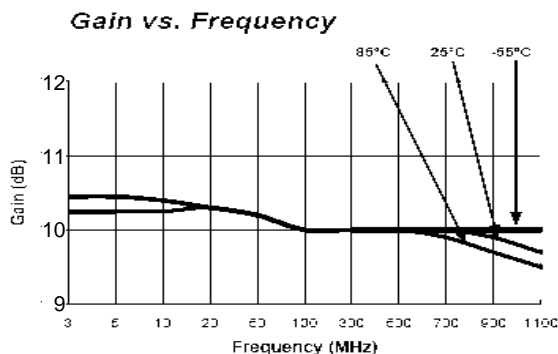
1. All specifications apply when operated at +15 VDC, with 50 ohms source and load impedance.

2. Heat Sinking: Operation at case temperature above 95°C is not recommended. Heat sinking adequate to dissipate 1.75W must be provided in use.

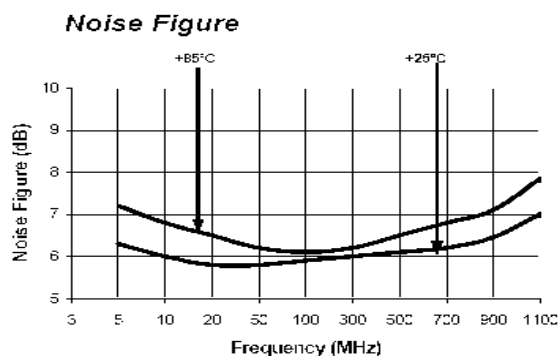
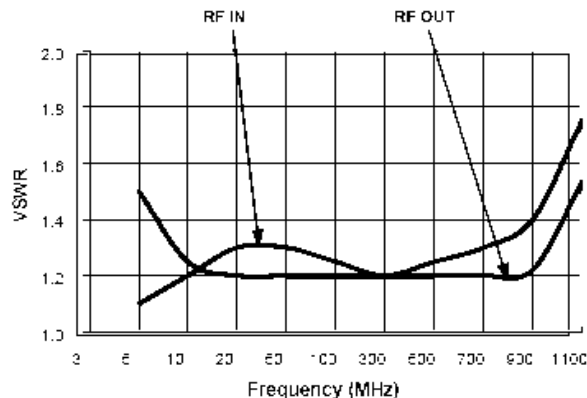
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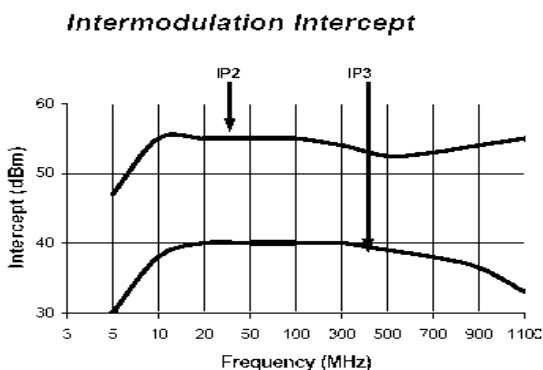
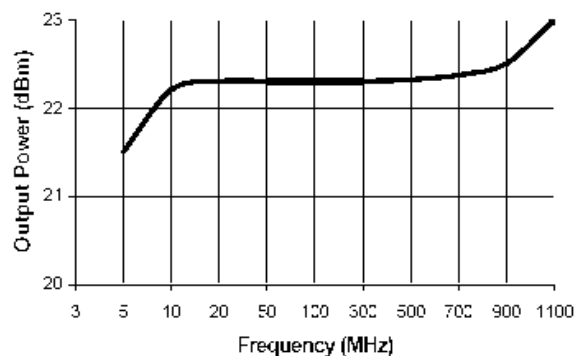
Typical Performance Curves



VSWR vs. Frequency



1 dB Compression



Absolute Maximum Ratings ⁴

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

Ordering Information

Part Number	Package
AM-177 PIN ³	TO-8-1

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

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