

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

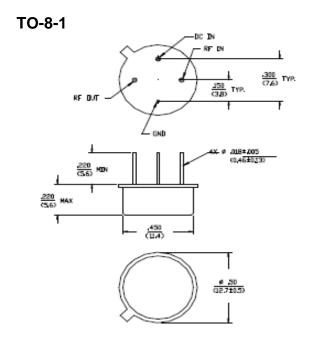
Rev. V4

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.



Discriptions in O are in an Unless Discription Note: ± 0.25 ± 0.00 ± 0.00

Electrical Specifications: ^{1,2} T_A = -55°C to +85°C Case Temperature

Parameter	Test Conditions	Frequency	Units	Min.	Тур.	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.

India Tel: +91.80.4155721
 China Tel: +86.21.2407.1588

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

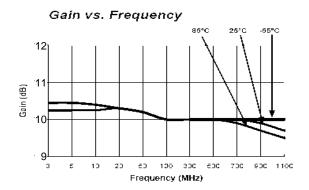
^{2.} Heat Sinking: Operation at case temperature above 95°C is not recommended. Heat sinking adequate to dissipate 1.75W must be provided in use.



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Typical Performance Curves

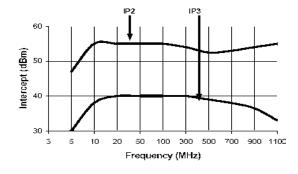


RF OUT 2.0 1.9 VSWR 1.2 1.0 20 10 ēΟ 100 800 600 700 900 1100 Frequency (MHz)

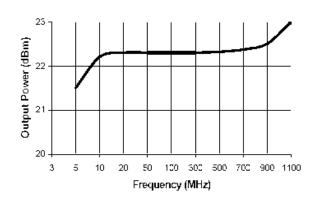
VSWR vs. Frequency

Noise Figure 10 Noise Figure (dB) 10 20 100 300 500 700 900 Frequency (MHz)

Intermodulation Intercept



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.

- North America Tel: 800.366.2266 Europe Tel: +353.21.244.6400 • China Tel: +86.21.2407.1588
- India Tel: +91.80.4155721 Visit www.macomtech.com for additional data sheets and product information.