

## Features

- 1.6 dB Typical Midband Noise Figure
- +19 dBm Typical 1 dB Compression Point
- +30 dBm Typical Third Order Intercept

## Description

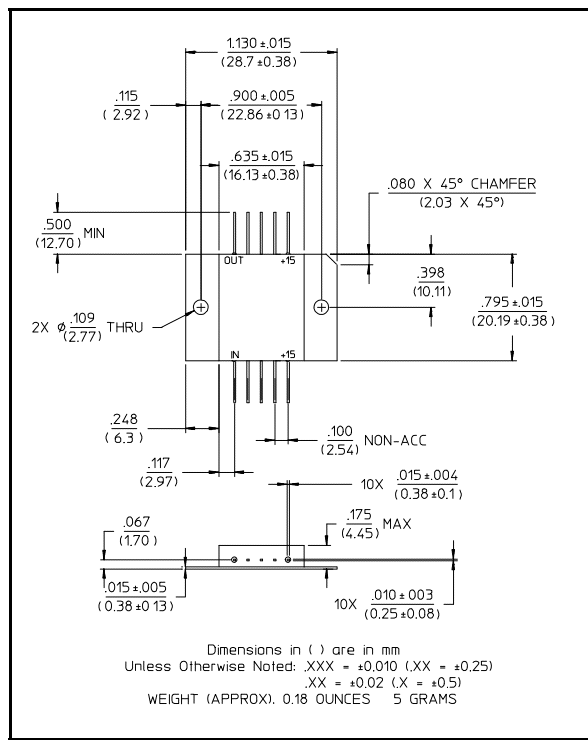
M/A-COM's AM-160 is a coupler feedback amplifier with high intercept and compression points. The use of coupler feedback minimizes noise figure and current in a high intercept amplifier. This amplifier is packaged in a flatpack with flanges. Due to the metal flatpack the thermal rise is minimized. The ground plane on the PC board should be configured to remove heat from under the package. AM-160 is ideally suited for use where a high intercept, high reliability amplifier is required.

## Absolute Maximum Ratings <sup>1</sup>

Parameter	Absolute Maximum
Max. Input Power	+10 dBm
V <sub>bias</sub>	+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.

## FP-9



## Electrical Specifications <sup>2,3</sup> T<sub>A</sub> = -55°C to +85°C Case Temperature

Parameter	Test Conditions	Frequency	Units	Min.	Typ.	Max.
Gain	@ +25°C	250 MHz	dB	27.2	28.2	29.2
Frequency Response	—	100-600 MHz	dB	—	—	±1.25
Gain Variation with Temperature	—	100-600 MHz	dB	—	—	±1.0
1 dB Compression	Output Power	100-600 MHz	dBm	+16	—	—
Noise Figure	—	100-600 MHz	dB	—	—	3.0
Reverse Transmission	—	100-600 MHz	dB	—	-38	-32
VSWR	—	100-600 MHz 100-400 MHz	Ratio Ratio	— —	— —	2.5:1 2:1
Output IP <sub>2</sub>	Two-tone inputs up to +5 dBm	100-600 MHz	dBm	+36	—	—
Output IP <sub>3</sub>	Two-tone inputs up to +5 dBm	100-600 MHz	dBm	+27	—	—
V <sub>bias</sub>	—	—	VDC	+14.5	+15.0	+15.5
I <sub>bias</sub>	V <sub>bias</sub> = +15.0 VDC	—	mA	—	70	75
Power Dissipation	@ +15V Bias	—	mW	—	1050	—

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 1.2 W must be provided in use.

## S-Parameter Data

Frequency (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.14	126.3	28.21	-5.6	0.01	-18.0	0.07	-73.4
150	0.12	56.7	28.30	-53.5	0.01	-68.5	0.08	-144.7
200	0.08	-15.5	27.45	-93.3	0.01	-108.2	0.09	150.5
250	0.17	-67.8	26.79	-126.3	0.01	-143.8	0.10	101.3
300	0.18	-87.7	25.37	-155.5	0.01	-178.1	0.12	64.4
350	0.18	-96.1	25.42	172.0	0.01	149.5	0.14	34.6
400	0.23	-115.4	24.92	141.7	0.02	120.6	0.11	4.7
500	0.27	175.5	25.67	78.7	0.02	59.1	0.10	-101.1
600	0.32	19.1	25.58	0.7	0.02	-14.6	0.24	143.7

## Pin Configuration

Pin No.	Function	Pin No.	Function
1	RF OUT	6	RF IN
2	GND	7	GND
3	GND	8	GND
4	GND	9	GND
5	VDC	10	VDC

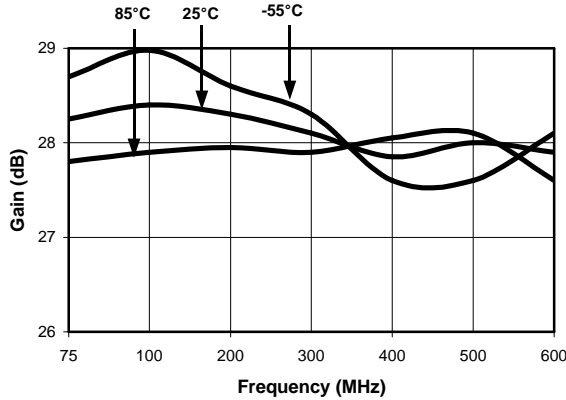
Specifications subject to change without notice.

- **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

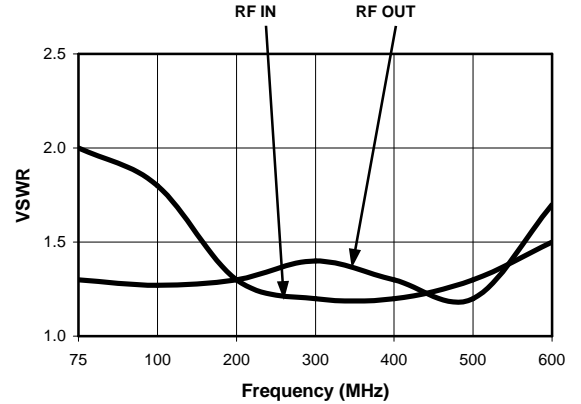
Visit [www.macom.com](http://www.macom.com) for additional data sheets and product information.

Typical Performance Curves

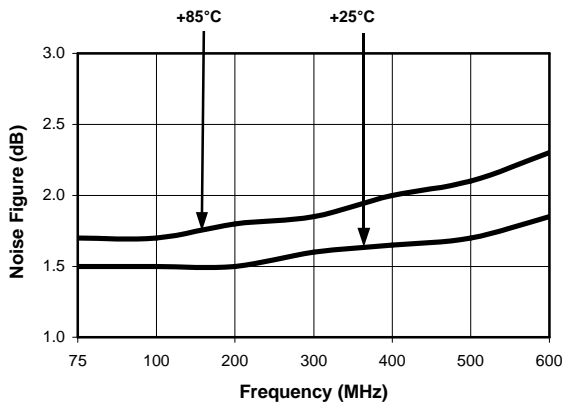
Gain vs. Frequency



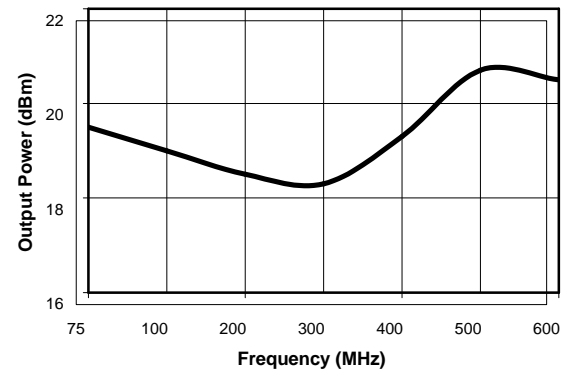
VSWR vs. Frequency



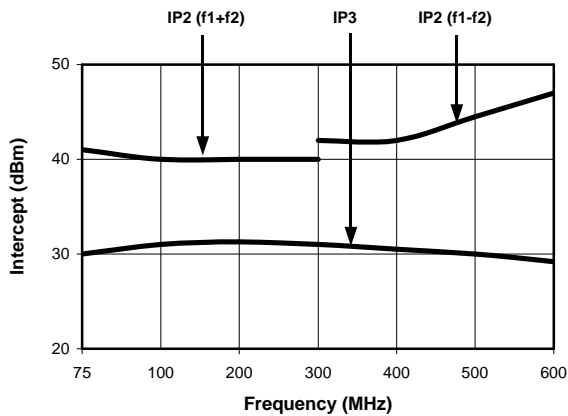
Noise Figure



1 dB Compression



Intermodulation Intercept



Ordering Information

Part Number	Package
AM-160 PIN	Flatpack

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](http://www.macom.com) for additional data sheets and product information.