



# High Performance Amplifier, 11 dB Gain, 10 - 1000 MHz

V 3.00

AM-145

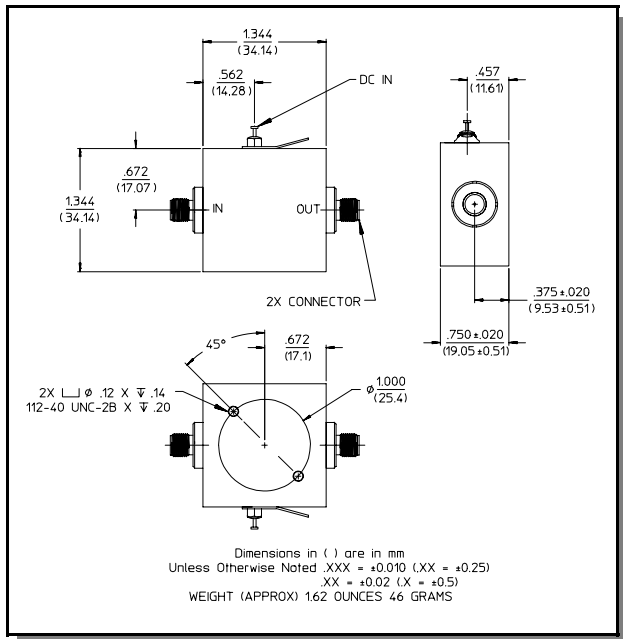
## Features

- 2.5 dB Typical Midband Noise Figure
- +19 dBm Typical Midband Output Power
- +37 dBm Typical Midband Third Order Intercept

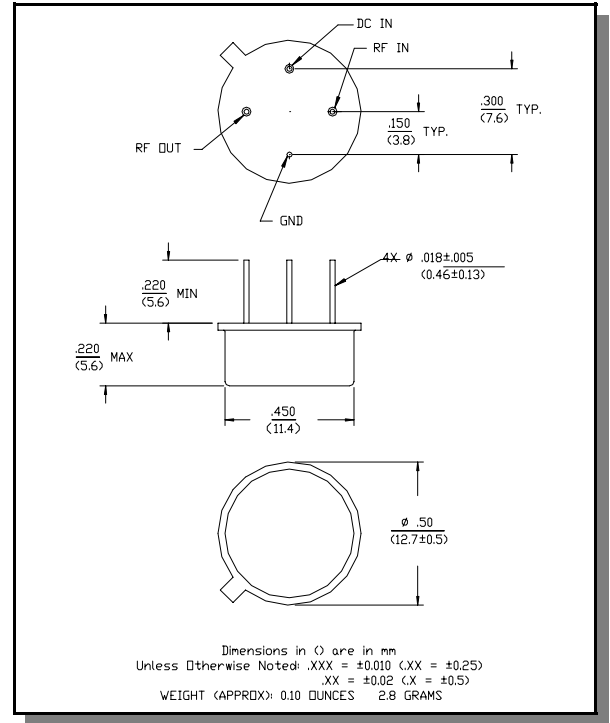
## Description

M/A-COM's AM-145 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-145 are ideally suited for use where a high intercept, high reliability amplifier is required.

## C-32



## TO-8-1



## 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.

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

Parameter	Test Conditions	Frequency	Units	Min.	Typ.	Max.
Gain	@ +25°C	300 MHz	dB	10.1	10.7	11.3
Frequency Response	—	10-1000 MHz	dB	—	—	±1.0
Gain Variation with Temperature	—	10-1000 MHz	dB	—	—	+1.0,-0.8
1 dB Compression	Output Power	10-1000 MHz 100-1000 MHz	dBm dBm	+14 +17	— —	— —
Noise Figure	—	10-1000 MHz 10-500 MHz	dB dB	— —	— —	5.5 4.0
Reverse Transmission	—	10-1000 MHz	dB	—	-13.5	-11.0
VSWR	—	10-1000 MHz 10-500 MHz	Ratio Ratio	— —	— —	3:1 2:1
Output IP <sub>2</sub>	Two-tone inputs up to +5 dBm	10-1000 MHz	dBm	+38	—	—
Output IP <sub>3</sub>	Two-tone inputs up to +5 dBm	10-1000 MHz	dBm	+26	—	—
Vbias	—	—	VDC	+14.5	+15.0	+15.5
Ibias	Vbias = +15.0 VDC	—	mA	—	50	60
Power Dissipation	@15.0 V Bias	—	mW	—	750	—

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 0.8W must be provided in use.

## S-Parameter Data

Frequency (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10	0.03	59.0	3.53	-160.8	0.21	-168.6	0.05	60.4
20	0.02	107.8	3.42	-171.3	0.22	-175.4	0.04	94.5
50	0.03	81.9	3.43	179.0	0.22	177.3	0.04	83.4
100	0.04	55.5	3.47	171.3	0.22	170.1	0.05	61.5
200	0.07	30.2	3.48	157.2	0.22	157.5	0.08	36.2
400	0.10	-18.6	3.50	131.8	0.22	134.3	0.11	-1.5
600	0.14	-64.1	3.54	106.9	0.23	111.8	0.14	-32.1
800	0.17	-115.9	3.49	82.1	0.23	90.6	0.16	-62.0
1000	0.21	162.9	3.51	55.5	0.23	69.3	0.18	-89.9

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

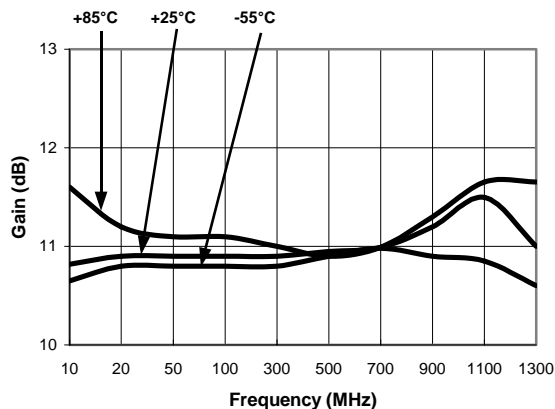
Visit [www.macom.com](http://www.macom.com) for additional data sheets and product information.

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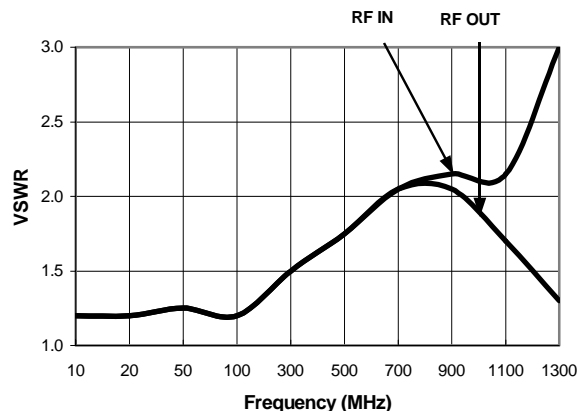
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Typical Performance Curves

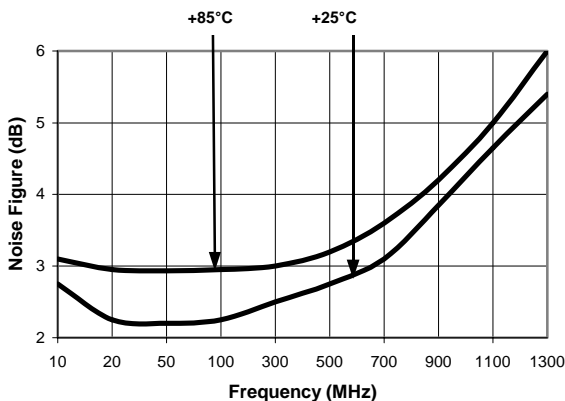
Gain vs. Frequency



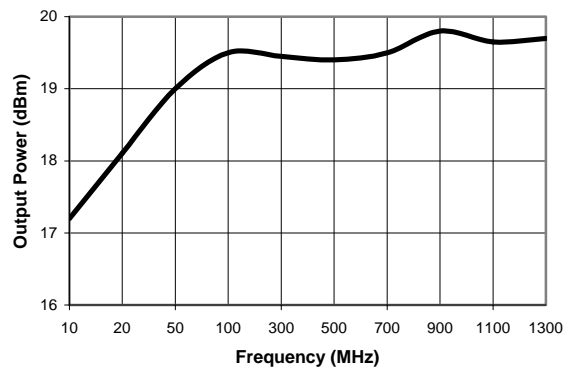
VSWR vs. Frequency



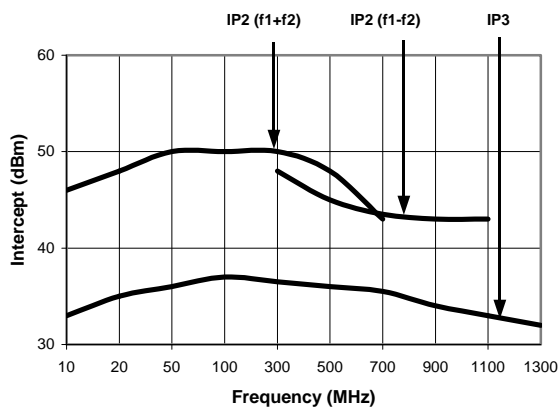
Noise Figure



1 dB Compression



Intermodulation Intercept



Ordering Information

Part Number	Package
AM-145 PIN <sup>4</sup>	TO-8-1
AMC-145 SMA	Connectorized

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

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