

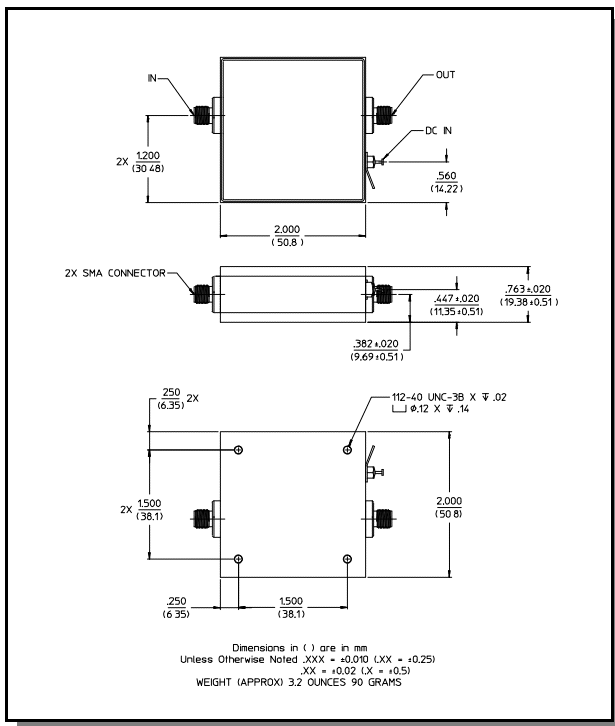
Features

- 4 dB Typical Midband Noise Figure
- +38 dBm Typical Midband Third Order Intercept
- +24 dBm Typical Midband 1 dB Compression

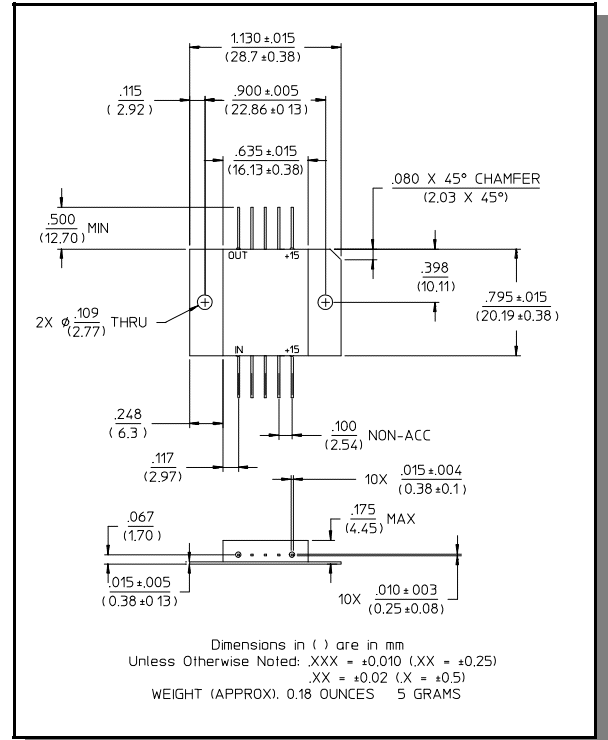
Description

M/A-COM's AM-146 is a coupler feedback amplifier with high intercept and compression points. The use of coupler feedback minimizes current in a high intercept amplifier. This amplifier is packaged in a flatpack with flanges. Due to the metal flatpack the thermal rise minimized. The ground plane on the PC board should be configured to remove heat from under the package. AM-146 is ideally suited for use where a high intercept, high reliability amplifier is required.

C-25



FP-9



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

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

Parameter	Test Conditions	Frequency	Units	Min.	Typ.	Max.
Gain	@ +25°C	50 MHz	dB	20.3	21.0	21.7
Frequency Response	—	10-500 MHz	dB	—	—	±1.0
Gain Variation with Temperature	—	10-500 MHz	dB	—	—	+0.8,-1.2
1 dB Compression	Output Power	10-500 MHz	dBm	+20.0	—	—
Noise Figure	—	10-500 MHz 10-300 MHz	dB dB	— —	— —	7.0 5.5
Reverse Transmission	—	10-500 MHz	dB	—	-35	-30
VSWR	—	10-500 MHz	Ratio	—	—	2:1
Output IP ₂	Two-tone inputs up to +10 dBm	10-500 MHz	dBm	+40	—	—
Output IP ₃	Two-tone inputs up to +10 dBm	10-500 MHz	dBm	+30	—	—
V _{bias}	—	—	VDC	+14.5	+15.0	+15.5
I _{bias}	V _{bias} = +15.0 VDC	—	mA	—	130	140
Power Dissipation	@ +15V Bias	—	W	—	2	—

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

S-Parameter Data

Frequency (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10	0.13	-118.5	11.44	16.8	0.02	7.1	0.14	164.6
20	0.12	-144.0	11.63	-1.0	0.02	-4.0	0.16	168.2
50	0.13	-175.5	11.56	-27.1	0.02	-25.3	0.15	155.9
75	0.14	169.0	11.49	-44.3	0.02	-41.3	0.13	143.8
100	0.15	163.8	11.45	-59.9	0.02	-55.7	0.08	132.5
200	0.16	121.4	11.24	-120.3	0.02	-113.3	0.05	160.6
300	0.18	86.3	11.34	176.4	0.02	-170.1	0.07	167.7
400	0.20	55.2	11.33	110.4	0.02	133.3	0.12	159.2
500	0.23	13.1	10.84	31.1	0.01	75.6	0.23	174.8

Absolute Maximum Ratings ³

Parameter	Absolute Maximum
Max. Input Power	+10 dBm
V _{bias}	+15.75 V
Operating Temperature	-55°C to +85°C
Storage Temperature	-65°C to +125°C

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

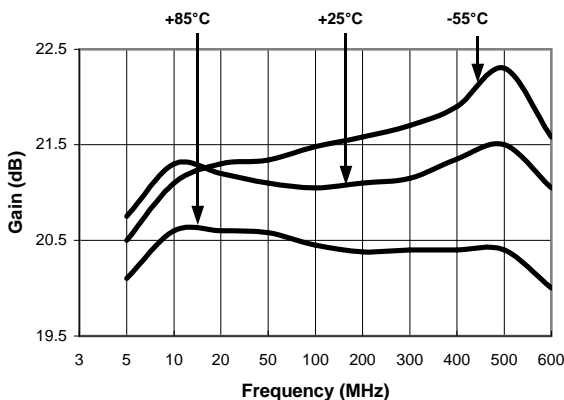
Specifications subject to change without notice.

- 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

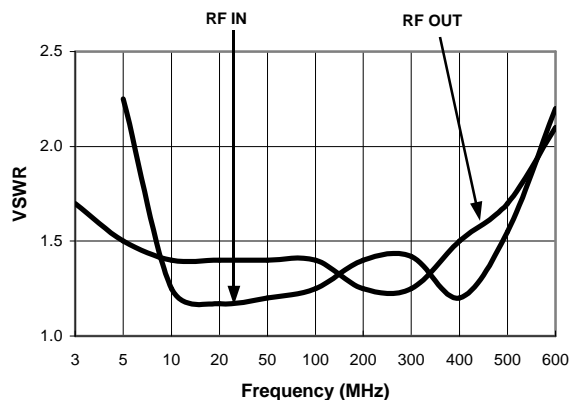
Visit www.macom.com for additional data sheets and product information.

Typical Performance Curves

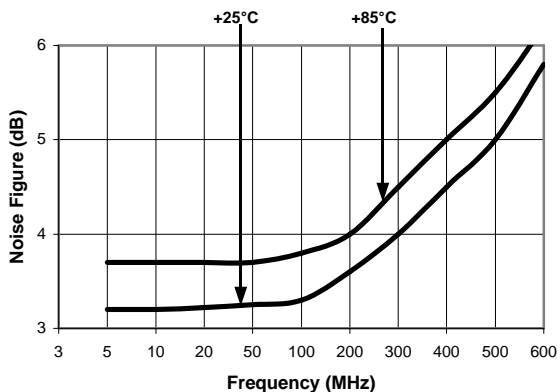
Gain vs. Frequency



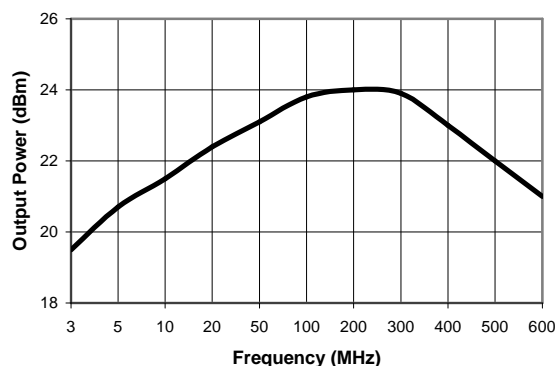
VSWR vs. Frequency



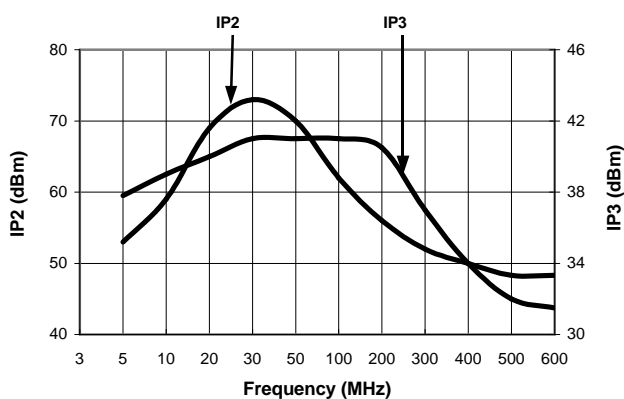
Noise Figure



1 dB Compression



Intermodulation Intercept



Ordering Information

Part Number	Package
AM-146 PIN	Flatpack
AMC-146 SMA	Connectorized

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 for additional data sheets and product information.

