

Cascadable Thin Film Amplifier, 28.5 dB Gain, 10 - 1000 MHz

AM-/AMC-183

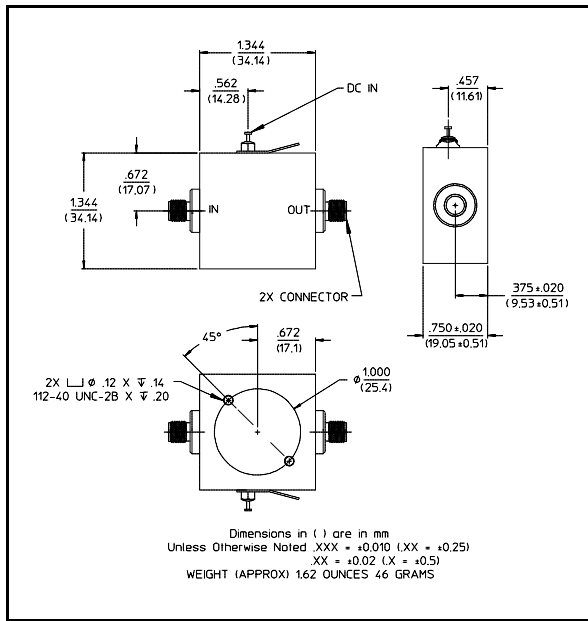
Features

- 28 dB Typical Gain
- +15 dBm Typical 1 dB Compression

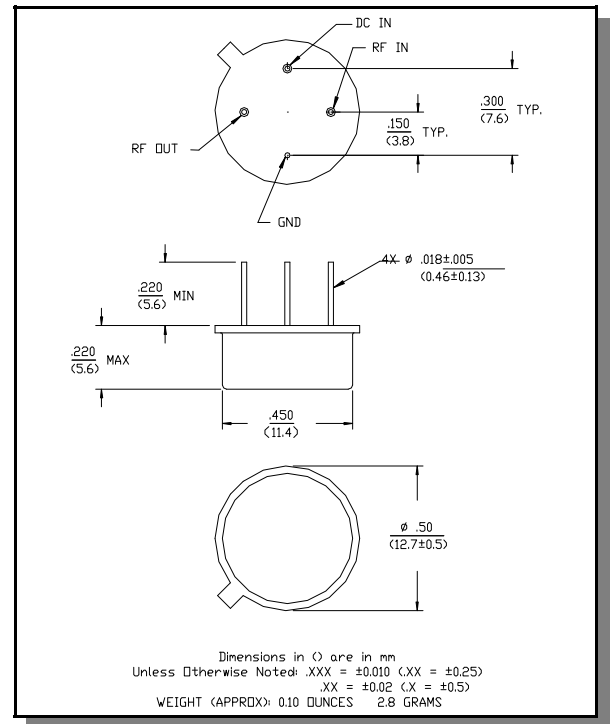
Description

M/A-COM's AM-183 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-183 is ideally suited for use where a high compression, high reliability amplifier is required.

C-32



TO-8-1



Absolute Maximum Ratings ¹

Parameter	Absolute Maximum
Max Input Power	+13 dBm
Vbias	+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 ^{2,3} $T_A = -55^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ Case Temperature

Parameter	Test Conditions	Frequency	Units	Min.	Typ.	Max.
Gain	@ +25°C	700 MHz	dB	27.5	28.5	29.5
Frequency Response	—	10 - 1000 MHz	dB	—	—	±1.5
Gain Variation with Temperature	—	10 - 1000 MHz	dB	—	—	±1.2
1 dB Compression	Output Power	10 - 1000 MHz	dBm	+13	—	—
Noise Figure	—	10 - 500 MHz 10 - 1000 MHz	dB dB	— —	— —	4.5 5.0
Reverse Transmission	—	10 - 1000 MHz	dB	—	-35	-32
VSWR	—	10 - 1000 MHz	Ratio	—	—	2.0:1
Output IP ₂	Two-tone inputs up to 0 dBm	10 - 1000 MHz	dBm	+30	—	—
Output IP ₃	Two-tone inputs up to 0 dBm	10 - 1000 MHz	dBm	+20	—	—
Vbias	—	—	V	+14.5	+15.0	+15.5
Ibias	Vbias = +15.0 VDC	—	mA	—	72	80
Power Dissipation	@ +15V Bias	—	W	—	1.1	—

- 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 1.25W must be provided in use.

S-Parameter Data

Frequency (MHz)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5	0.14	-148.3	31.43	17.9	0.01	1.9	0.20	177.2
10	0.13	170.1	32.36	6.3	0.01	1.6	0.12	92.7
20	0.13	-178.3	32.65	-2.6	0.01	1.3	0.09	69.8
50	0.12	179.2	33.31	-13.6	0.01	-0.5	0.06	-72.9
100	0.11	-178.0	33.09	-29.3	0.01	-2.1	0.05	-98.1
250	0.12	171.1	31.87	-71.9	0.01	-9.3	0.06	-123.4
500	0.12	129.7	29.37	-144.8	0.01	-22.1	0.17	-153.9
750	0.14	-44.0	27.01	145.8	0.01	-45.8	0.25	178.1
1000	0.23	150.0	30.09	65.9	0.01	-97.1	0.28	80.0

Specifications subject to change without notice.

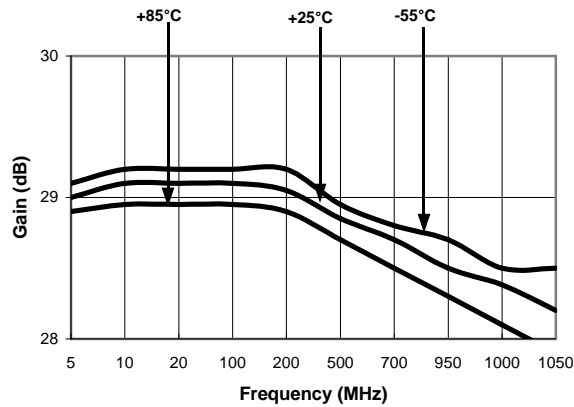
- North America: Tel. (800) 366-2266
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- Europe: Tel. +44 (1344) 869 595, Fax+44 (1344) 300 020

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

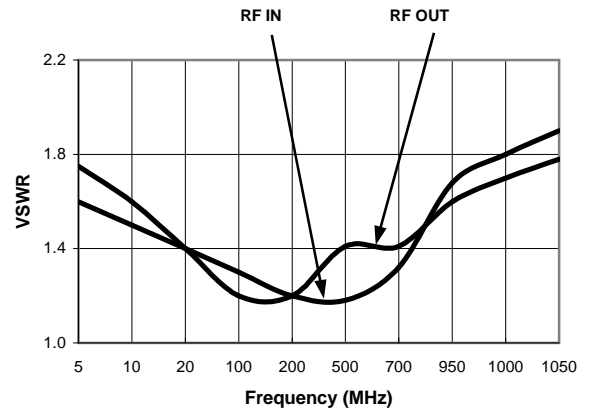


Typical Performance Curves

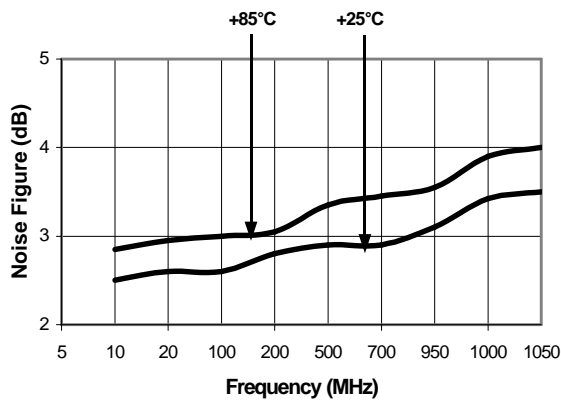
Gain vs. Frequency



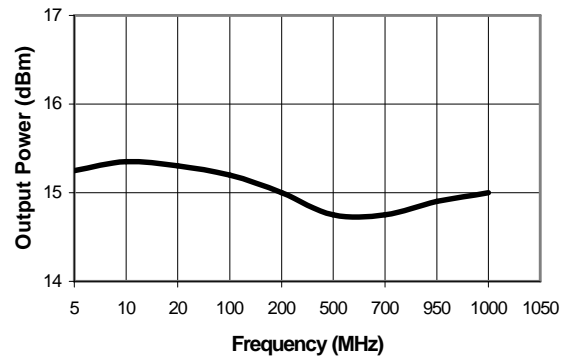
VSWR vs. Frequency



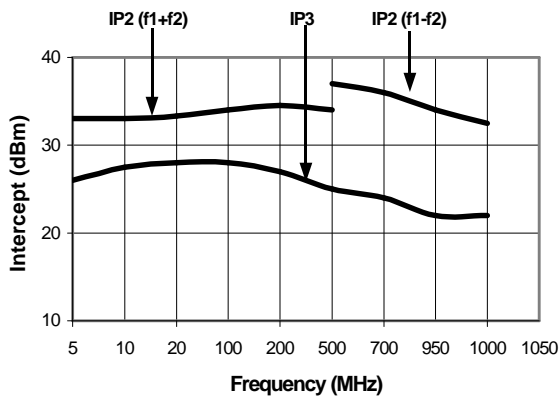
Noise Figure



1 dB Compression



Intermodulation Intercept



Ordering Information

Part Number	Package
AM-183 PIN	TO-8-1
AMC-183 SMA	C-32

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