High Performance Amplifier, 10 dB Gain 5 - 500 MHz

AM-/AMC-123/AM-131

V2.00

Features

- 3.5 dB Typical Midband Noise Figure
- +42 dBm Typical Midband Intercept

Guaranteed Specifications* (From -55°C to +85°C Temp)

Frequency Range	5-500 MHz
Gain (+25°C) @ 50 MHz	10.0 ±0.6 dB
Frequency Response	±0.7 dB Max
Gain Variation with Temperature	±1.0 dB Max
Output Power (1 dB Compression)	
5-500 MHz	+16 dBm Min
10-300 MHz	+19 dBm Min
Noise Figure	
5-500 MHz	7.5 dB Max
10-300 MHz	5.5 dB Max
Reverse Transmission	– 15 dB Max – 18 dB Typ
VSWR	
5-500 MHz	2.5:1 Max
10-400 MHz	2:1 Max
Intermodulation Intercept Point (for two-tone output power up to 10 dBm)	
Second Order (5-500 MHz)	+33 dBm Min
Second Order (10-300 MHz)	+40 dBm Min
Third Order (5-500 MHz)	+22 dBm Min
Third Order (10-300 MHz)	+32 dBm Min
Bias Power	+15 VDC @ 75 mA Max (62 mA, 930 mW Typical)

Operating Characteristics

Impedance	50 Ohms Nominal
Maximum Rating	
RF Input	+23 dBm
Environmental	
MIL-STD-883 screening available.	
Pin Configuration	(AM-123 only) IN; P5, Out; P1 DC IN; P4/P8 All other pins are ground.

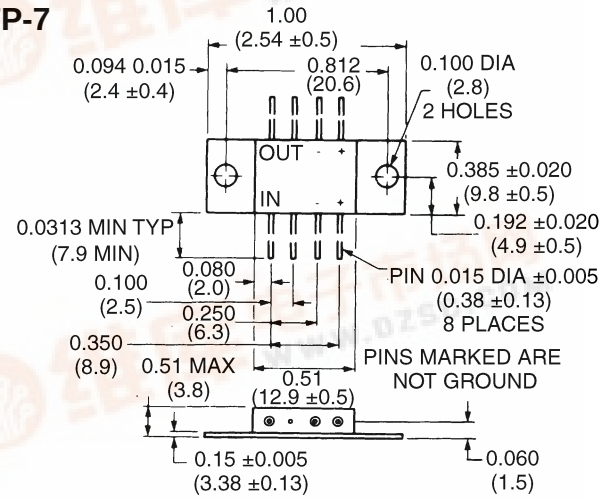
* All specifications apply when operated at +15 VDC, with 50 ohm source and load impedance.
This product contains elements protected by United States Patent Number 3,624,536.
Heat Sinking: Operation at case temperature above 95°C is not recommended. Heat sinking adequate to dissipate 1.0 W must be provided in use.

Ordering Information

Model No.	Package
AM-123 PIN	Flatpack
AMC-123 SMA	Connectorized
AM-131* PIN	Pin

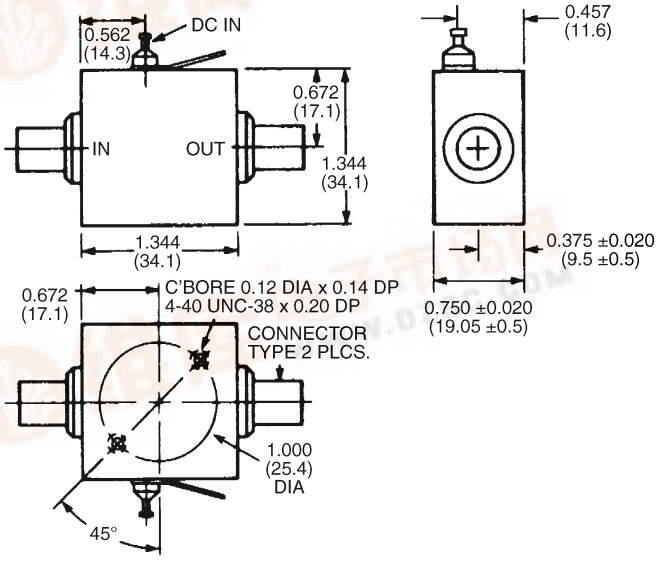
*Mounting kit part number AU00071 required for PCB applications.

FP-7



Dimensions in ( ) are in mm.
Unless Otherwise Noted: .xxx = ±0.010 (.xx = ±0.25)
.xx = ±0.02 (.x = ±0.5)
(NOTE: AM-123 POSITIVE VOLTAGE ONLY.)
WEIGHT (APPROX.): 0.09 OUNCES 2.5 GRAMS

C-32



Dimensions in ( ) are in mm.
Unless Otherwise Noted: .xxx = ±0.010 (.xx = ± 0.25)
.xx = ±0.02 (.x = ±0.5)
WEIGHT (APPROX.): 1.62 OUNCES 46 GRAMS

Specifications Subject to Change Without Notice.

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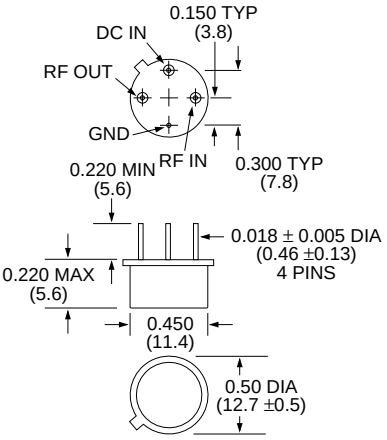


Dimensions in ( ) are in mm.
Unless Otherwise Noted: .xxx = ±0.010 (.xx = ±0.25)
.xx = ±0.02 (.x = ±0.5)
WEIGHT (APPROX.): 0.10 OUNCES 2.8 GRAMS

S-Parameter Data

AM-123	S11		S21		S12		S22	
FREQUENCY	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5.0	0.21	-69.6	3.15	-158.8	0.11	171.3	0.15	92.8
10.0	0.11	-81.5	3.17	-172.2	0.11	175.0	0.06	116.1
20.0	0.08	-88.5	3.18	-178.4	0.12	171.7	0.04	139.8
50.0	0.06	-108.4	3.17	162.9	0.13	159.9	0.03	174.7
100.0	0.05	-122.8	3.14	142.8	0.13	141.4	0.04	-163.9
200.0	0.05	-141.8	3.11	104.8	0.13	102.1	0.04	-119.4
300.0	0.07	-155.4	3.09	66.9	0.12	64.9	0.14	-114.6
400.0	0.15	177.2	3.08	26.7	0.11	27.3	0.22	-153.2
500.0	0.20	151.3	3.05	-21.9	0.09	-20.9	0.25	83.4

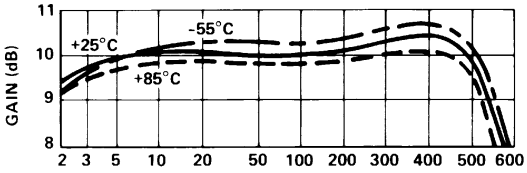
Frequency in MHz.

AM-131	S11		S21		S12		S22	
FREQUENCY	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5.0	0.23	-71.9	3.15	-157.9	0.11	173.2	0.15	90.6
10.0	0.12	-65.2	3.16	-171.9	0.12	175.7	0.07	105.5
20.0	0.08	-55.5	3.17	178.4	0.13	172.0	0.04	124.1
50.0	0.05	-61.3	3.17	162.9	0.13	160.8	0.02	-178.6
100.0	0.04	-78.3	3.15	143.5	0.13	143.9	0.03	-103.7
200.0	0.02	41.9	3.12	106.2	0.13	108.1	0.12	-83.4
300.0	0.10	5.0	3.10	68.8	0.13	75.7	0.20	-108.0
400.0	0.15	-28.7	3.09	29.8	0.14	42.3	0.24	-144.5
500.0	0.20	-18.6	3.07	-16.4	0.14	5.3	0.27	15.0

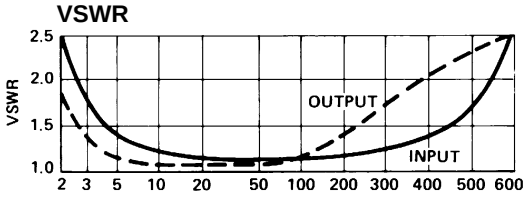
Frequency in MHz.

Typical Performance

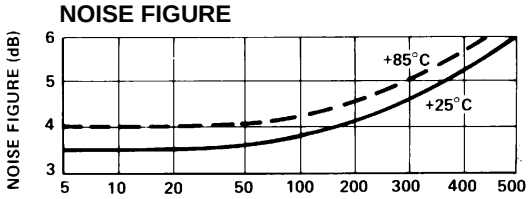
GAIN



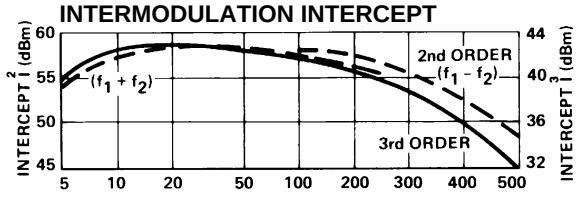
VSWR



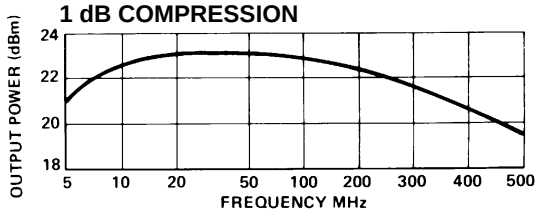
NOISE FIGURE



INTERMODULATION INTERCEPT



1 dB COMPRESSION



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