

Low Noise Amplifier, 8.5 dB Gain 10 - 400 MHz

AM-/AMC-/AMS-181

V2.00

Features

- 1.5 dB Typical Midband Noise Figure
- +31 dBm Typical Midband Intercept
- Ideal for Broadband IF Applications
- Fully Hermetic Package (AMS-181)

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

Frequency Range	10 - 400 MHz
Gain (+25°C) @ 60 MHz	8.5 ±0.5 dB
Frequency Response	+1.0, -0.5 dB Max
Gain Variation with Temperature	±0.5 dB Max
Output Power (1 dB Compression)	
10-400 MHz	+6 dBm Min
10-200 MHz	+9 dBm Min
Noise Figure	
10-400 MHz	2.5 dB Max
10-200 MHz	2.2 dB Max
Reverse Transmission	-9 dB Max -11 dB Typ
VSWR	
10-400 MHz	2.2:1 Max
10-300 MHz	2.0:1 Max
Intermodulation Intercept Point (for two-tone output power up to 0 dBm)	
Second Order (10-400 MHz)	+25 dBm Min
Second Order (10-200 MHz)	+35 dBm Min
Third Order (10-400 MHz)	+15 dBm Min
Third Order (10-200 MHz)	+23 dBm Min
Bias Power	+15 VDC @ 15 mA Max (11 mA, 165 mW Typ)

Operating Characteristics

IF Impedance	50 Ohms Nominal
Maximum Rating	
RF Input	+10 dBm

Environmental

MIL-STD-883 screening available.

*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 3,891,934.

Ordering Information

Model No.	Package
AM-181* Pin	Pin
AMC-181 SMA	Connectorized
AMS-181 PIN	Surface Mount

*Mounting kit part number AU0007 required for PCB applications.

Specifications Subject to Change Without Notice.

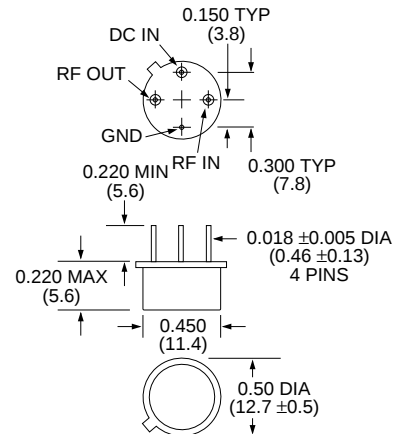
M/A-COM, Inc.

North America: Tel. (800) 366-2266
Fax (800) 618-8883

■ Asia/Pacific: Tel. +81 (03) 3226-1671
Fax +81 (03) 3226-1451

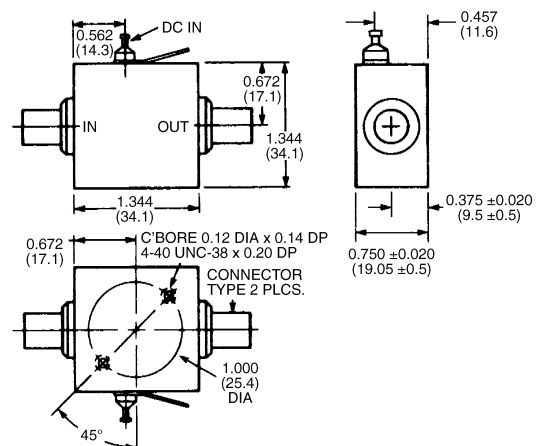
■ Europe: Tel. +44 (1344) 869 595
Fax +44 (1344) 300 020

TO-8-1



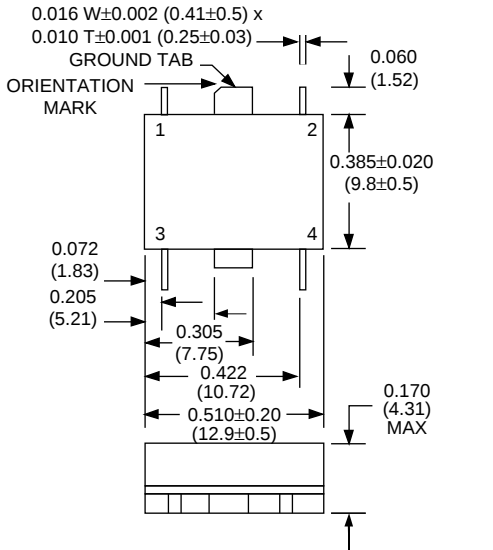
Dimensions in () are in mm.
Unless Otherwise Noted: .xxx = ±0.010 (.xx = ± 0.25)
.xx = ±0.02 (.x = ±0.5)
Weight (Approx.): 0.10 Ounces 2.8 Grams

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

SF-1



Dimensions in () are in mm.
Unless Otherwise Noted: .xxx = ±0.010 (.xx = ± 0.25)
Weight (Approx.): 0.07 Ounces 2 Grams

Pin Configuration

AMS-181

Pin Number	Description
1	Output
2	DC Input
3	Input
4	Ground

Typical S-Parameter Data

AM-181	S11		S21		S12		S22	
FREQUENCY	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10.0	0.13	111.1	2.58	12.4	0.29	13.1	0.14	112.3
20.0	0.08	121.6	2.59	2.7	0.29	3.5	0.10	113.0
50.0	0.07	170.9	2.62	-9.0	0.29	-8.2	0.03	127.1
100.0	0.06	-128.6	2.63	-22.8	0.29	-21.7	0.05	-117.5
150.0	0.09	-131.5	2.64	-35.8	0.29	-34.2	0.09	-122.8
200.0	0.12	-136.6	2.64	-49.3	0.28	-46.8	0.13	-134.3
250.0	0.17	-141.8	2.64	-62.3	0.27	-59.3	0.15	-148.8
300.0	0.19	-146.8	2.65	-76.1	0.27	-72.6	0.16	-168.4
400.0	0.22	-151.6	2.68	-105.9	0.25	-102.4	0.17	116.1

Frequency in MHz

Typical Performance

