

# High Performance Amplifier, 10 dB Gain 0.5 - 60 MHz

## AM-109

V2.00

### Features

- Push-Pull Circuitry
- Ideal for HF Antenna Distribution

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

<b>Frequency Range</b>	0.5-60 MHz
<b>Gain (+25°C) @ 10 MHz</b>	10.7 ± 0.5 dB
<b>Frequency Response</b>	± 0.5 dB Max
<b>Gain Variation with Temperature</b>	± 0.5 dB Max
<b>Output Power (1 dB Compression)</b>	
0.5-60 MHz	+ 27 dBm Min
2-32 MHz	+ 28 dBm Min
<b>Noise Figure</b>	
0.5-60 MHz	7 dB Max
2-32 MHz	6 dB Max
<b>Reverse Transmission</b>	
	- 15 dB Max
	- 18 dB Typ
<b>VSWR</b>	
0.5-60 MHz	1.6:1 Max
2-32 MHz	1.3:1 Max
<b>Intermodulation Intercept Point (for two-tone output power up to +10 dBm)</b>	
Second Order (0.5-60 MHz)	+ 70 dBm Min
Second Order (2-32 MHz)	+ 75 dBm Min
Third Order (0.5-60 MHz)	+ 40 dBm Min
Third Order (3-32 MHz)	+ 45 dBm Min
<b>Bias Power</b>	+ 20 VDC @ 225 mA Max (180 mA, 3.6W Typical)

### Operating Characteristics

<b>Impedance</b>	50 Ohms Nominal
<b>Maximum Rating</b>	
RF Input	+ 24 dBm Max

### Environmental

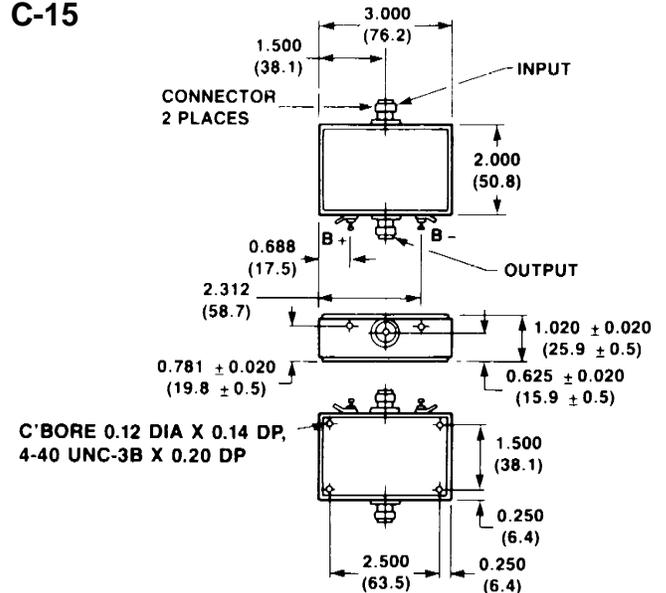
MIL-STD-883 Screening Available.

\* All specifications apply when operated at +20 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 3.6 W. Must be provided in use.

### C-15

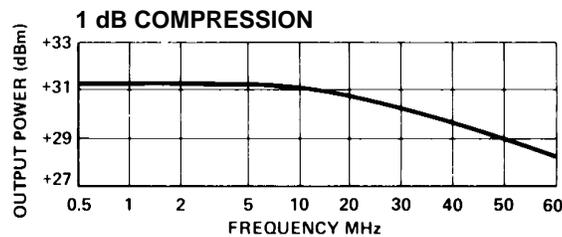
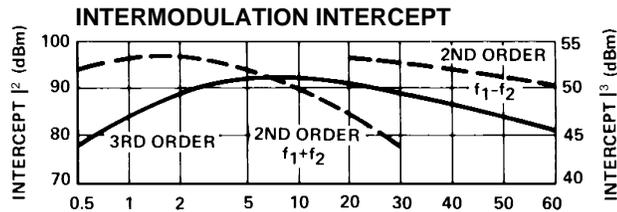
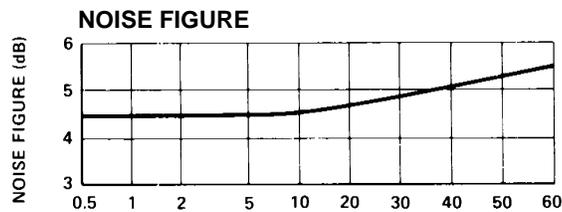
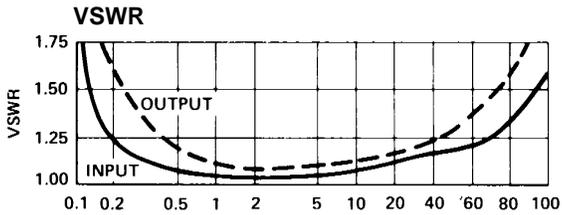
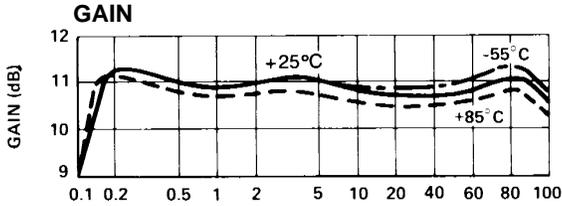


Dimensions in ( ) are in mm.  
Unless otherwise Noted: .xxx = ±0.015 (.x = ±0.4)  
WEIGHT (APPROX.): 9 OUNCES 255 GRAMS

### Ordering Information

Model No.	Package
AM-109 BNC	Connectorized
AM-109 SMA	Connectorized

Typical Performance



Typical S-Parameter Data

AM-109	S11	S21	S12	S22				
FREQUENCY	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.5	0.01	36.2	3.47	14.2	0.13	5.9	0.07	18.8
1.0	0.01	160.9	3.41	5.8	0.14	1.7	0.04	12.2
2.0	0.01	169.6	3.41	0.5	0.14	-1.7	0.04	4.4
5.0	0.01	-153.3	3.40	-7.4	0.14	-7.9	0.04	-5.3
10.0	0.01	-112.8	3.39	-17.0	0.14	-16.6	0.04	-17.1
20.0	0.03	-105.2	3.36	-34.7	0.13	-33.8	0.04	-51.6
40.0	0.07	-129.1	3.38	-69.4	0.13	-67.7	0.08	-168.4
50.0	0.09	-145.9	3.42	-87.1	0.13	-84.9	0.11	162.0
60.0	0.10	-163.6	3.45	-106.4	0.12	-103.0	0.18	141.9

Frequency in MHz.

Specifications Subject to Change Without Notice.