



50A250

- 50 Watts CW
- 10kHz–250MHz
- Class A
- Portable
- Full VSWR-tolerant
- CE & RoHS Compliant
- High Efficiency



Features

The Model 50A250 is a solid-state, self-contained, air-cooled, broadband amplifier designed for applications where instantaneous bandwidth, high gain and linearity are required. Available in a stylish, contemporary cabinet for benchtop use or with cabinet removed for rack mounting.

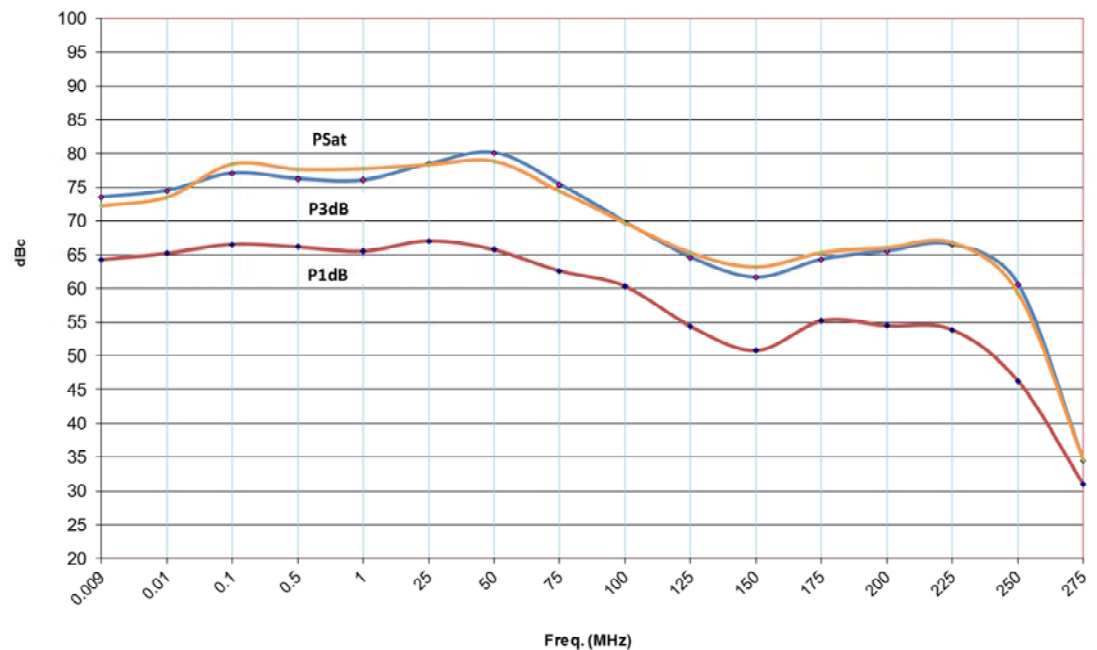
The Model 50A250, when used with a sweep generator, will provide a minimum of 50 watts of RF power. Included is a front panel gain control which permits the operator to conveniently set the desired output level. The 50A250 is protected from RF input overdrive by an RF input leveling circuit which controls the RF input level to the RF amplifier first stage when the RF input level is increased above 0dBm. The RF amplifier stages are protected from over-temperature by removing the DC voltage to them if an over-temperature condition occurs due to cooling blockage or

fan failure. The front panel indicates the operate status and fault conditions if an over-temperature or power supply fault has occurred. The unit can be returned to operate when the condition has been cleared.

All amplifier control functions and status indications are available remotely through the optional Remotes Package. The Remotes Package includes GPIB/IEEE-488 format, RS-232 hardwire and fiber optic, USB, and Ethernet. The bus interface connector is located on the back panel and positive control of local or remote operation is assured by a Local/Remote switch on the front panel of the amplifier. Also included with the Remotes Package is a safety interlock circuit for use with external safety switch interlocks. This circuit prevents the amplifier from going into operate mode unless the external connection is made. A jumper plug is provided for cases where this functionality is not needed.

The export classification for this equipment is EAR99.

50A250 Typical Output Power



AR RF/Microwave
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ISO 9001 Certified



Specifications

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RATED OUTPUT POWER: 70 watts typical, 50 watts minimum

INPUT FOR RATED OUTPUT: 1.0 mW Max

POWER OUTPUT @ 3dB COMPRESSION:
Typical: 70 watts, Minimum: 50 watts

POWER OUTPUT @ 1dB COMPRESSION:
Typical: 55 watts, Minimum: 40 watts

FLATNESS: ± 1.0 dB typical, ± 1.5 dB maximum

FREQUENCY RESPONSE: 10kHz-250 MHz instantaneously

GAIN (at maximum setting): 47 dB minimum

GAIN ADJUSTMENT (Continuous Range): 20 dB minimum

INPUT IMPEDANCE: 50 ohms, VSWR 2.0:1 maximum

OUTPUT IMPEDANCE: 50 ohms nominal

MISMATCH TOLERANCE: 100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. See Application Note #27.

MODULATION CAPABILITY: Will faithfully reproduce AM, FM, or Pulse modulation appearing on input signal.

THIRD ORDER INTERCEPT: 55 dBm typical

NOISE FIGURE: 8 dB typical

HARMONIC DISTORTION: Minus 20 dBc maximum at 40 watts, -30 dBc typical at 30 watts

SPURIOUS: Minus 73 dBc typical

PRIMARY POWER (Universal; selected automatically):
100-240 VAC, 50/60Hz, 250 watts

CONNECTORS:

RF Input: N female
RF Output: N female

REMOTES PACKAGE:

IEEE-488: 24-pin female
RS-232: 9-pin subminiature D (female)
Fiber optic: ST Conn Tx and Rx RS-232
USB 2.0: Type B
Ethernet: RJ-45
Safety Interlock: 15-pin subminiature D

COOLING: Forced air (self contained fans)

WEIGHT:

With Cabinet 16.7 kg (37 lbs)
Without Cabinet 8.6 kg (19 lbs)

SIZE (W x H x D):

With cabinet: 50.3 x 15.5 x 55.1 cm (19.8 x 6.1 x 21.7 in)
Without Cabinet: 48.3 x 13.2 x 55.1 cm (19 x 5.2 x 21.7 in)

ENVIRONMENTAL:

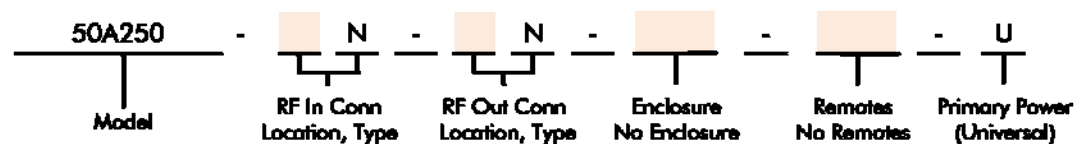
Operating Temperature: 5°C / +40°C
Operating Altitude: Up to 2000M
Shock and vibration: Normal Truck Transport

REGULATORY COMPLIANCE:

EMC EN 61326-1
Safety UL 61010-1
CAN/CSA C22.2 #61010-1
CENELEC EN 61010-1
RoHS DIRECTIVE 2011/65/EU

EXPORT CLASSIFICATION: EAR99

Ordering Options



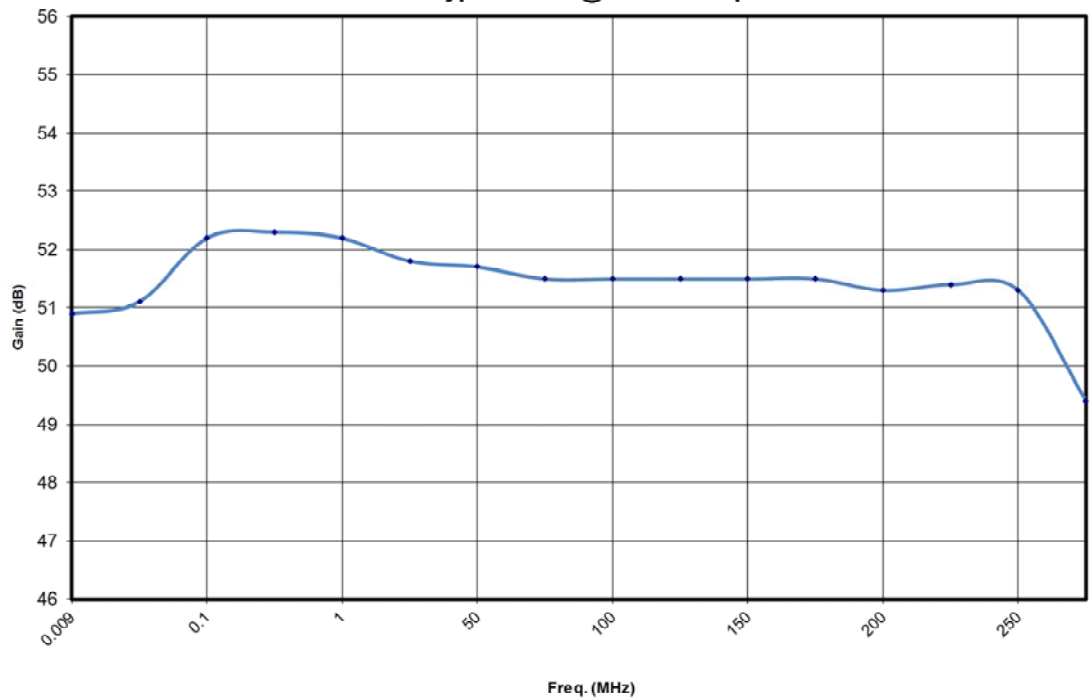
CONNECTOR LOCATION		ENCLOSURE		REMOTES PKG	
Front	F	Enclosure	E	Remotes	R
Rear	R	No Enclosure	NE	No Remotes	NR

Contact your AR RF/Microwave Instrumentation Sales Associate for specific model configuration pricing.

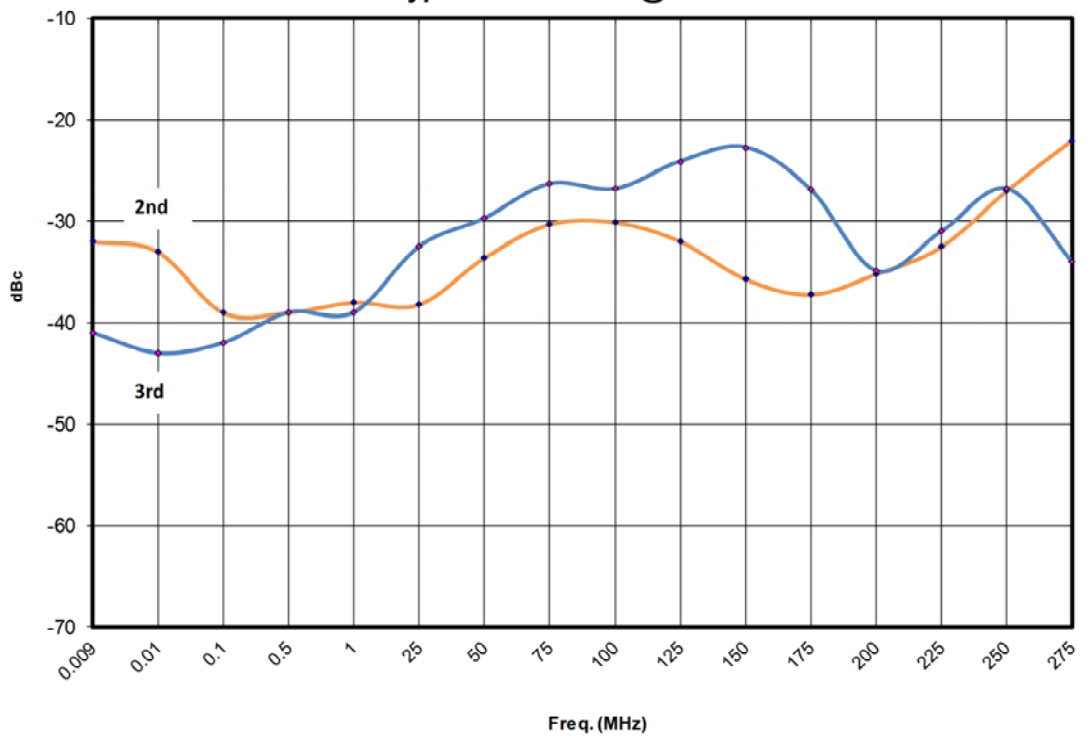
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Typical Gain @ -20 dBm input



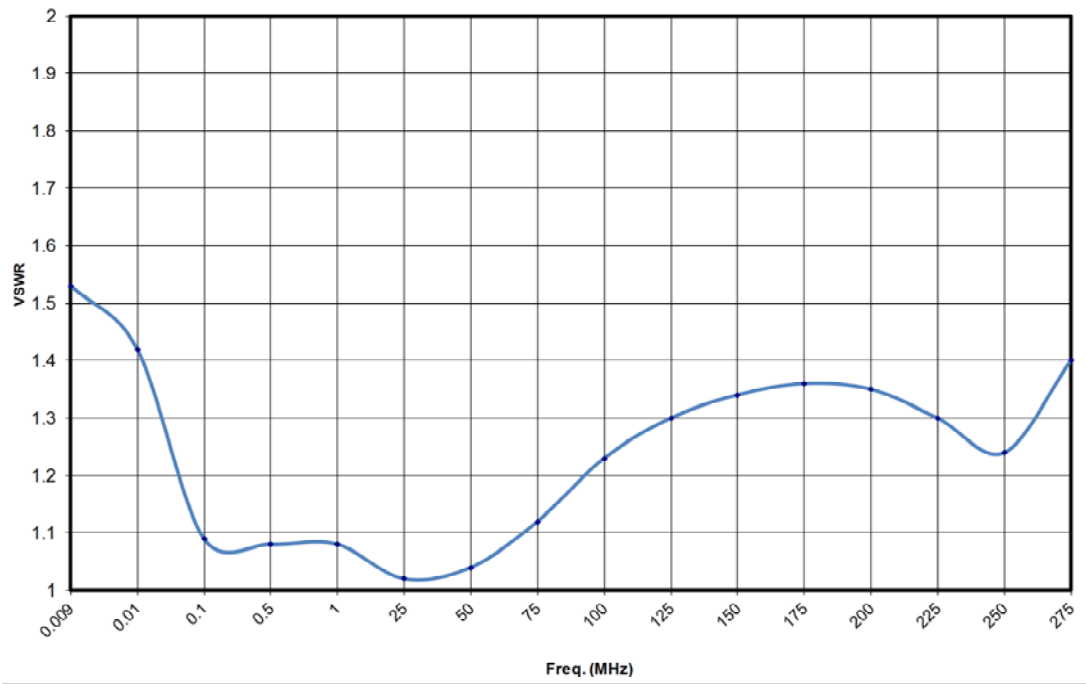
Typical Harmonics @ 40 watts



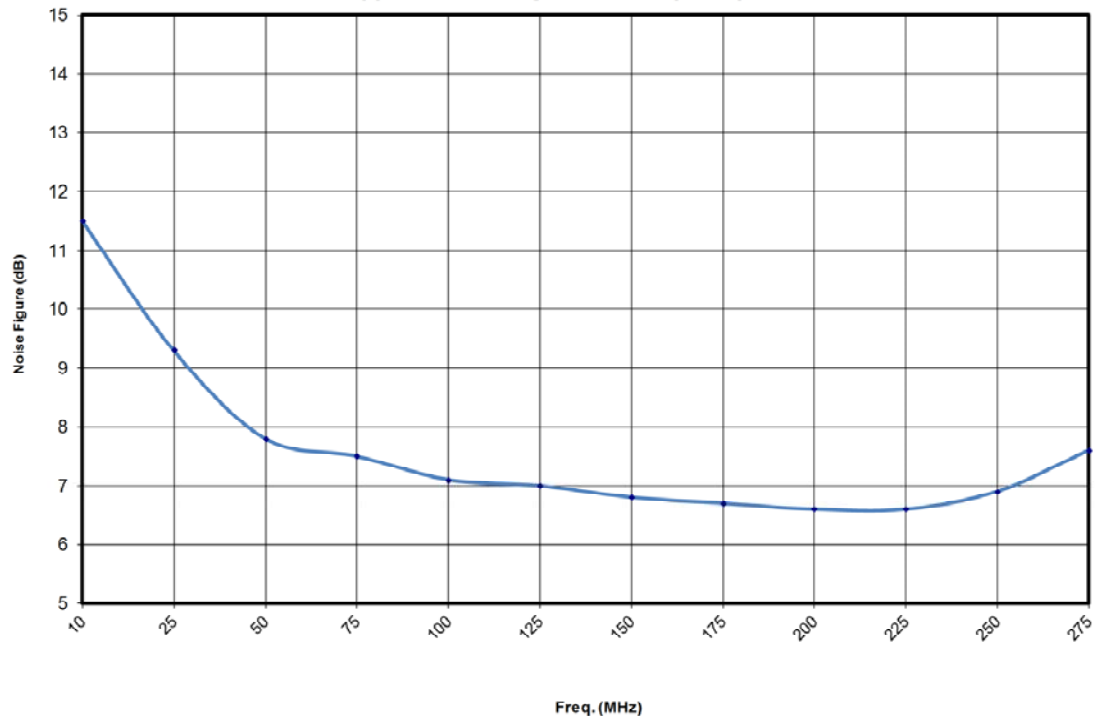
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Typical Input VSWR



Typical Noise Figure vs. Frequency



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