rf/microwave instrumentation

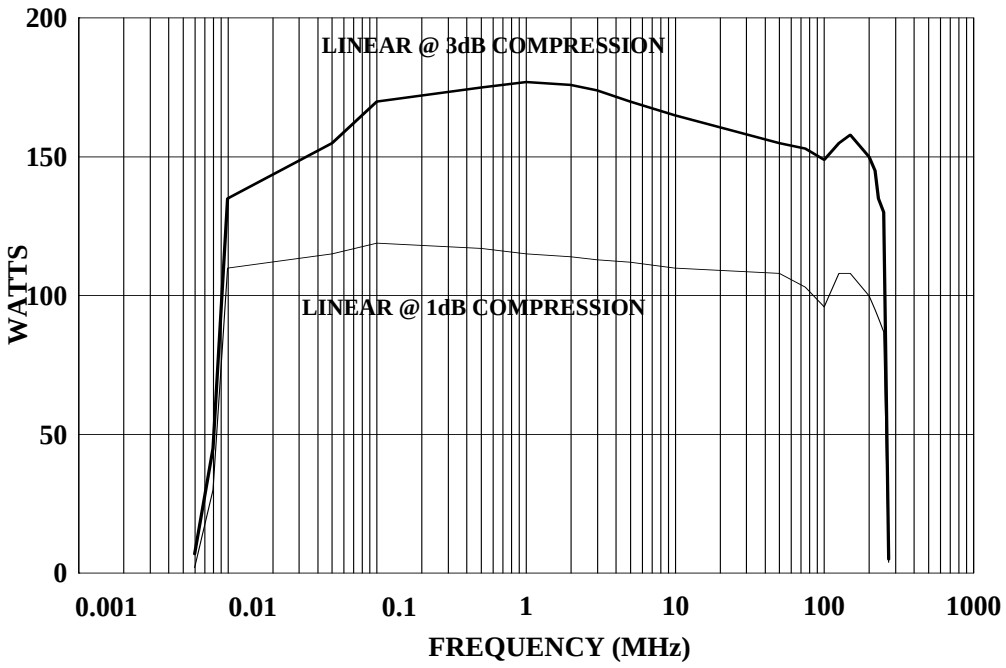
Model 100A250A,
M1 through M5
100 Watts CW
10kHz–250MHz

The Model 100A250A amplifier is a self-contained, broadband unit designed for laboratory applications where instantaneous bandwidth, high gain and moderate power output are required. Utilization of push-pull MOSFET circuitry lowers distortion, improves stability and allows operation into any load impedance without damage. The Model 100A250A, when used with an RF sweep generator, will provide a minimum of 100 watts of swept power.

There is a digital display on the front panel to indicate the operate status and fault conditions when an over temperature, power supply, or amplifier fault has occurred. The unit can be returned to operate when the condition has been cleared. The 100A250A includes digital control for both local and remote control of the amplifier. This 8-bit RISC microprocessor controlled board provides both IEEE-488 (GPIB) and asynchronous, full duplex RS-232 control of all amplifier functions.

Housed in a stylish, contemporary enclosure (except M2, M3, M4), the Model 100A250A provides readily available RF Power for typical applications such as RF susceptibility testing, antenna and component testing, watt meter calibration, and use as a driver for higher power amplifiers.

100A250A TYPICAL POWER OUTPUT



SPECIFICATIONS, MODEL 100A250A

RATED OUTPUT POWER.....100 watts

INPUT FOR RATED OUTPUT .....1.0 milliwatt maximum

POWER OUTPUT @ 3dB compression
- Nominal .....157 watts
- Minimum .....125 watts

POWER OUTPUT @ 1dB compression
- Nominal .....107 watts
- Minimum .....75 watts

FLATNESS.....± 1.5 dB maximum

FREQUENCY RESPONSE .....10 kHz - 250 MHz instantaneously

GAIN (at maximum setting) .....50 dB minimum

GAIN ADJUSTMENT (continuous range).....18 dB minimum

INPUT IMPEDANCE.....50 ohms, VSWR 1.5:1 maximum

OUTPUT IMPEDANCE .....50 ohms, VSWR 2.0:1 maximum

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 the input signal

NOISE FIGURE (above 1.0 MHz).....10 dB typical

HARMONIC DISTORTION.....Minus 20 dBc maximum at 75 watts

THIRD ORDER INTERCEPT POINT .....58 dBm typical

PRIMARY POWER .....90–135/180–270 VAC autoranging
.....47–63 Hz, single phase 1000 watts maximum

REMOTE INTERFACES IEEE-488, RS-232

CONNECTORS
- RF input .....See Model Configuration

REMOTE CONTROL
- IEEE-488.....24 pin female
- RS-232 .....9 pin Subminiature D (female)

REMOTE INTERLOCK .....15 pin subminiature D

COOLING.....Forced air (self contained fans)

MODEL CONFIGURATIONS

Model Number	RF Input	RF Output	Weight	Size (WxHxD)
100A250A	Type N female on front panel	Type N female on front panel	31.75 kg (70.0 lb)	50.3 x 25.2 x 46.0 cm 19.8 x 9.9 x 18.1 in
100A250AM1	Type N female on rear panel	Type N female on rear panel	31.75 kg (70.0 lb)	50.3 x 25.2 x 46.0 cm 19.8 x 9.9 x 18.1 in
100A250AM2	Same as 100A250A with enclosure removed for rack mounting		22.15 kg (49.0 lb)	48.3 x 22.25 x 43.2 cm 19.0 x 8.75 x 17.0 in
100A250AM3	Same as 100A250AM1 with enclosure removed for rack mounting		22.15 kg (49.0 lb)	48.3 x 22.25 x 43.2 cm 19.0 x 8.75 x 17.0 in
100A250AM4	Same as 100A250A with added side carry handles and front panel pull handles and no enclosure		23.0 kg (51.0 lb)	48.3 x 22.25 x 46.95 cm 19.0 x 8.75 x 18.5 in
100A250AM5	Same as 100A250A with extended range to 255 MHz, where CW output power is ≥ 80W		31.75 kg (70.0lb)	50.3 x 25.2 x 46.0 cm 19.8 x 9.9 x 18.1 in