



CBA 1G-250

80 MHz TO 1 GHz 250 WATT

CLASS A BROADBAND AMPLIFIER



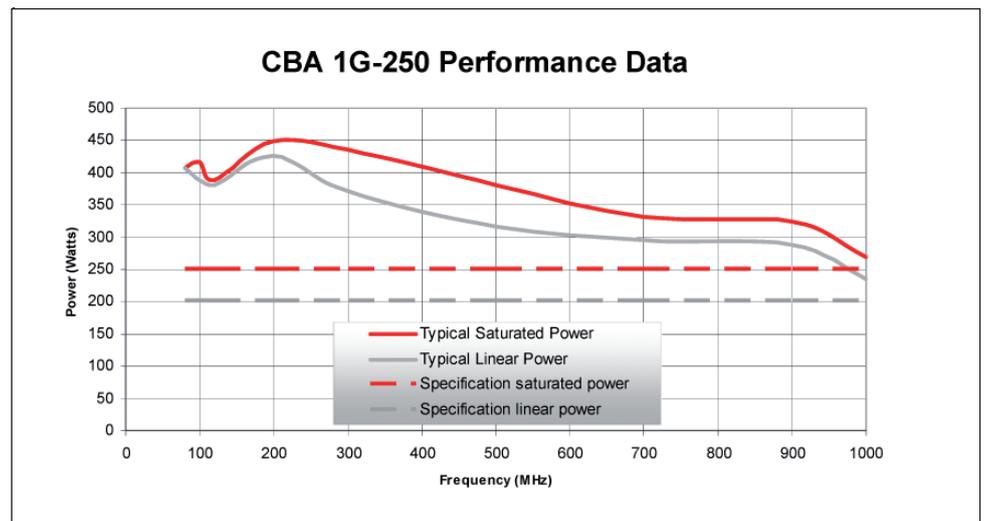
- Class A linear and low distortion design
- High reliability gallium arsenide technology
- Mismatch tolerant and unconditionally stable
- Wide instantaneous bandwidth

Designed specifically for radiated EMC testing, this mismatch tolerant Class A amplifier delivers power continuously into the very poor match typically associated with broadband EMC antennas when used at low frequency.

Since antennas typically exhibit their lowest gain at the lowest frequency, more power is required here than at the higher frequencies. Unlike other amplifiers designed for general purpose applications, this EMC specific amplifier maximises the linear power at the lowest frequency, making it ideal for use in this very specialised application.

The GaAs Class A design ensures a high reliability, low distortion linear performance across the frequency range. This design also ensures that the amplifier will continue to operate at full power even when presented with an open or short circuit at its output. The use of gallium arsenide technology represents a breakthrough in amplifier design for this frequency range and output power. Previous designs based on silicon technology suffer from relatively poor compression characteristics, low efficiency and sometimes poor reliability.

The unit is powered from a switched mode power supply for high efficiency, high power factor and wide voltage range operation. The unit is air-cooled with integral fans, and is protected against faulty cooling by excess temperature sensing. A safety interlock connector is provided, which the user can short circuit to ground, to put the amplifier into standby mode. Front panel indicators are provided to indicate over-temperature and rf interlock operation.





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Technical specifications

| | |
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| Frequency range (instantaneous) | 80 to 1000 MHz |
| Rated output power | 250 W minimum (350 W typical 80 MHz to 500 MHz) |
| Output power at 1 dB gain compression | 200 W minimum (300 W typical 80 MHz to 500 MHz) |
| Gain | 55 dB |
| Third order intercept point (see note 1) | 64 dBm |
| Gain variation with frequency | ±3 dB |
| Harmonics at 200 W output | Better than -20 dBc |
| Output impedance | 50 Ohms |
| Stability | Unconditional |
| Output VSWR tolerance (see note 2) | Infinite any phase |
| Input VSWR | 2:1 |
| RF connector style | Type N female |
| Safety interlock | BNC female, s/c to mute |
| USB interface | Optional |
| Supply voltage (single phase) | 184 to 264 Vac |
| (Floating input allows operation across 2 phases) | |
| Supply frequency range | 45 to 63 Hz |
| Supply power | <2 KVA |
| Mains connector | IEC320 |
| Conducted and radiated emissions | EN61326 Class A |
| Conducted and radiated immunity | EN61326: 1997 Table 1 |
| Mains harmonic currents | EN61000-3-2 |
| Voltage fluctuations and flicker | EN61000-3-3 |
| Safety | EN61010-1 |
| Case dimensions | 19 inch, 6U case, 400 mm deep |
| Power supply | 19 inch, 4U case, 400 mm deep |
| Delivered ready for inclusion into a standard rack | |
| Mass | Amplifier 22 kg Power supply 16 kg |
| Operating temperature range | 0 to 40°C |
| Options (select at time of ordering) | |
| 341-731 | Rack mountable with rear panel mounted input/output connectors |
| 341-831 | Rack mountable with front panel mounted input/output connectors |

Notes:

1. The third order intercept point is a nominal value, as its calculation depends upon the power level at which distortion measurements are made.
2. Output VSWR tolerance is specified for excitation within the permitted levels and frequency range.