



CBA 3G-100

800 MHz TO 3.1 GHz 100 WATT CLASS A BROADBAND AMPLIFIER



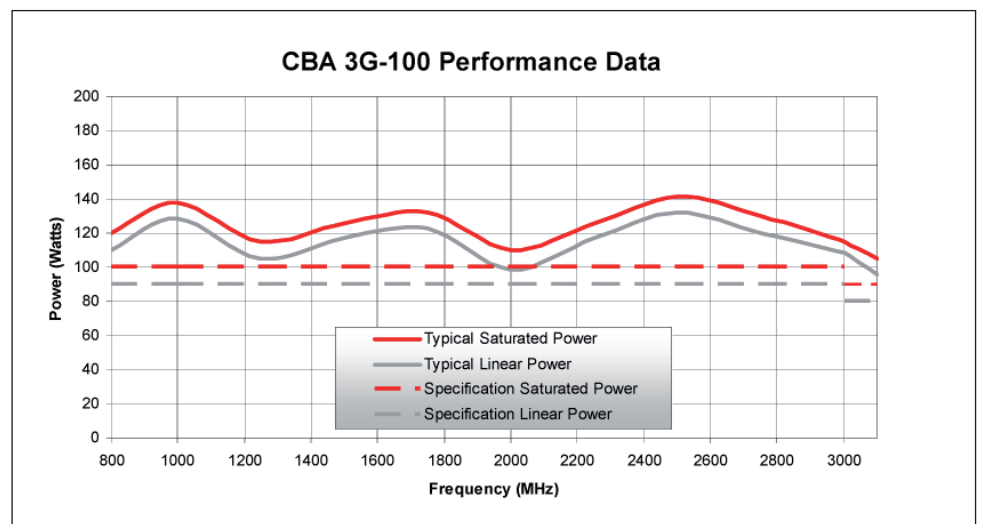
- Class A linear and low distortion design
- High reliability gallium arsenide technology
- Mismatch tolerant and unconditionally stable
- Wide instantaneous bandwidth

Designed specifically for Radiated EMC testing, this mismatch tolerant Class A amplifier delivers power continuously into the poor and variable match typically associated with testing above 1 GHz. Although antennas are usually well matched at these high frequencies, the presence of the EUT in the path of the antenna causes high levels of reflected power which only full Class A amplifiers can tolerate.

Whilst antenna gain is relatively constant, increasing cable losses at the higher frequencies demand increasing power with increasing frequency. Teseq amplifiers are therefore designed to maintain their high linear output power right up to and beyond the defined frequency range.

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 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 condition.





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Technical specifications

| | |
|---|---|
| Frequency range (instantaneous) | 800 to 3100 MHz |
| Rated output power | 100 W minimum (800 MHz to 3 GHz) |
| | 110 W typical (800 MHz to 3 GHz) |
| | 90 W minimum (3.0 GHz to 3.1 GHz) |
| | 100 W typical (3.0 GHz to 3.1 GHz) |
| Output power at 1 dB gain compression | 90 W minimum (800 MHz to 3 GHz) |
| | 100 W typical (800 MHz to 3 GHz) |
| | 80 W minimum (3.0 GHz to 3.1 GHz) |
| | 90 W typical (3.0 GHz to 3.1 GHz) |
| Gain | 51 dB |
| Third order intercept point (see note 1) | 60 dBm |
| Gain variation with frequency | ±3 dB |
| Harmonics at 90 W output (800 MHz to 3 GHz) | 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) | 90 to 264 Vac |
| Supply frequency range | 47 to 63 Hz |
| Supply power | <1 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, 550 mm deep |
| Mass | 35 kg |
| Operating temperature range | 0 to 40°C |
| Options (select at time of ordering) | |
| 341-719 | Rack mountable with rear panel mounted input/output connectors |
| 341-819 | 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.