

CBA 6G-100 1.8 GHZ TO 6 GHZ 100 WATT GAN BROADBAND AMPLIFIER



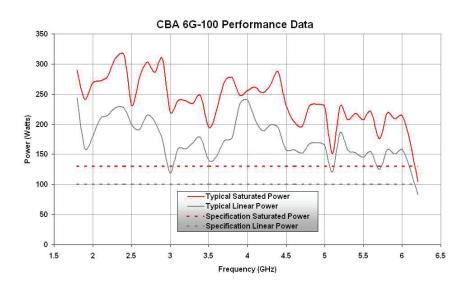
- High reliability gallium nitride technology
- Mismatch tolerant and unconditionally stable
- Wide instantaneous bandwidth
- Three year parts and labour warranty

Designed specifically for Radiated EMC testing, this mismatch tolerant amplifier delivers power continuously into the poor and variable match typically associated with testing above 1 GHz. Although antenna 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 the high breakdown voltage of GaN (Gallium Nitride) can handle with ease.

Although 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 GaN balanced pair design at the core of the amplifier 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) Rated output power Rated output power 130 W minimum 140 W typical Output power at 1 dB gain compression 100 W minimum 120 W typical Gain 50 dB Third order intercept point (see note 1) Gain variation with frequency ±3 dB Harmonics at 50 W output (2 GHz to 6 GHz) Output impedance 50 Ohms Stability Unconditional Output VSWR tolerance (see note 2) Infinity:1 Input VSWR 2:1 RE connector style Safety interlock Dytoe, o/c to mute USB interface Optional Supply power 47 to 63 Hz Supply power 47 to 63 Hz Supply power 47 to 63 Hz Supply power Supply power 47 to 63 Hz Supply power Alians connector TYCO 5 pin HG-Q Conducted and radiated emissions EN61326 Class A Conducted and radiated immunity Mains harmonic currents EN61000-3-2 Voltage fluctuations and flicker Safety EN61001-1 Case dimensions 19 inch, 6U case, 550 mm deep Mass Operating temperature range Options (select at time of ordering) 342-806 Rack mountable with feath-page mounted input/output connectors | | | | |
|---|---|---|-------------------------------|--|
| Output power at 1 dB gain compression Output power at 1 dB gain compression Finird order intercept point (see note 1) Gain Gain Gain variation with frequency ±3 dB Harmonics at 50 W output (2 GHz to 6 GHz) Output impedance Stability Unconditional Output VSWR tolerance (see note 2) Infinity:1 Input VSWR 2:1 RF connector style Safety interlock D type, o/c to mute USB interface Optional Supply power 47 to 63 Hz Supply power 4700 43 Hc Voltage fluctuations and flicker EN61000-3-2 Voltage fluctuations and flicker Safety EN61000-3 Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Frequency range (instantaneous) | | 1800 to 6000 MHz | |
| Output power at 1 dB gain compression Gain Gain 50 dB Third order intercept point (see note 1) Gain variation with frequency Harmonics at 50 W output (2 GHz to 6 GHz) Better than -20 dBc Output impedance 50 Ohms Stability Unconditional Output VSWR tolerance (see note 2) Infinity:1 Input VSWR 2:1 RF connector style Type N female Safety interlock D type, o/c to mute USB interface Optional Supply voltage (single phase) 100 to 240 Vac Supply frequency range 47 to 63 Hz Supply power Conducted and radiated emissions EN61326 Class A Conducted and radiated immunity Mains connector TYCO 5 pin HG-Q 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 Operating temperature range Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Rated output power | | 130 W minimum | |
| Gain 50 dB Third order intercept point (see note 1) 57 dBm Gain variation with frequency ±3 dB Harmonics at 50 W output (2 GHz to 6 GHz) Better than -20 dBc Output impedance 50 Ohms Stability Unconditional Output VSWR tolerance (see note 2) Infinity:1 Input VSWR 2:1 RF connector style Type N female Safety interlock D type, o/c to mute USB interface Optional Supply voltage (single phase) 100 to 240 Vac Supply frequency range 47 to 63 Hz Supply power <1500 VA Mains connector TYCO 5 pin HG-Q 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 Safety EN61010-1 Case dimensions 19 inch, 6U case, 550 mm deep Mass 47 kg Operating temperature range 0 to 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | | | 140 W typical | |
| Gain 50 dB Third order intercept point (see note 1) 57 dBm Gain variation with frequency ±3 dB Harmonics at 50 W output (2 GHz to 6 GHz) Better than -20 dBc Output impedance 50 Ohms Stability Unconditional Output VSWR tolerance (see note 2) Infinity:1 Input VSWR 2:1 RF connector style 2:1 RF connector style 5 Type N female Safety interlock D type, o/c to mute USB interface Optional Supply voltage (single phase) 100 to 240 Vac Supply frequency range 47 to 63 Hz Supply power <1500 VA Mains connector TYCO 5 pin HG-Q 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 Safety EN61001-1 Case dimensions 19 inch, 6U case, 550 mm deep Mass 47 kg Operating temperature range 0 to 40°C | Output power at 1 dB gain compression | | 100 W minimum | |
| Third order intercept point (see note 1) 57 dBm Gain variation with frequency ±3 dB Harmonics at 50 W output (2 GHz to 6 GHz) Better than -20 dBc Output impedance 50 Ohms Stability Unconditional Output VSWR tolerance (see note 2) Infinity:1 Input VSWR 2:1 RF connector style Type N female Safety interlock D type, o/c to mute USB interface Optional Supply voltage (single phase) 100 to 240 Vac Supply frequency range 47 to 63 Hz Supply power <1500 VA Mains connector TYCO 5 pin HG-Q 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 Safety EN61010-1 Case dimensions 19 inch, 6U case, 550 mm deep Mass 47 kg Operating temperature range 0 to 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | | | 120 W typical | |
| Gain variation with frequency ±3 dB Harmonics at 50 W output (2 GHz to 6 GHz) Output impedance 50 Ohms Stability Unconditional Output VSWR tolerance (see note 2) Infinity:1 Input VSWR 2:1 RF connector style Type N female Safety interlock D type, o/c to mute USB interface Optional Supply voltage (single phase) 100 to 240 Vac Supply frequency range 47 to 63 Hz Supply power <1500 VA Mains connector TYCO 5 pin HG-Q 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 EN61001-1 Case dimensions 19 inch, 6U case, 550 mm deep Mass 47 kg Operating temperature range 0 to 40°C | Gain | | 50 dB | |
| Harmonics at 50 W output (2 GHz to 6 GHz) Output impedance Stability Unconditional Output VSWR tolerance (see note 2) Infinity:1 Input VSWR RF connector style Safety interlock USB interface Supply voltage (single phase) Supply frequency range 47 to 63 Hz Supply power 47 to 63 Hz Supply frequency range 48 And to 2 pin HG-Q 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 Operating temperature range Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Third order intercept point (see note 1) | | 57 dBm | |
| Output impedance 50 Ohms Stability Unconditional Output VSWR tolerance (see note 2) Infinity:1 Input VSWR 2:1 RF connector style Type N female Safety interlock D type, o/c to mute USB interface Optional Supply voltage (single phase) 100 to 240 Vac Supply frequency range 47 to 63 Hz Supply power <1500 VA Mains connector TYCO 5 pin HG-Q 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 47 kg Operating temperature range 0 to 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Gain variation with frequency | | ±3 dB | |
| Stability Output VSWR tolerance (see note 2) Input VSWR 2:1 RF connector style Safety interlock USB interface Optional Supply voltage (single phase) Supply frequency range 47 to 63 HZ Supply power Also on Additional Conducted and radiated emissions Conducted and radiated immunity EN61326 Class A Conducted and radiated immunity EN61326: 1997 Table 1 Mains harmonic currents EN61000-3-2 Voltage fluctuations and flicker EN61010-1 Case dimensions 19 inch, 6U case, 550 mm deep Mass Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Harmonics at 50 W output (2 GHz to 6 GHz) | | Better than -20 dBc | |
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| RF connector style Safety interlock USB interface Optional Supply voltage (single phase) 100 to 240 Vac Supply frequency range 47 to 63 HZ Supply power <1500 VA Mains connector TYCO 5 pin HG-Q 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 EN61010-1 Case dimensions 19 inch, 6U case, 550 mm deep Mass Operating temperature range 0 to 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Output VSWR tolerance (see note 2) | | Infinity:1 | |
| Safety interlock USB interface Optional Supply voltage (single phase) 100 to 240 Vac Supply frequency range 47 to 63 Hz Supply power <1500 VA Mains connector TYCO 5 pin HG-Q 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 Operating temperature range 0 to 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Input VSWR | | 2:1 | |
| USB interface Optional Supply voltage (single phase) 100 to 240 Vac Supply frequency range 47 to 63 Hz Supply power <1500 VA Mains connector TYCO 5 pin HG-Q 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 47 kg Operating temperature range 0 to 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | RF connector style | | Type N female | |
| Supply voltage (single phase) Supply frequency range 47 to 63 Hz Supply power <1500 VA Mains connector TYCO 5 pin HG-Q 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 Operating temperature range Oto 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Safety interlock | | D type, o/c to mute | |
| Supply frequency range 47 to 63 Hz Supply power <1500 VA Mains connector TYCO 5 pin HG-Q 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 47 kg Operating temperature range 0 to 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | USB interface | | Optional | |
| Supply power <1500 VA Mains connector TYCO 5 pin HG-Q 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 47 kg Operating temperature range 0 to 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Supply voltage (single phase) | | 100 to 240 Vac | |
| Mains connector 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 47 kg Operating temperature range Oto 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Supply frequency range | | 47 to 63 Hz | |
| Conducted and radiated emissions Conducted and radiated immunity EN61326: 1997 Table 1 Mains harmonic currents EN61000-3-2 Voltage fluctuations and flicker EN61010-1 Case dimensions 19 inch, 6U case, 550 mm deep Mass 47 kg Operating temperature range Oto 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Supply power | | <1500 VA | |
| Conducted and radiated immunity 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 47 kg Operating temperature range Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Mains connector | | TYCO 5 pin HG-Q | |
| 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 47 kg Operating temperature range Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Conducted and radiated emissions | | EN61326 Class A | |
| Voltage fluctuations and flicker Safety EN61000-3-3 Safety EN61010-1 Case dimensions 19 inch, 6U case, 550 mm deep Mass 47 kg Operating temperature range 0 to 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Conducted and radiated immunity | | EN61326: 1997 Table 1 | |
| Safety EN61010-1 Case dimensions 19 inch, 6U case, 550 mm deep Mass 47 kg Operating temperature range 0 to 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Mains harmonic currents | | EN61000-3-2 | |
| Case dimensions 19 inch, 6U case, 550 mm deep Mass 47 kg Operating temperature range 0 to 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Voltage fluctuations and flicker | | EN61000-3-3 | |
| Mass 47 kg Operating temperature range 0 to 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Safety | | EN61010-1 | |
| Operating temperature range 0 to 40°C Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Case dimensions | | 19 inch, 6U case, 550 mm deep | |
| Options (select at time of ordering) 342-806 Rack mountable with rear panel mounted input/output connectors | Mass | | 47 kg | |
| 342-806 Rack mountable with rear panel mounted input/output connectors | Operating temperature range | | 0 to 40°C | |
| 342-806 Rack mountable with rear panel mounted input/output connectors | | | | |
| | Options (select at time of ordering) | | | |
| 242 00/ | 342-806 | Rack mountable with rear panel mounted input/output connectors | | |
| 342-906 Rack mountable with front pariel mounted input/output connectors | 342-906 | Rack mountable with front panel mounted input/output connectors | | |

Teseq AG

Nordstrasse 11F $\,$ 4542 Luterbach Switzerland T $\,$ +41 32 681 40 40 F $\,$ +41 32 681 40 48 sales@teseq.com **www.teseq.com**

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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.

