



RF Amplifier Data Sheet

BT-Gamma series

100W, 250W, 500W

- NMR, MRI, EPR
- Radar
- Plasma systems
- Test & Measurement



The BT-Gamma series is a range of class AB pulsed RF power amplifiers covering the 5-400MHz frequency range

- Rugged, solid-state design - high reliability
- Extremely high phase and amplitude stability
- Very fast pulse rise/fall times
- High linearity
- Low power CW operation
- Very low interpulse noise
- Competitively priced

Suitable for pulsed radar, NMR, MRI, NQR, EPR, communications and other scientific applications.

BT-Gamma series

Model numbers	BT00100-Gamma/BT00250-Gamma/BT00500-Gamma
Rated power	100W/250W/500W minimum ¹
P1dB	80W/200W/400W minimum ²
Type	Class AB MOSFET
Frequency	5-400MHz ³
Gain flatness	±2dB maximum
Max. duty cycle	20% ⁴
Max. pulse width	300ms ⁵
Rated power in CW mode	10W/25W/50W ⁶
Pulse droop	0.5dB maximum ⁷
Pulse rise and fall times	100ns typical using a pre-gate RF input signal
Gate delay	Rising edge: 1µs typical Falling edge: 50ns typical ⁸
Harmonics	Odd: -16dBc typical, -10dBc maximum Even: -30dBc typical, -20dBc maximum
Spurious	<-70dBC maximum
Output noise (blanked)	<10dB above thermal
Output sample	-50dB into 50Ω (forward voltage sample)
Input/output impedance	50 Ω nominal
Load SWR	Tolerates at least 3:1 @ full rated power without shut down ⁹
Remote interface	Parallel status monitoring via 25 pin D connector ¹⁰
Connectors	RF output: N type RF input, gate, sample: BNC ¹¹
Cooling	Forced air
Indicators	DC Power, Output Enable, RF Power, Over-temp, Over-duty, Load mismatch
Gain control range	10dB minimum for 0-5V control voltage
RF drive RF gate (blanking)	0dBm nominal, 10dBm for no damage 0-5V CMOS
Physical	19" Wx 500mmD x 133mmH (3RU x 19" rack mounting) 15kg/18kg/22kg
Mains power	110-240V, 50-60Hz, single phase, 500VA/1kVA/2kVA max. ¹²
Compliance	CE
Serial status monitoring interface (optional extra)	RS232/RS422/RS485 supported. WindowsXP software supplied ¹³

1. RMS PEP for input power of 1mW
 2. Minimum output power at 1dB gain compression
 3. The amp provides useful power outside this range, but performance is not guaranteed
 4. Duty cycle is internally limited in pulsed mode. Duty cycle limit increases to approx.30% for short pulses
 5. Maximum gate pulse width in pulsed mode (internally limited)
 6. CW mode automatically enabled at output power level less than approx. 10% of full rated power
 7. Measured at max. pulse width at nominal P1dB level
 8. Rising edge measured from rising edge of GATE pulse to 90% RF output voltage. Falling edge measured from falling edge of GATE pulse to 10% RF output voltage
 9. Self resetting protection shuts the amplifier off if the load SWR is excessive
 10. Pin out at www.tomcorfamplifiers.com/pdf/interface.pdf
 11. Other connector types available on request
 12. 3-pin IEC. Mains supply must include an earth
 13. Software user guide and command interface documentation at www.tomcorfamplifiers.com/RS232.html

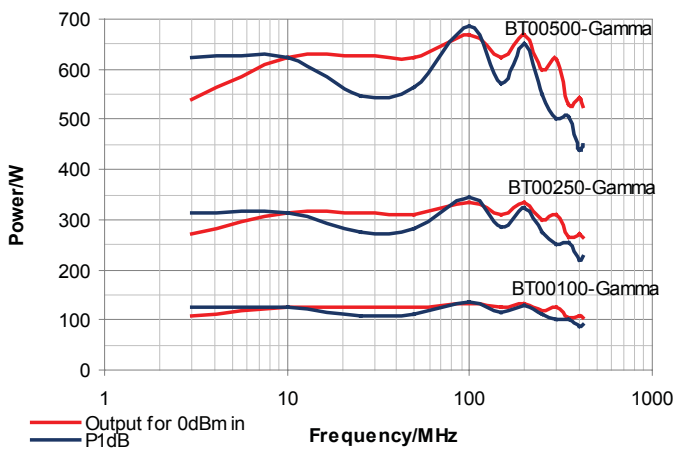


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Typical peak envelope power plots



Harmonics

