

## **BT-EPR** series Fixed frequency in the range 100-900MHz 500W / 1kW

- EPR, ESR, ENDOR
- Pulsed radar



The BT-EPR series is a range of class AB RF power amplifiers which exhibit extremely fast pulse rise and fall times.

These high power amplifiers are available as narrowband and broadband models up to 8kW. They are ideally suited for EPR, ENDOR and pulsed radar systems using very short pulses.

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

Rated power	500W / <b>1kW</b> minimum <sup>1</sup>
P1dB	400W / <b>800W</b> minimum <sup>2</sup>
Туре	Class AB MOSFET
Frequency	Fixed frequency in the range 100-900MHz <sup>3</sup>
Gain flatness	±1.5dB maximum (measured at 1/10th rated output power)
Max. duty cycle	5%4
Max. pulse width	10µs <sup>5</sup>
Pulse droop	0.5dB maximum (@ max. pulse width at nominal P1dB level)
Pulse rise and fall times	20ns typical using a pre-gate RF input signal <sup>6</sup>
Gate delay	Rising edge: 1µs typical Falling edge: 50ns typical <sup>7</sup>
Harmonics	Odd: -16dBc typ, -10dBx max. Even: -30dBc typ, -20dBc max.
Spurious	<-60dBc maximum
Output noise (blanked)	<10dB above thermal
Phase change/power	<5° from -40dB to full power
Phase stability	<1° across 10µs pulse
Output sample	-50dB into $50\Omega$ (forward voltage sample)

Tolerates at least 3:1 @ full rated power without shut down8

Parallel status monitoring and control via 25-pin D female9

10dB minimum for 0-5V control voltage<sup>10</sup>

RF output: N-type RF input, gate, sample: BNC<sup>11</sup>

DC Power, RF Power, Enable, Selected, Mismatch,

Load VSWR, duty-cycle, pulse width, over-temperature

19" Wx 500mmD x 133mmH (3RU x 19" rack mounting), approx

BT0500-EPR / BT1000-EPR

1. PEP for input power of 1mW

Input/output impedance

Load VSWR

Connectors

Cooling

Indicators

Protection

RF drive

Physical

Mains power

RF gate (blanking)

Remote interface

Gain control range

**BT-EPR Series** 

Model numbers

- Minimum output power at 1dB gain compression
- The amp provides useful power outside this range, but performance is not guaranteed

0-5V CMOS

20kg / 26kg

50Ω nominal

Forced air, front to rear

Over-temp, Over-duty, Shutdown

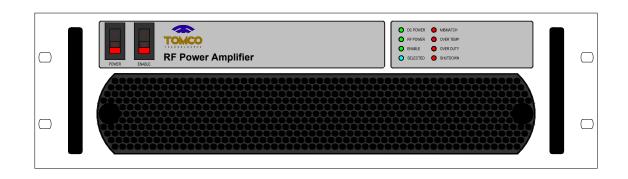
0dBm nominal, 10dBm for no damage

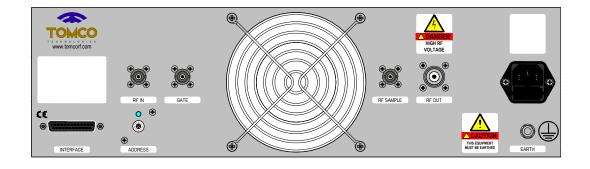
110-240V single phase, 50-60Hz, 1kVA max.12

- Duty cycle is internally limited
- 5. Maximum gate pulse width in pulsed mode (internally limited)6. Measured from 10% to 90% of RF output voltage at full rated power
- 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 8. Self resetting protection shuts the amplifier off if the load SWR is excessive
- Pin out at www.tomcorf.com/pdf/interface.pdf
- 10. Pulse rise/fall times are guaranteed at maximum gain
- 11. Other connector types available on request
- 12. 1 x IEC cable, single phase mains supply must include an earth



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