

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

BT-EPR Series

Model numbers	BT0500-EPR / BT1000-EPR
Rated power	500W / 1kW minimum ¹
P1dB	400W / 800W minimum ²
Type	Class AB MOSFET
Frequency	Fixed frequency in the range 100-900MHz ³
Gain flatness	±1.5dB maximum (measured at 1/10th rated output power)
Max. duty cycle	5% ⁴
Max. pulse width	10µs ⁵
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 ⁶
Gate delay	Rising edge: 1µs typical Falling edge: 50ns typical ⁷
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 50Ω (forward voltage sample)
Input/output impedance	50Ω nominal
Load VSWR	Tolerates at least 3:1 @ full rated power without shut down ⁸
Remote interface	Parallel status monitoring and control via 25-pin D female ⁹
Gain control range	10dB minimum for 0-5V control voltage ¹⁰
Connectors	RF output: N-type RF input, gate, sample: BNC ¹¹
Cooling	Forced air, front to rear
Indicators	DC Power, RF Power, Enable, Selected, Mismatch, Over-temp, Over-duty, Shutdown
Protection	Load VSWR, duty-cycle, pulse width, over-temperature
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), approx 20kg / 26kg
Mains power	110-240V single phase, 50-60Hz, 1kVA max. ¹²

1. 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
5. Maximum gate pulse width in pulsed mode (internally limited)
6. Measured from 10% to 90% of RF output voltage at full rated power
7. 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
9. 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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