



RF Amplifier Data Sheet

BT-EPR series

Fixed frequency in the range 100-600MHz

2kW

- 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 and at power levels up to 8kW. They are ideally suited for EPR, ENDOR, ESR and pulsed radar systems using very short pulses

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

BT-EPR series

Model numbers	BT4000-EPR
Rated power	4kW minimum ¹
P1dB	3.2kW minimum ²
Type	Class AB MOSFET
Frequency	Fixed frequency in the range 100-600MHz
Max. duty cycle	5% ³
Max. pulse width	10µs ⁴
Pulse droop	0.5dB maximum ⁵
Pulse rise and fall times	Frequency < 200MHz: 30ns typical using a pre-gate RF input signal Frequency > 200MHz: 20ns typical using a pre-gate RF input signal
Gate delay	Rising edge: 50ns typical Falling edge: 50ns typical ⁶
Harmonics	< -30dBc
Spurious	<-70dBc
Output noise (blanked)	<10dB above thermal (1MHz bandwidth)
Phase change/power	<5° from -40dB to full power
Phase stability	<1° across 10µs pulse
Output sample	-50dB into 50 Ω (forward voltage sample)
Input/output impedance	50 Ω nominal
Load SWR	Tolerates at least 3:1 @ full rated power without shut down ⁷
Remote interface	Parallel status monitoring via 25 pin D connector ⁸
Connectors	RF output: N type RF input, gate, sample:BNC ⁹
Cooling	Forced air
Indicators	DC Power, RF Power, Enable, Selected, Over-temp, Mismatch, Over-duty, Shutdown
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 225mmH (5RU x 19" rack mounting), approx. 42kg
Mains power	110-240V, 50-60Hz, single phase, 1kVA max. ¹⁰
Compliance	CE

1. PEP for input power of 1mW
2. Minimum output power at 1dB gain compression
3. Duty cycle is internally limited in pulsed mode.
4. Maximum gate pulse width in pulsed mode (internally limited)
5. Measured at max. pulse width at nominal P1dB level
6. 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
7. Self resetting protection shuts the amplifier off if the load SWR is excessive
8. Pin out at www.tomcorf.com/pdf/interface.pdf
9. Other connector types available on request
10. 1 x 3-pin IEC. Mains supply must include an earth



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