

BT-AlphaA Series 10kHz-3MHz 2kW

- NMR, MRI, EPR
- Radar
- Ultrasonics
- Test & Measurement



The BT-AlphaA series is a range of class AB RF power amplifiers covering the 10kHz to 3MHz frequency range.

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

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

BT-AlphaA Series

Model numbers	BT02000-AlphaA-100ms
Rated power	2kW minimum ¹
P1dB	1.6kW minimum ²
Gain	63dB minimum
Type	Class AB MOSFET
Frequency	10kHz-3MHz ³
Gain flatness	±1.5dB maximum (measured at 1/10th rated output power)
Max. duty cycle	20% ⁴
Max. pulse width	100ms ⁵
Rated power in CW mode	200W ⁶
Pulse droop	0.5dB maximum across 100ms pulse ⁷
Pulse rise and fall times	100ns typical using a pre-gate RF input signal
Gate delay	Rising edge: 2µs typical Falling edge: 1µs typical ⁸
Harmonics	Odd: -20dBc typical, -10dBc maximum Even: -30dBc typical, -20dBc maximum
Spurious	<-70dBc maximum
Output noise (blanked)	<10dB above thermal (1MHz bandwidth)
Phase change/power	<5° from -40dB to full power
Phase stability	<1° across 100ms pulse
Output sample	-50dB into 50 Ω (forward voltage sample)
Input/output impedance	50 Ω nominal ⁹
Load VSWR	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, RF Power, Enable, Selected, Mismatch, Over-temp, Over-duty, Shutdown
Protection	Load VSWR, duty-cycle, pulse width, over-temperature
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 220mmH (5RU x 19" rack mounting), 24kg
Mains power	200-240V 3-phase, 50-60Hz, 6kVA max. ¹²
Compliance	CE

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