

BT-AlphaS Series 100kHz-30MHz 2kW

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



The BT-AlphaS series is a range of class AB RF power amplifiers covering the 100kHz to 30MHz 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

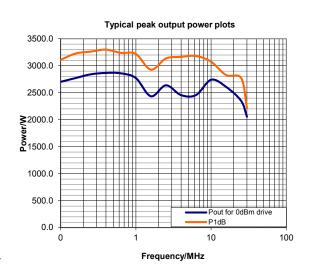
Suitable for NMR, MRI, NQR, EPR, pulsed radar, ultrasonics and other scientific applications.

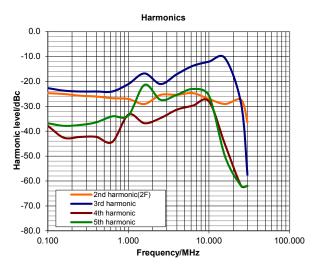
BT-AlphaS Series	
Model numbers	BT02000-AlphaS-100ms
Rated power	2kW minimum ¹
P1dB	1.6kW minimum ²
Gain	63dB minimum
Туре	Class AB MOSFET
Frequency	100kHz-30MHz ³
Gain flatness	±1.5dB maximum (measured at 1/10th rated output power)
Max. duty cycle	20%4
Max. pulse width	100ms ⁵
Rated power in CW mode	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: 800ns typical Falling edge: 100ns 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	$50 Ω nominal^8$
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

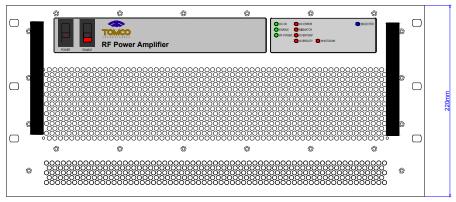
- 1. PEP for input power of 1mW
- 2. Minimum output power at 1dB gain compression
- 3. The amp provides useful power outside this range, but performance is not guaranteed
- 4. Duty cycle is internally limited in pulsed mode
- 5. Maximum gate pulse width in pulsed mode (internally limited)
- 6. CW mode automatically enabled at output power level less than approx.10% of full rated power
- 7. Measured at max. pulse width at nominal P1dB level
- 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.tomcorf.com/pdf/interface.pdf
- 11. Other connector types available on request
- 12. Terminal block accessible via rear panel. Mains supply must include an earth, other connectors available on request. Single phase available on request.

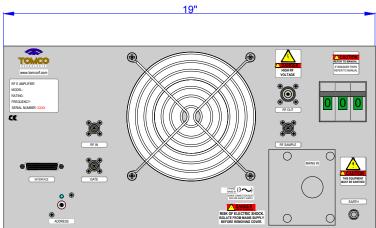


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