

BT-AlphaS-CW Series 100kHz-30MHz 1kW CW

- Communications
- Plasma
- CW Radar
- Test & Measurement



The BT-AlphaS-CW 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
- High linearity
- In-Built Protection
- Very fast blanking
- Capable of pulsed operation
- Competitively priced

Suitable for CW radar, communications, HF/VHF jamming, particle accelerator applications/plasma systems, plasma, RF heating and other scientific applications.

BT-AlphaS-CW Series

Model numbers	BT01000-AlphaS-CW		
Modulation types	Faithfully reproduces all types of modulation including FM, AM, PM and pulses ¹		
Rated power	1kW minimum ²		
P1dB	800W minimum ³		
Type	Class AB MOSFET		
Frequency	100kHz-30MHz ⁴		
Gain flatness	±2dB maximum		
Pulsed operation	Pulse droop	0.5dB maximum ⁵	
	Pulse rise and fall times	100ns typical using a pre-gate RF input signal	
	Gate delay	Rising edge 1µs typical	Falling edge: 50ns typical ⁶
Harmonics	Odd: -20dBc typical, -10dBc maximum. Even: -30dBc typical, -20dBc maximum.		
Spurious	<-60dBc maximum		
Output noise (blanked)	<10dB above thermal (1MHz bandwidth)		
Output sample	-50dB into 50Ω (forward voltage sample)		
Input/output impedance	50 Ω nominal		
Load VSWR	Tolerates at least 3:1 @ full rated power without foldback ⁷		
Remote interface	Parallel status monitoring via 25 pin D connector ⁸		
Connectors	RF output: N type RF input, gate, PTT, sample: BNC ⁹		
Cooling	Forced air, front to rear		
Indicators	DC Power, Output Enable, RF Power, DC Error, Mismatch, Over-temp, Ref limit, Shutdown, Selected		
Gain Control Range	10dB minimum for 0-5V control voltage		
Protection	Over-temp, out-of-band inputs		
RF drive RF gate (blanking)	0dBm nominal, 10dBm for no damage CMOS/TTL High=Tx		
Physical	19" Wx 500mmD x 225mmH (5RU x 19" rack mounting), ~32kg		
Mains power	110-240V, 50-60Hz, single phase, 3kVA max. ¹⁰		
Operating temperature	0 to +40°C		
Compliance	CE		

1. Fidelity guaranteed to within the limits of the amplifier specifications
2. PEP for input power of 1mW
3. Minimum output power at 1dB gain compression
4. The amp provides useful power outside this range, but performance is not guaranteed
5. Measured at 500µs 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 foldback protection reduces the amplifier gain if VSWR is excessive
8. Pin out at www.tomcorf.com/pdf/interface.pdf
9. Other connector types available on request
10. 3-pin IEC. Mains supply must include an earth

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