

型号: BT00500-AlphaS-CW
频率: 100kHz-30MHz
功率: 500W

• 科学和工业应用



BT-AlphaS-CW 系列是涵盖 100kHz 至 30MHz 频率范围的 AB 类射频功率放大器系列。

- 坚固的固态设计 - 高可靠性
- 极高的相位和幅度稳定性
- 非常快的脉冲上升/下降时间
- 高线性度
- 非常低的脉冲间噪声
- 具有竞争力的价格

RF Specifications

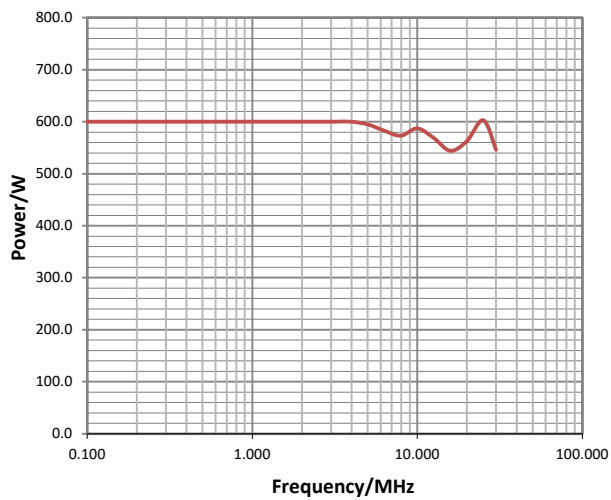
类型	Class AB MOSFET
额定功率	500W minimum PEP for input power of 0dBm Output power is limited to approx. 600W
P1dB	400W minimum Minimum output power at P1dB compression
增益	57dB minimum
频率	100kHz-30MHz
增益平稳度	±1.5dB maximum (measured at 1/10th rated output power)
脉冲下降 (in pulsed operation)	0.5dB maximum Measured at max. pulse width at P1dB level
脉冲上升和下降时间 (in pulsed operation)	Risetime: 200ns typical Falltime: 100ns typical using a pre-gated RF input signal
门上升和下降时间 (in pulsed operation)	Risetime: 300ns typical Falltime: 150ns typical
门延迟 (in pulsed operation)	Rising edge: 1µs typical Falling edge: 500ns typical 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
谐波	Odd: -20dBc typical, -10dBc max. Even: -30dBc typical, -20dBc max.
杂散	<-70dBc maximum
输出噪声 (消隐)	<10dB above thermal (100kHz bandwidth)
相变/功率	<10° from -40dB to full power
相位稳定性	<1° across 100ms pulse
输出样本	-50dB into 50 Ω (forward voltage sample)
输入/输出阻抗	50 Ω nominal
负载驻波比	Tolerates at least 2:1 @ full rated power without foldback
增益控制范围	10dB minimum for 0-5V control voltage Control via parallel interface
射频输入	0dBm nominal, 10dBm for no damage
门 (消隐)	Logic low = Blank, logic high = unblank. CMOS and TTL compatible

电气规格

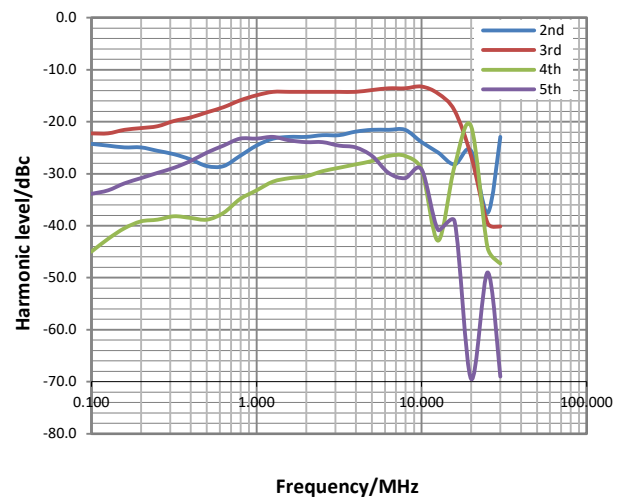
电源电压	110-240V, 50-60Hz, single phase
额定功率	2kVA maximum
电源入口	1 x IEC inlet (mains power cord supplied)

Typical Performance Plots

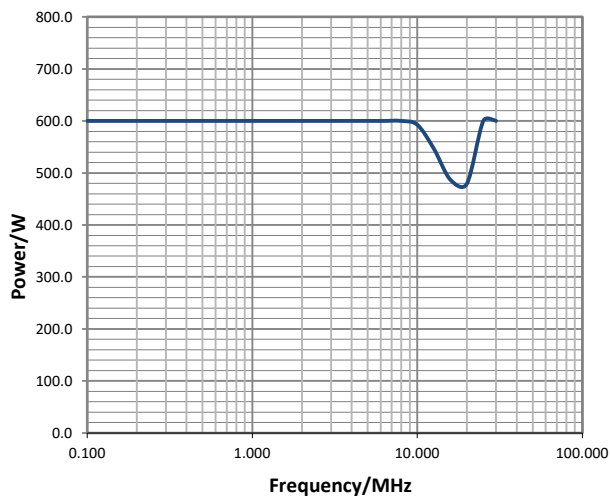
Peak output power for 0dBm RF drive



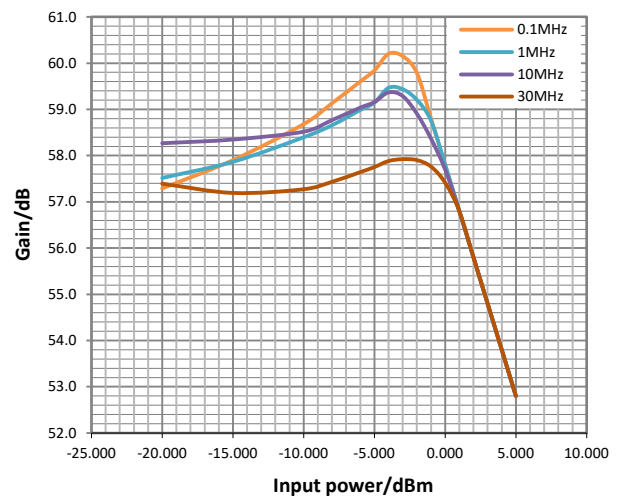
Harmonics



Peak output power at 1dB compression



Gain as a function of input power

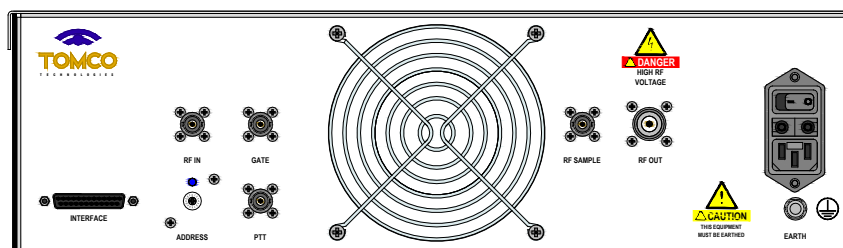
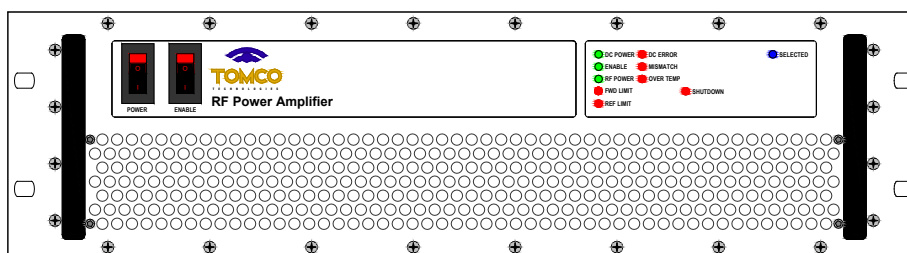
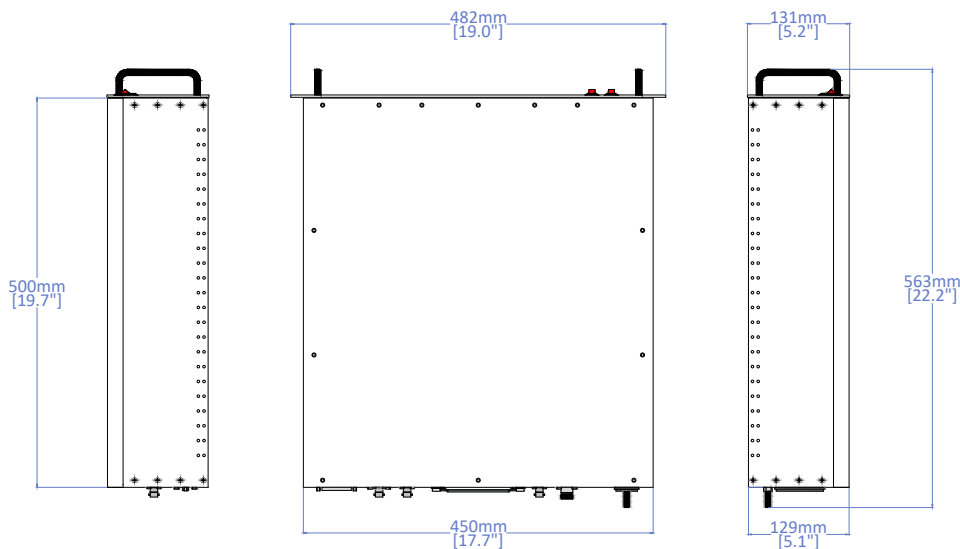


RF Amplifier Data Sheet



Mechanical Specifications

连接器	RF IN: BNC female GATE: BNC female PTT: BNC female RF SAMPLE: BNC female RF OUT: N type female INTERFACE: DB25 female Other connectors types available on request
尺寸	Chassis size: 450mmW (17.7"W) x 500mmD (19.7"D) x 129mmH (5.1"H) Total size: 482mmW (19"W) x 563mm (22.2"D) x 131mm (5.2"H) Rack compatibility: 19" 3RU
重量	approx. 19kg (42lbs)
防护等级	IP20



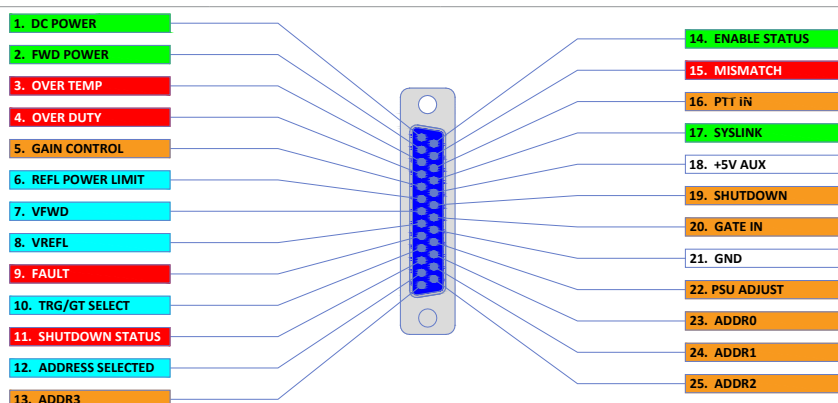
防护

负载驻波比	Tolerates up to VSWR 2:1 at full rated power without foldback Self-resetting foldback protection which automatically reduces amplifier gain activates if VSWR limits are exceeded Under these conditions the REFL LIMIT LED activates An additional circuit provides self-resetting shutdown protection against fast transient reflected power Under these conditions the MISMATCH LED activates
过温	Self-resetting shutdown protection activates if thermal limits are exceeded
正向功率限制	Limits forward output power to a maximum level

Monitoring and Control

Front panel switches	Power (turns on DC power) Enable (enables RF)
Front panel LEDs	- DC POWER - ENABLE - RF POWER - FWD LIMIT - REFL LIMIT - DC ERROR - MISMATCH - OVER TEMP - SELECTED - SHUTDOWN
Parallel interface	25-pin D-connector (pinout available at www.tomcorf.com/pdf/interface.pdf)*

-  Output signal indicating normal operation
-  Output signal indicating fault condition
-  Output signal for information only
-  Input signal



Environmental

*Some functions may be unavailable on select amplifier models

General	Intended for use only in controlled, indoor environment. Non-consumer product for industrial and scientific use. This product is not authorised for stand-alone on-air use. Additional systems, hardware and considerations are required to meet local spectral management regulations. Compliance of the final complete system is the responsibility of the end user.
Cooling	Forced air, front to rear
Operating temperature	+5°C to +40°C
Storage temperature	-20°C to +60°C
Humidity	80% for temperature up to 31°C, decreasing linearly to 50% relative humidity at 40°C
Operating altitude	Up to 2000m
Pollution degree	2
Transient voltage compatibility	Category II, in line with IEC 60364-4-44:2007
Electromagnetic compatibility	In line with IEC61326-1:2012 ISM equipment, Group 1, Class A For use only in shielded areas. ENC55011 (CISPR 11) limits exceeded by up to 40dB
Safety	In line with IEC61010-1:2010
Electromagnetic field strength	In line with ICNIRP Guidelines: 1998, occupational limits

Change record

Document/Issue number	Originator	Date	Change
DS006699A	JR	21/08/18	Original
DS006699B	JR	29/11/2018	Updated CAD drawing with FWD LIMIT LED
DS006699C	LS	6/5/20	Pg 4 e