

型号: BT00500-AlphaA
频率: 0.01MHz-3MHz
功率: 500W

• 科学和工业应用



BT-AlphaA 系列是涵盖 10kHz 至 3MHz 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

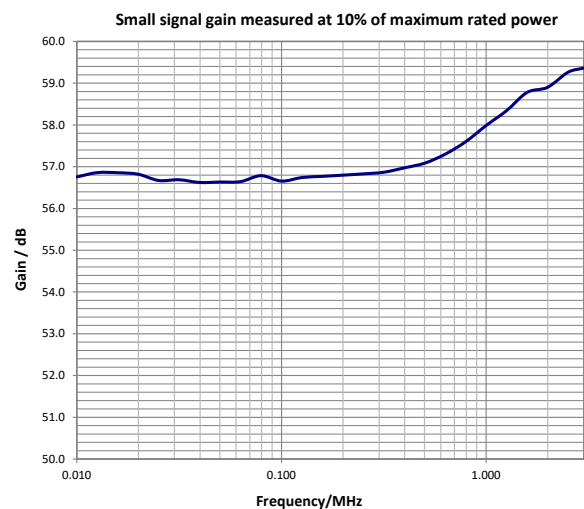
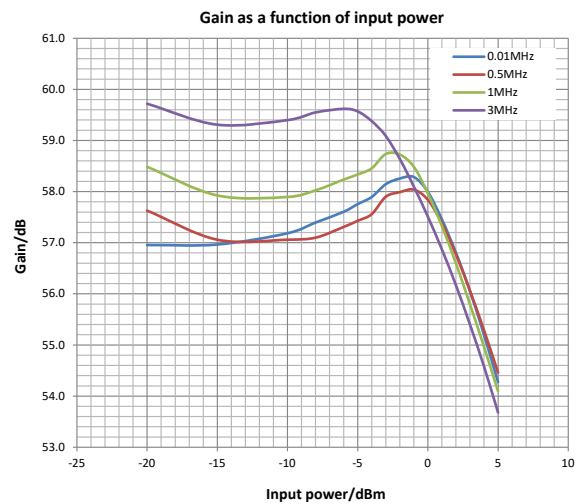
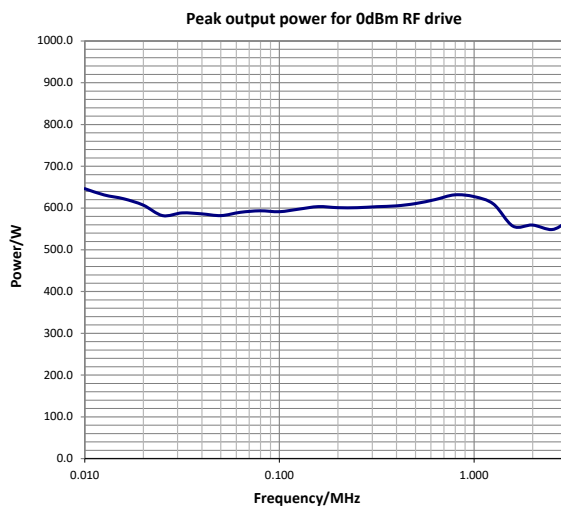
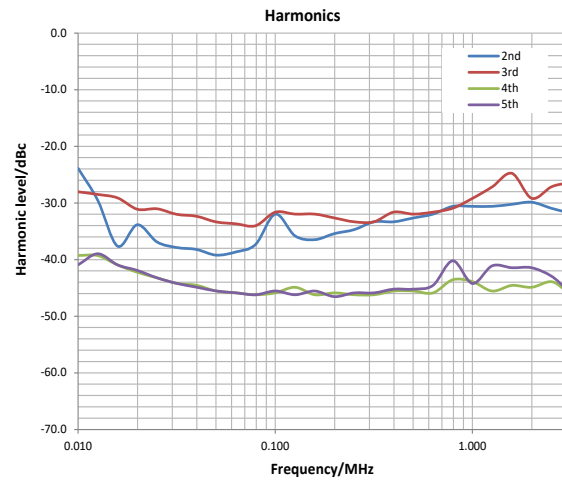
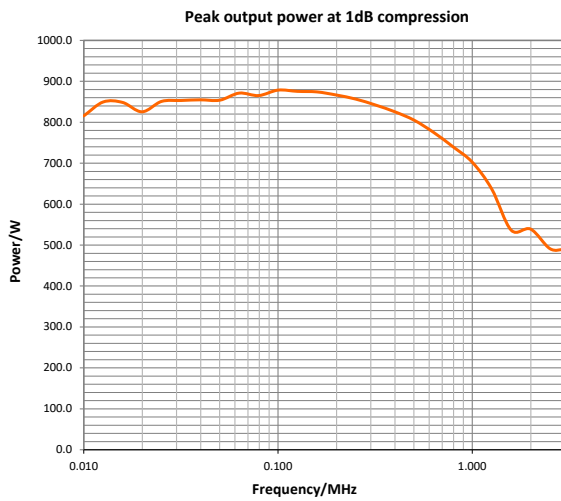
RF Specifications

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|------------|--|
| 类型 | Class AB MOSFET |
| 额定功率 | 500W minimum PEP for input power of 0dBm |
| P1dB | 400W minimum Minimum output power at P1dB compression |
| 增益 | 57dB minimum |
| 频率 | 0.01MHz-3MHz |
| 增益平稳度 | ±1.5dB maximum (measured at 1/10th rated output power) |
| 最大占空比 | 20% Maximum GATE duty cycle |
| 最大脉冲宽度 | 100ms Maximum GATE pulse width |
| CW模式下的额定功率 | 25W CW operation is automatically available at output power level less than approx. 10% of full rated power |
| 脉冲下降 | 0.5dB maximum Measured at max. pulse width at P1dB level |
| 脉冲上升和下降时间 | Risetime: 200ns typical Falltime: 100ns typical using a pre-gated RF input signal |
| 门上升和下降时间 | Risetime: 300ns typical Falltime: 150ns typical |
| 门延迟 | 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. Measured at 1dB below rated output power |
| 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 3:1 @ full rated power without shut down |
| 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

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|------|---|
| 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

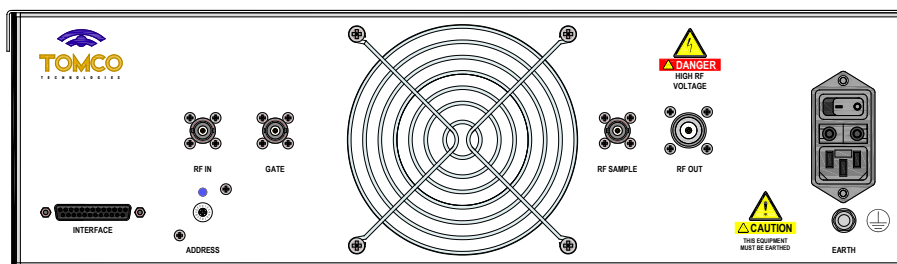
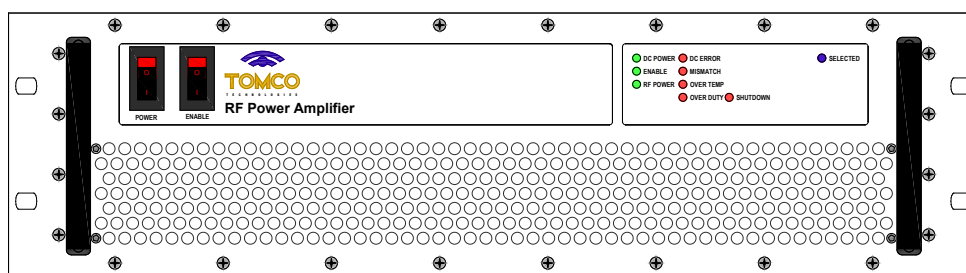
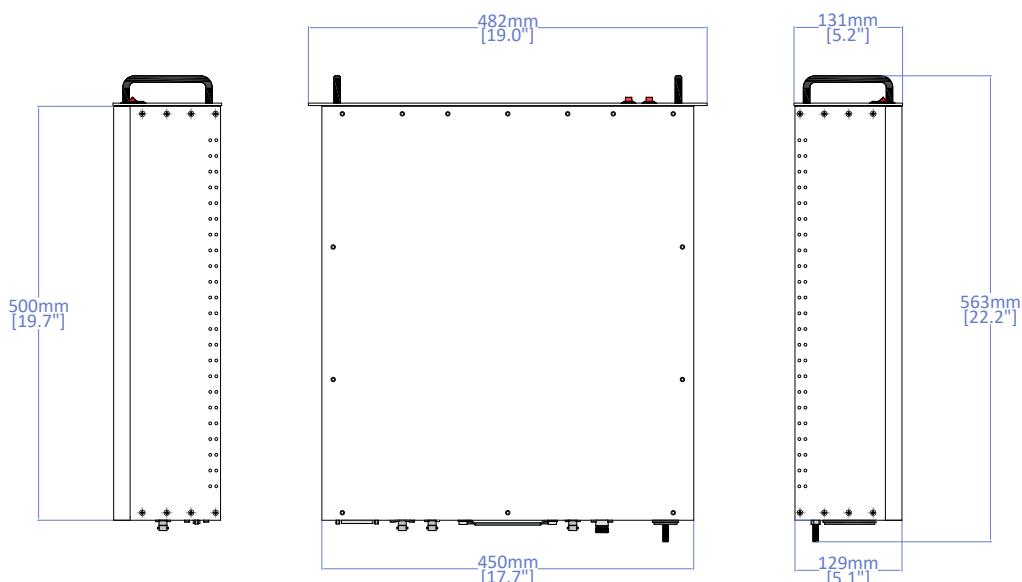


RF Amplifier Data Sheet



Mechanical Specifications

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| 连接器 | RF IN: BNC female GATE: 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. 17kg (38lbs) |
| 防护等级 | IP20 |







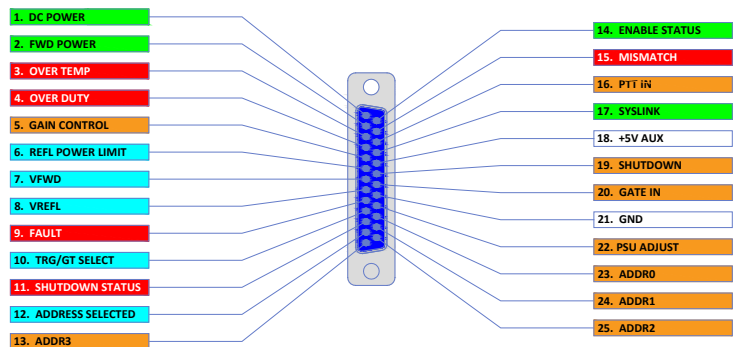
保护

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| 负载驻波比 | Tolerates up to VSWR 3:1 at full rated power without shutdown Self-resetting shutdown protection activates if VSWR limits are exceeded |
| 过温 | Self-resetting shutdown protection activates if thermal limits are exceeded |
| 占空比 | Duty cycle limit is determined from the GATE signal duty cycle. Self-resetting shutdown protection activates if duty cycle limit is exceeded If output power is less than approx. 10% of maximum rated power, duty cycle protection is disabled and auto-CW operation is available |
| 脉冲宽度 | Pulse width limit is determined from the GATE signal pulse width. Self-resetting shutdown protection activates if pulse width limit is exceeded |

Monitoring and Control

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| Front panel switches | Power (turns on DC power) Enable (enables RF) |
| Front panel LEDs | <ul style="list-style-type: none"> DC POWER ENABLE RF POWER DC ERROR MISMATCH OVER TEMP OVER DUTY SELECTED SHUTDOWN |
| Parallel interface | 25-pin D-connector (pinout available at www.tomcof.com/pdf/interface.pdf)* |

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|  | 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

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|---------------------------------|--|
| 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 |
|-----------------------|------------|------------|----------|
| DS006662A | JR | 10/07/2018 | Original |
| DS006662B | JR | 24/07/2019 | p.4:EM |
| DS006662C | LS | 08/04/2020 | p.4:E |
| DS006662D | DW | 10/09/2020 | p.1:RFS |
| DS006662E | LS | 12/01/2021 | p.1:H |
| DS006662F | LS | 09/11/2022 | p.4:E |
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