

型号：BT00500-GammaS
频率：5MHz-310MHz
功率：500W

• 科学和工业应用



BT-GammaS 系列是涵盖 5MHz 至 310MHz 频率范围的 AB 类射频功率放大器系列。

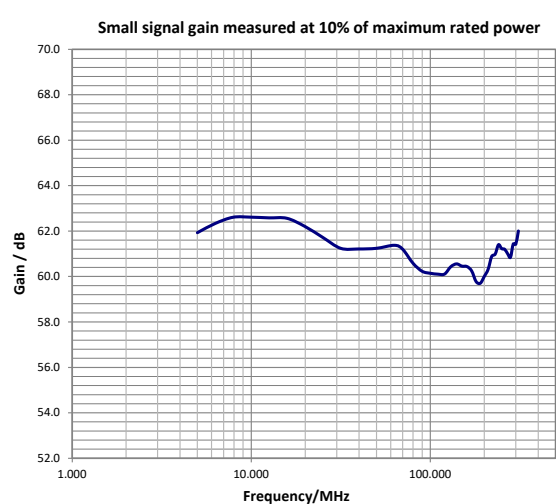
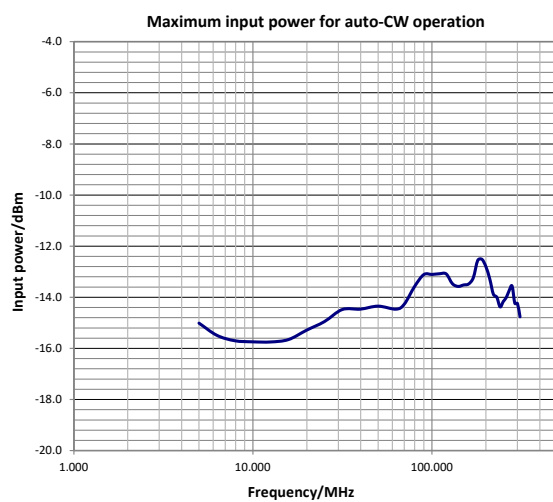
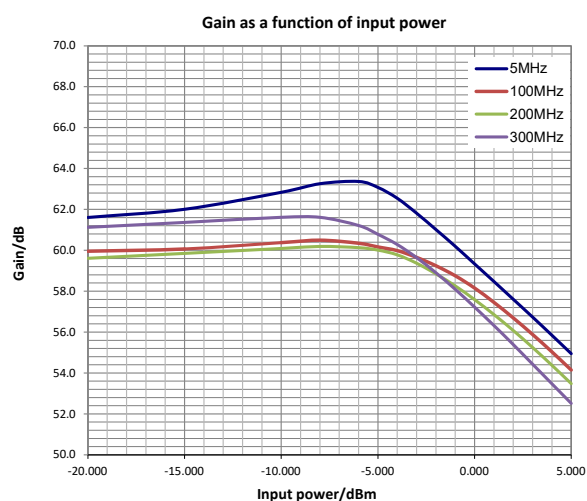
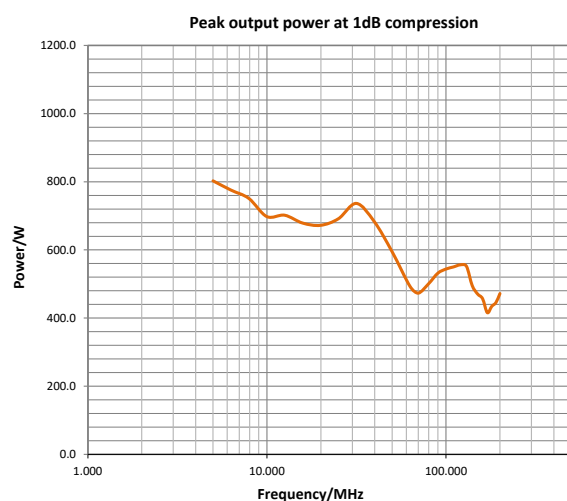
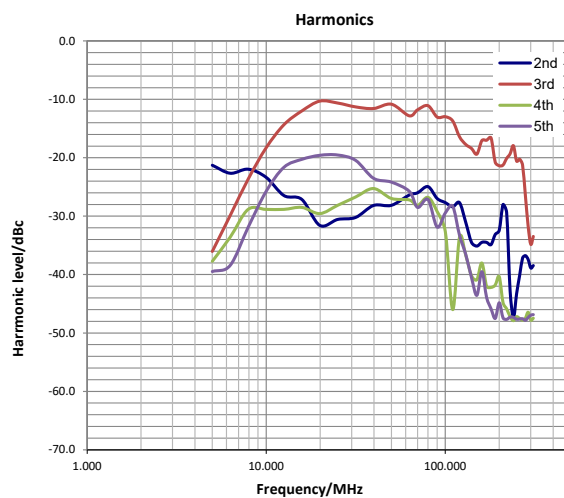
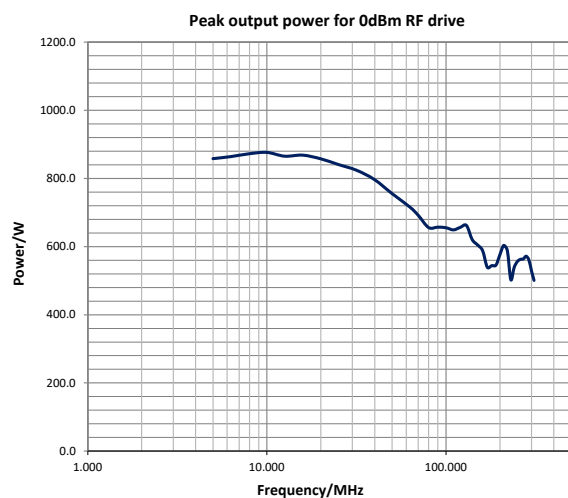
- 坚固的固态设计 - 高可靠性
- 极高的相位和幅度稳定性
- 非常快的脉冲上升/下降时间
- 高线性度
- 非常低的脉冲间噪声
- 具有竞争力的价格

RF Specifications

类型	Class AB MOSFET
额定功率	500W minimum PEP for input power of 0dBm
P1dB	400W minimum Minimum output power at P1dB compression
增益	57dB minimum
频率	5MHz-310MHz
增益平稳度	±2dB maximum (measured at 1/10th rated output power)
最大占空比	20% Maximum GATE duty cycle
大脉冲宽度	300ms Maximum GATE pulse width
CW模式下的额定功率	50W 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

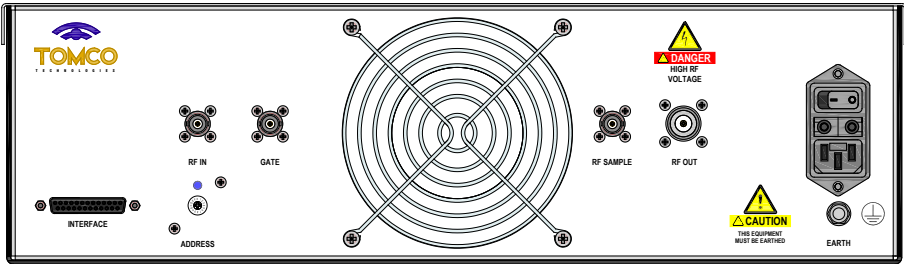
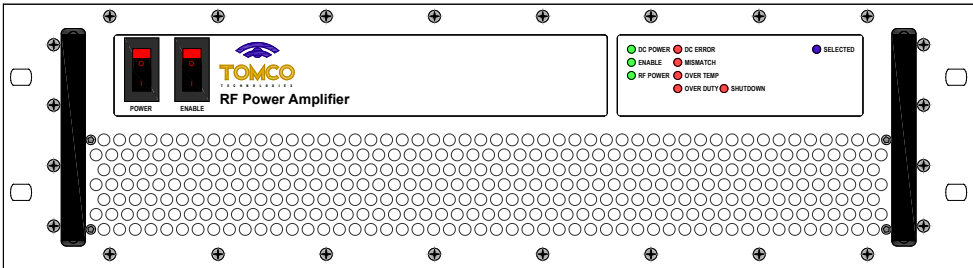
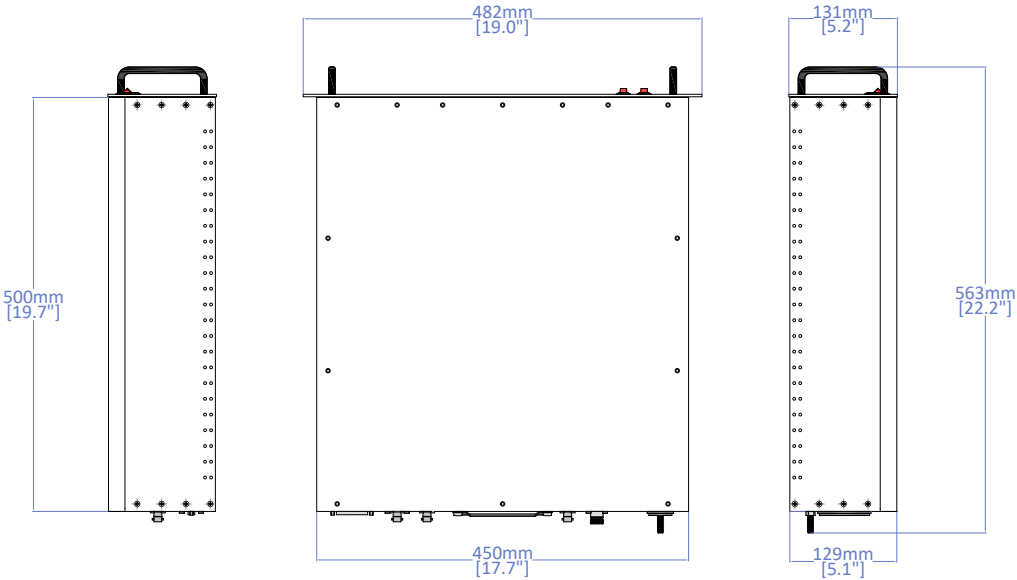
电气规格

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)



Mechanical Specifications

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



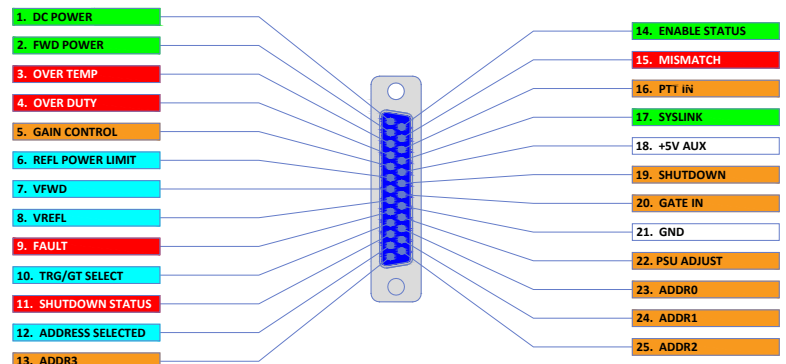
保护

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

Front panel switches	Power (turns on DC power) Enable (enables RF)
Front panel LEDs	- 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)*

	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
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
DS006684A	JR	31/07/2018	Original
DS006684B	JD	01/06/2020	p.1:RF
DS006684C	LS	12/01/2021	p.1:H
DS006684D	TD	10/12/2022	p.4:E