

型号: BT00250-AlphaSA
频率: 0.5MHz-150MHz
功率: 250W

• 科学和工业应用



The BT-AlphaSA series is a range of class AB RF power amplifiers covering the 500kHz to 150MHz 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

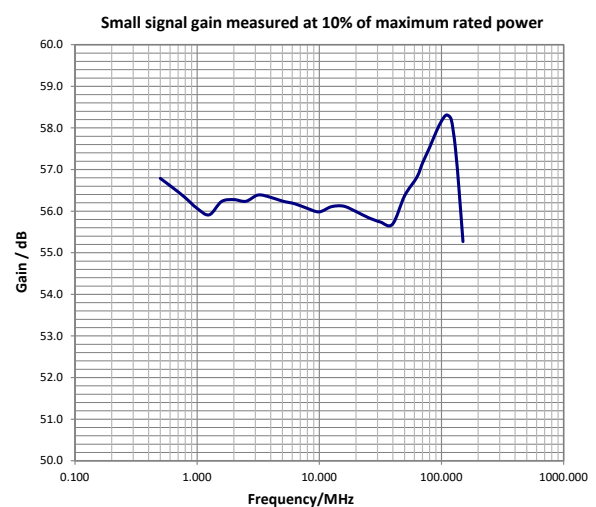
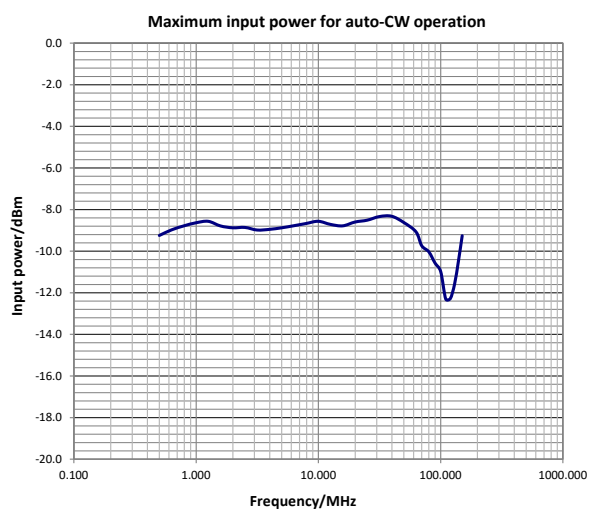
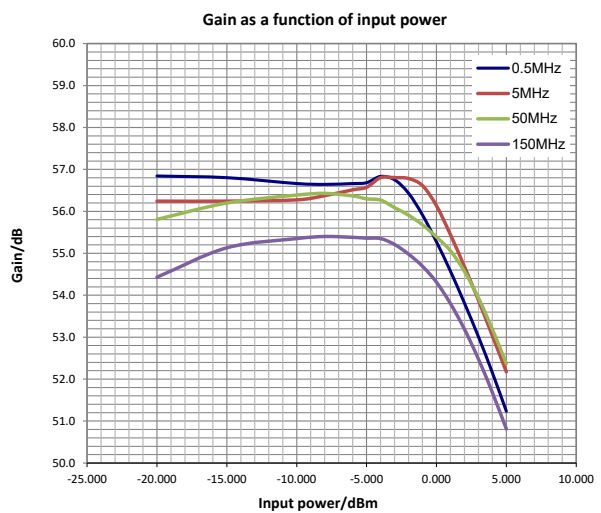
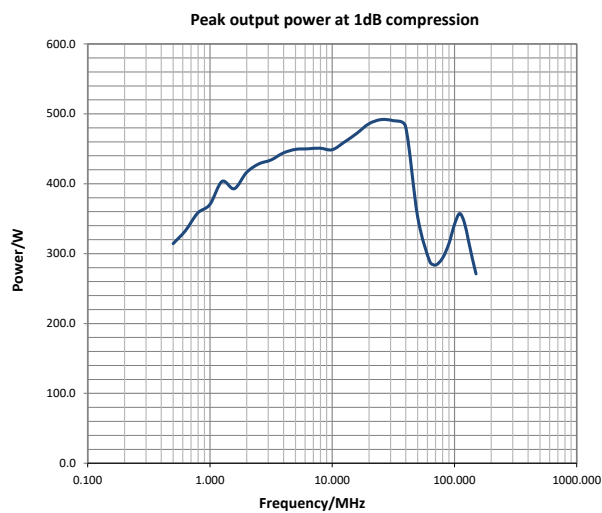
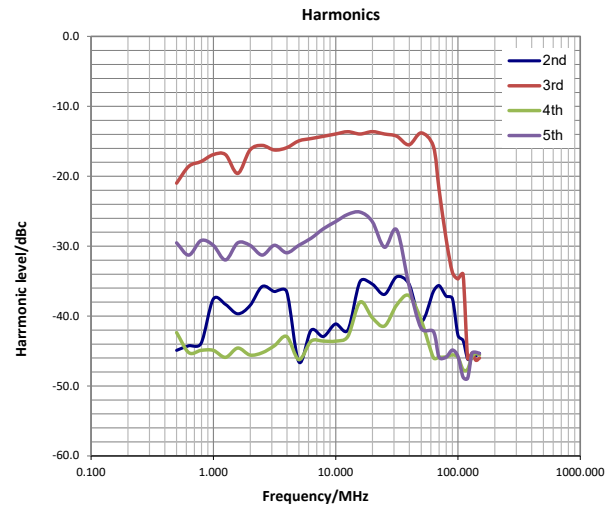
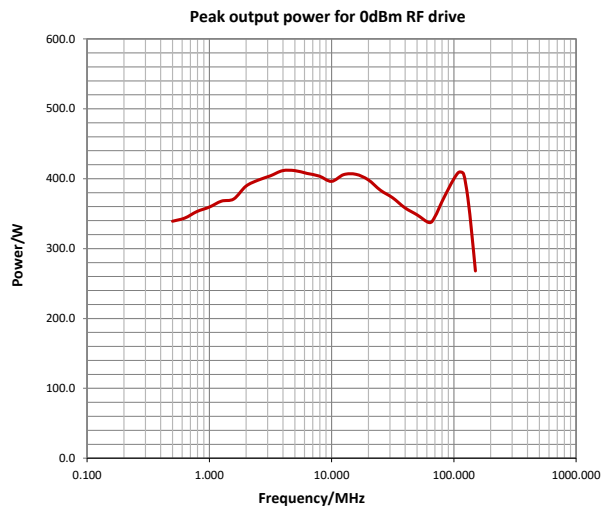
RF Specifications

类型	Class AB MOSFET
额定功率	250W minimum PEP for input power of 0dBm
P1dB	200W minimum Minimum output power at P1dB compression
增益	54dB minimum
频率	0.5MHz-150MHz
增益平坦度	±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 maximum Even: -30dBc typical, -20dBc maximum 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

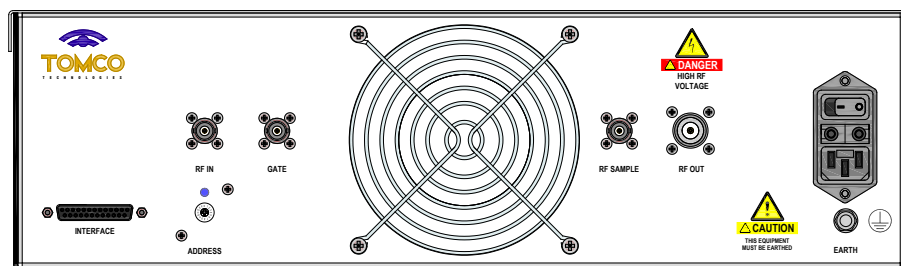
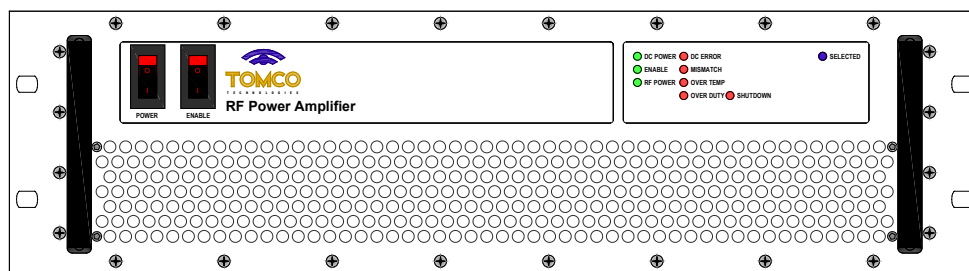
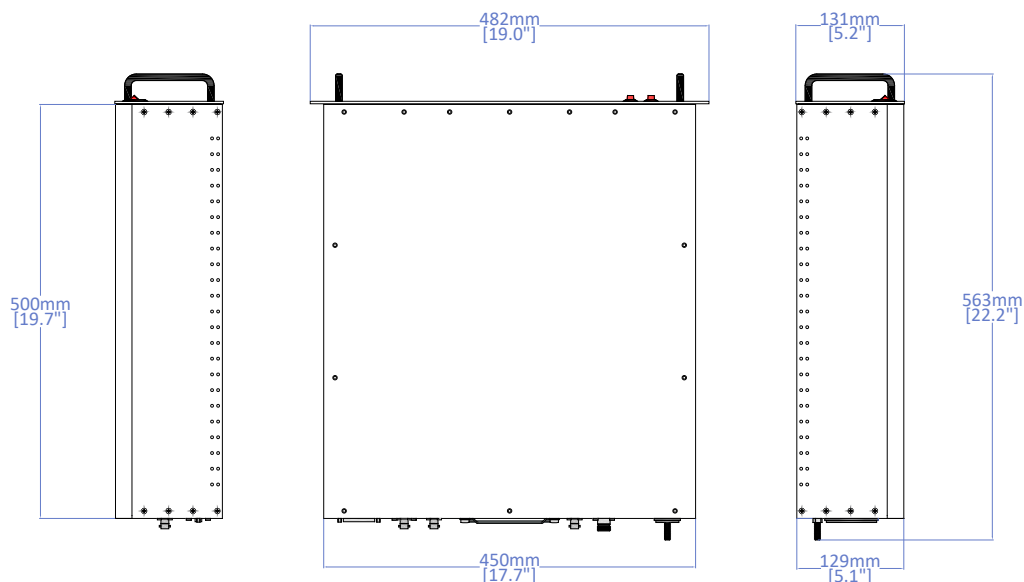
电源电压	110-240V, 50-60Hz, single phase
额定功率	1kVA maximum
电源入口	1 x IEC inlet (mains power cord supplied)

Typical Performance Plots



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. 13kg (28lbs)
防护等级	IP20



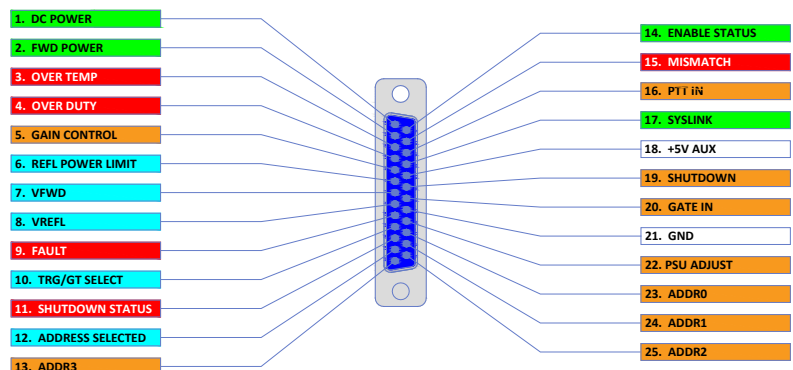
保护

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.tomcorf.com/pdf/interface.pdf)*

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



*Some functions may be unavailable on select amplifier models

Environmental

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
DS006674A	JR	18/07/2018	Original
DS006674B	LS	06/05/2020	p.4:E
DS006674C	TD	10/9/2020	p.1:RFS
DS006674D	LS	12/01/2021	p.1:H
DS006674E	TD	8/12/2022	p.4:E