

BT00500-Delta 100MHz-600MHz 500W

 Scientific and Industrial Applications



The BT-Delta series is a range of class AB RF power amplifiers covering the 100MHz to 600MHz 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

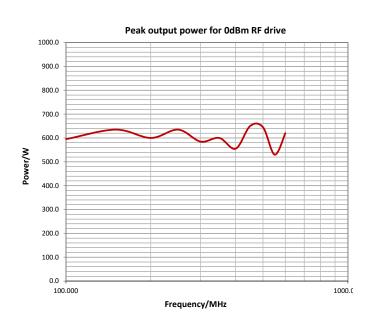
Type Class AB MOSFET Rated Power 500W minimum PEP for input power of 0dBm P1dB 400W minimum output power at P1dB compression Gain 57dB minimum Frequency 100MHz-600MHz Gain flatness ±2dB maximum (measured at 1/10th rated output power) Max. duty cycle 20% Maximum GATE duty cycle Max. pulse width 300ms Maximum GATE pulse width Rated power in CW mode CW operation is automatically available at output power level less than approx. 10% of full rated power Pulse droop 0.5dB maximum Measured at max. pulse width at P1dB level Pulse rise and fall times Risetime: 200ns typical Fallitime: 100ns typical using a pre-gated RF input signal GATE rise and fall times Risetime: 300ns typical Fallitime: 150ns typical Fallitime: 150ns typical Fallitime: 150ns typical Fallitime: 150ns typical Fallitime: 300ms typical Fallitime: 30ms typical Fallitime: 40ms typical Fallitime: 50ms typical Falli	KF Specifications			
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Control via parallel interface RF Input OdBm nominal, 10dBm for no damage	Load VSWR	Tolerates at least 3:1 @ full rated power without shut down		
	Gain control range			
GATE (blanking) Logic low = Blank, logic high = unblank. CMOS and TTL compatible	RF Input	0dBm nominal, 10dBm for no damage		
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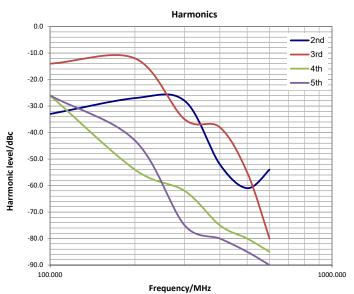
Electrical Specifications

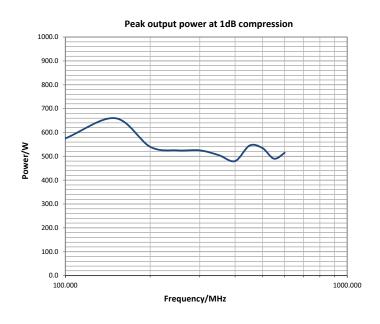
Mains supply voltage	110-240V, 50-60Hz, single phase	
Rated Power	2kVA maximum	
Mains inlet	1 x IEC inlet (mains power cord supplied)	

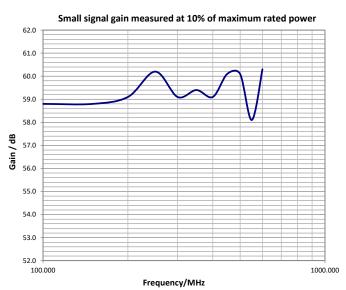


Typical Performance Plots







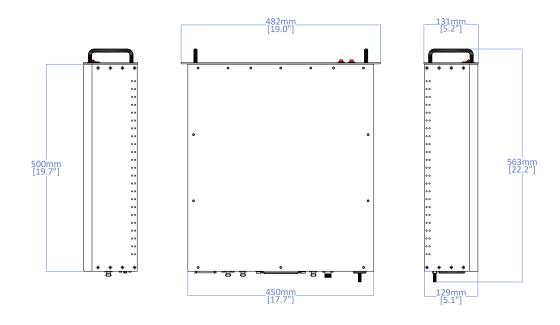


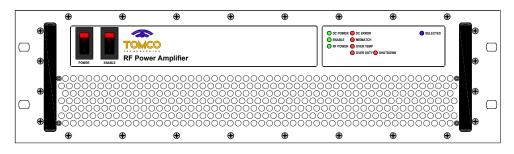
RF Amplifier Data Sheet

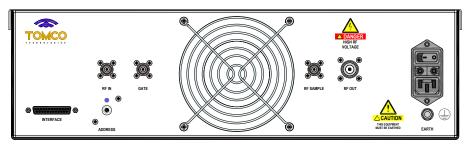


Mechanical Specifications

Connectors	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
Dimensions	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
Weight	approx. 17kg (38lbs)
Enclosure classification	IP20







RF Amplifier Data Sheet

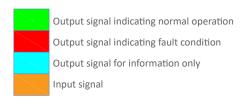


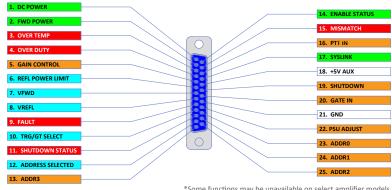
Protection

Load VSWR	Tolerates up to VSWR 3:1 at full rated power without shutdown Self-resetting shutdown protection activates if VSWR limits are exceeded		
Over temperature	Self-resetting shutdown protection activates if thermal limits are exceeded		
Duty cycle	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		
Pulse width	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 DC ERROR SELECTED ENABLE MISMATCH SHUTDOWN RF POWER OVER TEMP OVER DUTY			
Parallel interface	25-pin D-connector (pinout available at <u>www.tomcorf.com/pdf/interface.pdf</u>)*			





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 compatibilty	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
DS006688A	TD	06/06/2018	Original
DS006688B	TD	06/06/2019	p.1-3:F
DS006688C	LS	15/01/2021	p.1:H