BT2B-6782
0.5MHz-30MHz
2kW

- Scientific and Industrial Applications

The BTB series is a range of class A RF power amplifiers covering the 0.5MHz to 30MHz 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

Rated Power	2kW minimum PEP for input power of 0dBm
P1dB	1600W minimum Minimum output power at P1dB compression
Gain	63dB minimum
Type	Class A MOSFET
Frequency	0.5MHz-30MHz
Gain flatness	±1.5dB maximum (measured at 1/10th rated output power)
Max. duty cycle	5% Maximum GATE duty cycle
Max. pulse width	500µs Maximum GATE pulse width
Pulse droop	1dB maximum Measured at max. pulse width at P1dB level
Pulse rise and fall times	Risetime: 200ns typical Falltime: 100ns typical using a pre-gated RF input signal
Gate rise and fall times	Risetime: 300ns typical Falltime: 150ns typical
Gate delay	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
Harmonics	<-30dBc
Spurious	<-60dBc maximum
Output noise (blanked)	<10dB above thermal (100kHz bandwidth)
Phase change/power	<10˚ from -40dB to full power
Phase stability	<1˚ across 500µs pulse
Output sample	-60dB into 50 Ω (forward voltage sample)
Input/output impedance	50 Ω nominal
Load VSWR	Tolerates at least 3:1 @ full rated power without shut down
Gain control range	10dB minimum for 0-5V control voltage
RF Input	0dBm nominal, 10dBm for no damage
GATE (blanking)	Logic low = Blank, logic high = unblank. CMOS and TTL compatible

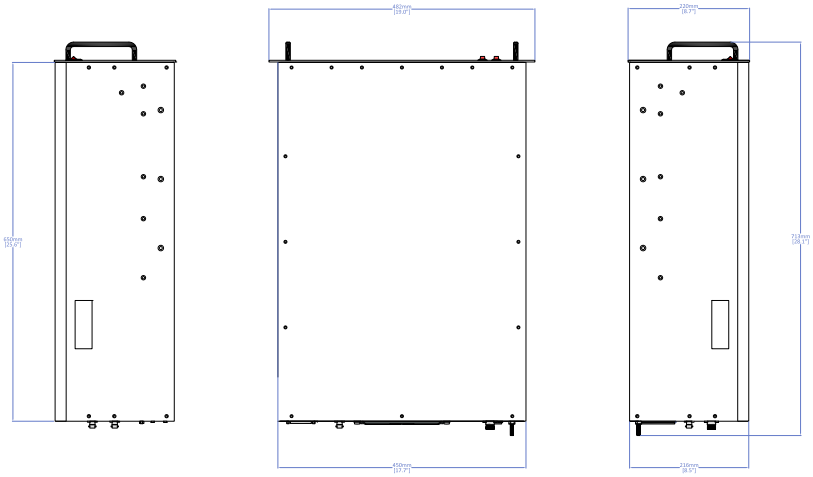
Electrical Specifications

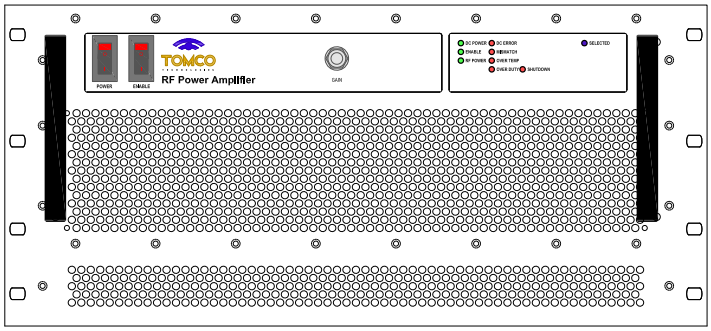
Mains supply voltage	110-240V, 50-60Hz, single phase
Rated Power	1kVA maximum
Mains inlet	1 x IEC inlet (mains power cord supplied)

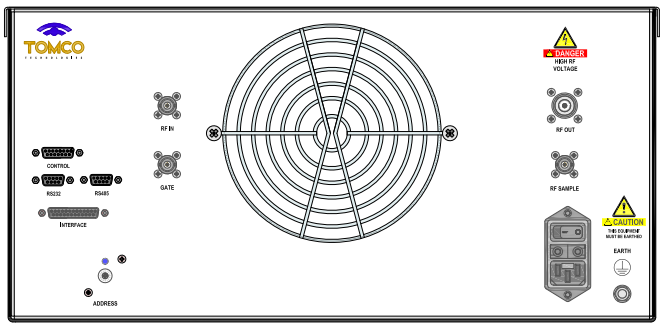
RF Amplifier Data Sheet

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 650mmD (19.7”D) x 216mmH (8.5”H) Total size: 482mmW (19”W) x 713mm (22.2”D) x 20mm (8.7”H) Rack compatibility: 19” 5RU
Weight	approx. 25kg (62lbs)
Enclosure classification	IP20







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
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

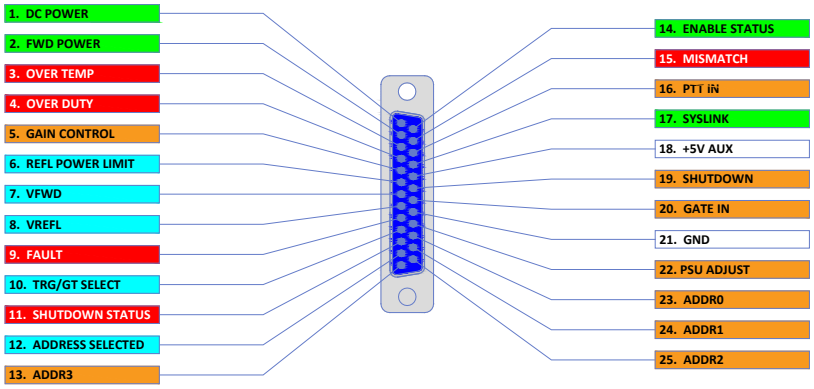
Front panel switches	Power (turns on DC power) Enable (enables RF) Gain Control Knob (gain adjustment via front panel)
Front panel LEDs	• DC POWER • ENABLE • RF POWER • DC ERROR • MISMATCH • OVER TEMP • OVER DUTY • SELECTED • SHUTDOWN
Parallel interface	25-pin D-connector (pinout available at www.tomcorf.com/pdf/interface.pdf)*

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^{0}C to +40^{0}C
Storage temperature	-20^{0}C to +60^{0}C
Humidity	80% for temperature up to 31^{0}C, decreasing linearly to 50% relative humidity at 40^{0}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 60dB
Safety	In line with IEC61010-1:2010

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