



# RF Amplifier Data Sheet

## BT-Lambda series

### 350MHz - 800MHz

### 1kW

- UHF Radar
- Avionics Radar
- NMR, MRI, EPR
- Test & Measurement



The BT-Lambda series is a range of class AB pulsed RF power amplifiers covering the 350MHz-800MHz frequency range

- Rugged, solid-state design - high reliability
- Extremely high phase and amplitude stability
- Very fast pulse rise/fall times
- High linearity
- Low power CW operation
- Very low interpulse noise
- Competitively priced

Suitable for pulsed radar, NMR, MRI, NQR, EPR, and other scientific applications.

## BT-Lambda series

|                                |                                                                                 |
|--------------------------------|---------------------------------------------------------------------------------|
| Model numbers                  | BT01000-Lambda                                                                  |
| Rated power                    | 1kW minimum <sup>1</sup>                                                        |
| P1dB                           | 800W minimum <sup>2</sup>                                                       |
| Type                           | Class AB MOSFET                                                                 |
| Frequency                      | 350MHz-800MHz <sup>3</sup>                                                      |
| Gain flatness                  | ±2dB maximum                                                                    |
| Max. duty cycle                | 20% <sup>4</sup>                                                                |
| Max. pulse width               | 300ms <sup>5</sup>                                                              |
| Rated power in CW mode         | 50W <sup>6</sup>                                                                |
| Pulse droop                    | 0.5dB maximum <sup>7</sup>                                                      |
| Pulse rise and fall times      | 50ns typical using a pre-gate RF input signal                                   |
| Gate delay                     | Rising edge: 1µs typical    Falling edge: 50ns typical <sup>8</sup>             |
| Harmonics                      | Odd: -30dBc typical, -20dBc maximum<br>Even:-40dBc typical, -20dBc maximum      |
| Spurious                       | <-70dBc maximum                                                                 |
| Output noise (blanked)         | <10dB above thermal                                                             |
| Output sample                  | -50dB into 50Ω (forward voltage sample)                                         |
| Input/output impedance         | 50 Ω nominal                                                                    |
| Load SWR                       | Tolerates at least 3:1 @ full rated power without shut down <sup>9</sup>        |
| Remote interface               | Parallel status monitoring via 25 pin D connector <sup>10</sup>                 |
| Connectors                     | RF output: N type                      RF input, gate, sample:BNC <sup>11</sup> |
| Cooling                        | Forced air                                                                      |
| Indicators                     | DC Power, RF Power, Enable, Selected, Over-temp, Over-duty, Mismatch, Shutdown  |
| RF drive<br>RF gate (blanking) | 0dBm nominal, 10dBm for no damage<br>0-5V CMOS                                  |
| Physical                       | 19" Wx 500mmD x 225mmH (5RU x 19" rack mounting),36kg                           |
| Mains power                    | 110-240V, 50-60Hz, single phase, 4kVA max. <sup>12</sup>                        |
| Compliance                     | CE                                                                              |

1. PEP for input power of 1mW
2. Minimum output power at 1dB gain compression
3. The amp provides useful power outside this range, but performance is not guaranteed
4. Duty cycle is internally limited in pulsed mode. Duty cycle limit increases to approx.30% for short pulses
5. Maximum gate pulse width in pulsed mode (internally limited)
6. CW mode automatically enabled at output power level less than approx. 10% of full rated power
7. Measured at max. pulse width at nominal P1dB level
8. 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
9. Self resetting protection shuts the amplifier off if the load SWR is excessive
10. Pin out at [www.tomcorf.com/pdf/interface.pdf](http://www.tomcorf.com/pdf/interface.pdf)
11. Other connector types available on request
12. 4x3-pin IEC. Mains supply must include an earth



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