

dB-8048 GaN Pulsed Power Amplifier



GaN Solid State Power Amplifier
1.5 kW Pulsed
2.9 – 3.3 GHz

The dB-8048 GaN Solid State Power Amplifier operates in the 2.9 to 3.3 GHz frequency band and delivers 1500 Watts peak output power in pulsed operation. The dB-8048 is designed for high-performance MIL-STD applications where high reliability and ruggedness are critical to system performance. The compact modular design and scalable architecture allows for phase combining to achieve up to 6 and 10 kW of output power.

Features

- 2.9 to 3.3 GHz, 1.5 kW, pulsed
- 50 VDC, 20 amps
- Solid state Class B GaN based design
- Duty cycle up to 10%, 0.5 μ S pulse width
- 50 ohm input/output impedance
- Built-in monitor and protection circuits
- High reliability and ruggedness
- Instantaneous pulse operation over entire band
- Built in fan cooling
- Small and lightweight

Applications

- High performance radar
- High resolution SAR systems
- Ground, naval and airborne platforms

dB-8048 GaN Pulsed Power Amplifier Specifications

Reliability by Design®

Electrical

Frequency Range	2.9 GHz to 3.3 GHz
Input Power	13 dBm±1dB
Output Peak Power (Pulsed RF)	1.5 kW, min.
Pulse Width	0.5 µS, min. and 100 µS, max.
Duty Cycle	10%, max.
Rise / Fall Time	50 nSec. / 50 nSec.
Class of Operation	Class B
Droop	0.8 dB, max.
Propagation Delay	100 nSec., max.
2nd Harmonic Rejection	Better than -30 dBc
3rd Harmonic Rejection	Better than -45 dBc
Input Return Loss	10 dB, min.
Output Return Loss	10 dB, min.
Efficiency	20%, min.
Power Supply	+50 VDC, 20 amps

Mechanical

Connectors	
RF Input	SMA Female connector
RF Output	N Female connector
RF Detector Output	SMA Female connector
DC IN	7 position D-sub, combo plug, female connector
Mechanical Dimension	353 mm (L) x 290 mm (H) x 91.7 mm (W) 13.90" (L) x 11.42" (H) x 3.61" (W)
Weight	9 Kgs., max.
Cooling	Forced air cooling

Environmental

Operating Temperature	-30 to +50°C
Storage Temperature	-50 to +70°C
Relative Humidity	Up to 95% RH, non-condensing
Vibration	0.03 G2/Hz from 5- 500 Hz, all three axis
Shock	20 g saw tooth, duration 11msec, 18 shocks
Salt Fog	5% NaCl
Drip Proof	As per MIL-STD-108E
EMI/EMC	As per MIL-STD-461G

Specifications subject to change without notice.



About dB Control

Established in 1990, dB Control Corp., a subsidiary of the Electronic Technologies Group (ETG) of HEICO Corp., supplies mission-critical, often sole-source, products worldwide to military organizations, as well as to major defense contractors and commercial manufacturers. dB Control designs and manufactures reliable high-power TWT Amplifiers (TWTAs), microwave power modules (MPMs), transmitters and power supplies with modulators for radar, electronic countermeasures (ECM) and data link applications. The company's high-power amplifiers use solid state, as well as vacuum electron devices and cover the 1 to 50 GHz frequency range. The modularity of dB Control's designs enables rapid configuration of custom products for a variety of platforms, including ground-based and high-altitude military manned and unmanned aircraft. dB Control has an outstanding record of successfully repairing, refurbishing and replacing tightly packaged high-voltage transformers, assemblies and power supplies. The company offers specialized contract manufacturing, transformer winding and testing, full vacuum encapsulation, pressure cure, conformal coating and repair depot services from its modern 40,000 square foot facilities in Fremont, California. www.dBControl.com AS-9100D and ISO-9001:2015 Certified.

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