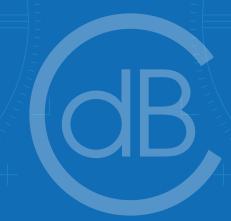


# dB-3758 Microwave Power Module



1000W Pulsed 9 - 10 GHz



The dB-3758 is an integrated pulsed Microwave Power Module (MPM) operating in the X Band providing 1000 Watts peak output power at a duty cycle of 6%. The RF signal path consists of a solid PIN diode modulator, solid state driver amplifier and a mini-TWT. The high-voltage power supply (HVPS) section uses modular architecture and low-noise power supply topology utilizing high-efficiency solid state power conversion circuits. A highly stable, solid state modulator is used for TWT grid modulation. Synchronization of power supply switching frequency with a radar system clock and blanking during the pulse are two unique techniques used in this unit to make this suitable for extremely low phase noise radar transmitter applications. The dB-3758 has several additional features such as VSWR protection, remote interface with RS-422 and integrated forced air cooling. This MPM is designed to meet military airborne environments and has been used in military manned and unmanned platforms.

## **Features**

- High output power
- Ultra low phase noise
- · Excellent amplitude and phase stability

### **Applications**

- Multi-Mode and Synthetic Aperture Radars
- · EW threat simulation
- Electronic countermeasures
- · Manned and unmanned platforms

#### **Electrical**

Frequency Range 9 to 10 GHz

Peak Output Power 1000 Watts min.

Duty Cycle 6% max.

Pulse Width 50 µsec, max.

PRF Up to 40 kHz

Throughput Delay 250 nsec max., (200 nsec typ.)
Gain at Rated Power 60 dB, nominal
Phase Noise -120 dBc/Hz
Harmonics -15 dBc
Spurious -70 dBc

Beam Off Noise Power -105 dBm/MHz

Input VSWR 2:1 Load VSWR 1.5:1

Modulation Control Differential or TTL

Prime Power Input 28 VDC

TWTA Protection Helix Over-Current, Cathode Over-Voltage,

Excessive Duty Cycle, PRF, Pulse Width,

High VSWR

Status Indication Helix Current, RF Input Power, RF Output Power,

Reflected RF Power (all in digital format)

#### Mechanical

#### Connectors:

RF Input SMA (F)

RF Output WR90 Waveguide Flange

RF Forward Sample SMA (F)

Prime Power D38999/20FC4PN
Control Interface D38999/20WE2SN
Remote Control D38999/20FB5PN

Cooling Built-In (fans/heatsink assembly included)

Dimensions 12" x 9.65" x 4.9" (excluding connector/mounting

flange protrusions)

Weight 17.6 lb max.

#### Environmental

Operating Temperature -40 to +63° C, ambient air

Storage Temperature -55 to +85° C
Operating Altitude Up to 30000 feet

HumidityUp to 100% RH Non-CondensingVibration10 to 1000 Hz, 0.02g²/HzShock15g, 11 msec Half Saw Tooth

Specifications subject to change without notice.

# Reliability by Design®



#### 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 highpower TWT Amplifiers (TWTAs), microwave power modules (MPMs), transmitters and power supplies with modulators for radar, electronic countermeasures (ECM), data links, and communications 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 groundbased 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 52,100-square-foot facilities in Fremont, California. www.dBControl.com

