

dB-4175 TWT Amplifier



100W CW
30 - 40 GHz



The dB-4175 is a traveling wave tube amplifier (TWT) operating in the frequency range of 30 to 40 GHz. This TWT is a power amplifier that provides 100 Watts CW RF output power. The RF signal path consists of a solid state amplifier and a TWT. The power supply topology uses proprietary low-noise, high-efficiency designs to operate the RF signal path. This compact, forced-air cooled TWT is designed to operate in extreme military environments.

Features

- Millimeter-wave TWT
- 30 to 40 GHz, 100 W, CW
- Prime input voltage 270VDC
- Excellent reliability

Applications

- Electronic countermeasures (ECM)
- Electronic warfare (EW) simulation



dB-4175 Datasheet

dB-4175 TWT Amplifier Specifications

Electrical

Frequency Range	30 to 40 GHz
Output Power	100 Watts CW min.
Gain at Rated Power	50 dB min.
Harmonics	-10 dBC max.
Spurious	-50 dBc max.
Noise Power Density	-20 dBm/mHz max.
Input VSWR	2.0:1 max. (50 Ω Impedance)
Output VSWR	2.5:1 max.
Load VSWR	1.5:1 max. for full specification compliance
Prime Power Input	270 VDC
Power Consumption	900 Watts, max.
TWTA Protection	Helix Over-Current, Cathode Over-Voltage, Over-Temperature
Status/Indication	Equipment status, faults
Interface Control	Ethernet

Mechanical

Connectors:

RF Input	Type K, 2.9mm (F)
RF Output	WR-28 Waveguide
Prime Power	MS3112E14-5P
Dimensions	16.0" (L) x 6.0" (W) x 5.0" (H)
Weight	21.0 lbs.
Cooling	Forced-air cooling

Environmental

Operating Temperature	-40° C to +55° C
Storage Temperature	-54° C to +75° C
Operating Altitude	Up to 40,000 feet
Humidity	Up to 95% RH Non-Condensing

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 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



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