L3 communications
Electron Devices

M702
Pulse Power TWTA

Features:

- **Lightweight and compact**
- **Operates from +28 VDC**
- **MIL/AERO Qualified**
- **Remote control and monitoring**
- **Automatic fault protection**

The M702 TWTA is designed for military airborne use and typically supplied fully integrated with an L5843 TWT, thereby forming a self-contained pulsed microwave amplifier operating over a 6.0 to 17.0 GHz band. It can be optimized for narrow band radar or data link applications.

The M702 is designed with digital controls, status signals, analog monitoring signals, and has extensive fault protection. DS7020405

Electrical

Prime Power	+28 VDC (per MIL-STD-704B 24 VDC min.)
Power Consumption	380W max. at 28 Vdc
Output Power (to TWT)	300 Watts max
Filament Voltage	-6.3 VDC
Filament Current	1.7 Amps typical
Warm-Up Time	3 minutes maximum
Cathode Voltage	-5.8 to -6.7 kV, adjustable
Beam Current	660 mA typical
Helix Current	100 mA typical
Collector Voltage	67% of cathode typical
Collector Current	560 mA typical
Grid Drive Voltage	40 to 110 Volts, adjustable
Grid Bias Off Voltage	-105 Volts typical
Pulse Width	500 nsec to 20 µsec
Pulse Repetition Frequency	50 KHz max
Burst	100 KHz max
Duty Cycle	5% max
Modulator Output Rise Time	15 nsec max
Modulator Output Fall Time	25 nsec max
Acquisition (TTL to RF) Time	70 nsec max

Interface

Controls	Standby/Operate, Pulse
Status	Standby/Operate, Fault
Monitors	Cathode Voltage, Helix Current, Beam Current

Protection

TWT Arcing	Excess Duty Cycle
Pulse Width	Helix Current
Beam Current	Prime Power Current
Cathode Voltage	Power Supply Temperature
Prime Power Voltage	TWT Temperature

Mechanical

Dimensions TWT	11.5 x 1.5 x 1.7 inches
Power Supply	12 x 3 x 4 inches
Weight TWT	2.3 lbs
Power Supply	8.5 lbs
Cooling	Conduction
RF Connector	SMA
RF Output Connector	TNC

Environment

Temperature	-40°C to +85°C
Altitude	25K feet
Vibration	2g's, 5 to 2000 Hz
Humidity	95% RH, with condensation