



## 250T6G18

- M1 through M7
- 250 Watts CW
- 6GHz–18GHz

### Features

The Model 250T6G18 is a self-contained, forced-air-cooled, broadband traveling wave tube (TWT) microwave amplifier designed for applications where instantaneous bandwidth and high gain are required. A reliable 300 watt TWT provides a conservative 250 watts minimum at the amplifier output flange. Stated power specifications are at the fundamental frequency.

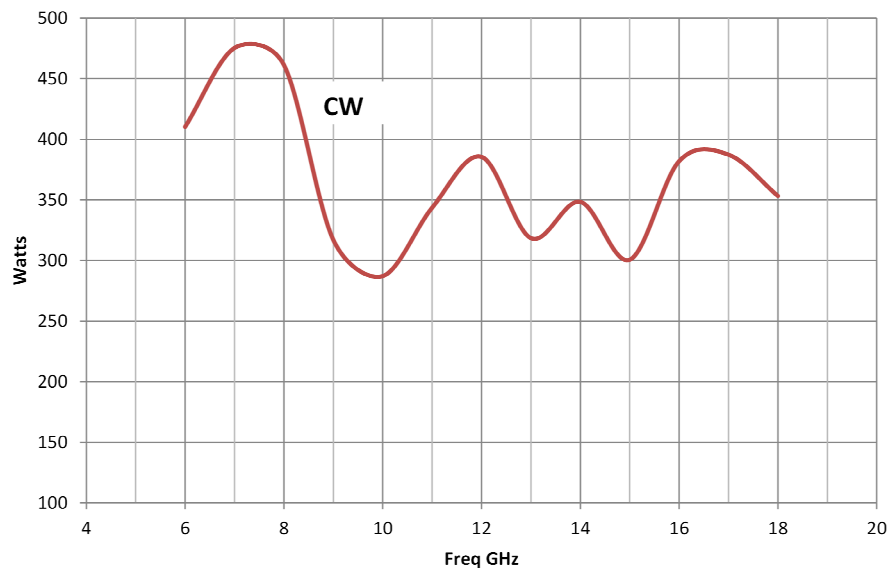
The amplifier's front panel digital display shows forward and reflected output plus extensive system status information accessed through a series of menus via soft keys. Status indicators include power on, warm-up, standby, operate, faults, excess reflected power warning and remote. Standard features include a built-in IEEE-488 (GPIB) interface, 0 dBm input, VSWR protection, gain control, RF output sample port, plus monitoring of TWT helix current, cathode voltage, collector voltage, external video pulsing, heater current, heater voltage, baseplate temperature and cabinet temperature.

Modular design of the power supply and RF components allow for easy access and repair. Use of a switching mode power supply results in significant weight reduction. The external video pulsing feature reduces prime power use for pulse applications.

Housed in a stylish contemporary cabinet. This unit is designed for benchtop use, but can be removed from the cabinet for rack mounting. The Model 250T6G18 provides readily available RF power for a variety of applications in Test and Measurement, (including EMC RF susceptibility testing), Industrial and University Research and Development, and Service applications. See Model Configuration for package alternatives and other special features.

The export classification for this equipment is EAR99. These commodities, technology or software are controlled for export in accordance with the U.S. Export Administration Regulations. Diversion contrary to U.S. law is prohibited.

MODEL 250T6G18 TYPICAL POWER OUTPUT



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## Specifications

### POWER (fundamental), CW @ OUTPUT FLANGE:

Nominal 300 watts  
 Minimum 250 watts

**FLATNESS:** ±6 dB maximum at rated power

**FREQUENCY RESPONSE:** 6-18 GHz instantaneously

**INPUT FOR RATED OUTPUT:** 1.0 milliwatt maximum

**GAIN (at maximum setting):** 54 dB minimum

**GAIN ADJUSTMENT (continuous range):** 35 dB minimum

**INPUT IMPEDANCE:** 50 ohms, VSWR 2.5:1 maximum

**OUTPUT IMPEDANCE:** 50 ohms, VSWR 2.5:1 typical

**MISMATCH TOLERANCE:** Output power fold back protection at reflected power exceeding 50 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

**MODULATION CAPABILITY:** Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal. AM peak envelope power limited to specified power.

### VIDEO PULSE CAPABILITY:

Pulse Width 1.0 microseconds min  
 Pulse Rate (PRF) 100kHz max  
 RF Rise and Fall 30 ns max (10% to 90%)  
 Delay 300 ns max from pulse input to RF 90%  
 Pulse width distortion ±30 ns max (50% points of output pulse width compared to 50% points of input pulse width)

### NOISE POWER DENSITY:

(pulse on) Minus 65 dBm/Hz (maximum), Minus 70 dBm/Hz (typical)  
 (pulse off) Minus 140 dBm/Hz (typical)

### HARMONIC DISTORTION:

Minus 5 dBc max., minus 8 dBc typ.

**PRIMARY POWER:** 190-260 VAC, 50/60 Hz single phase, 2.0 KVA maximum

### CONNECTORS:

RF input Type N female on rear panel  
 RF output Type WRD –650 waveguide flange on rear panel  
 RF output sample port Type N female on rear panel  
 GPIB IEEE-488 (f) on rear panel  
 Interlock DB-15 (f) on rear panel  
 Video BNC-female on rear panel

**COOLING:** Forced air (self contained fans), air entry and exit in rear.

**WEIGHT:** 53 kg, 115 lbs

**SIZE (W x H x D):** 50.3 x 29.7 x 68.5 cm, 19.8 x 11.7 x 27 in

**EXPORT CLASSIFICATION:** EAR99

## Model Configurations

**E** May select an alternative from the following [E1C or (E1C and E2S) and/or E3H]:

**E1C Cabinet:** without outer enclosure, size 48.3 x 26.7 x 63.5 cm, 19 x 10.5 x 25 in. Subtract approximately 14 kg (30 lbs), for removal of outer enclosure.

**E2S Slides:** slides installed; add approximately 2kg (5 lbs).

**E3H Handles:** Front handles installed.

**S** May select a special feature (extra cost) [S1R or S2F]

**S1R** Reflected sample port on rear panel, type N female connector.

**S2F** RF Input, RF output, and RF Output Sample Port connectors on front panel

Model Number	Features
<b>250T6G18</b>	<b>E</b> Base model
<b>M1</b>	E1C
<b>M2</b>	E3H
<b>M3</b>	E1C & E3H
<b>M4</b>	E1C & E2S
<b>M5</b>	E1C & E2S & E3H
<b>M6</b>	S1R
<b>M7</b>	S2F

Model number example: Model 250T6G18M2 would have option E3H front handles installed.