



Model 300T7z5G18
M1 through M8
300 Watts CW
7.5GHz–18GHz

The Model 300T7z5G18 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 TWT provides a conservative 300 watts minimum at the amplifier output flange over most of the frequency range. Stated power specifications are at the fundamental frequency.

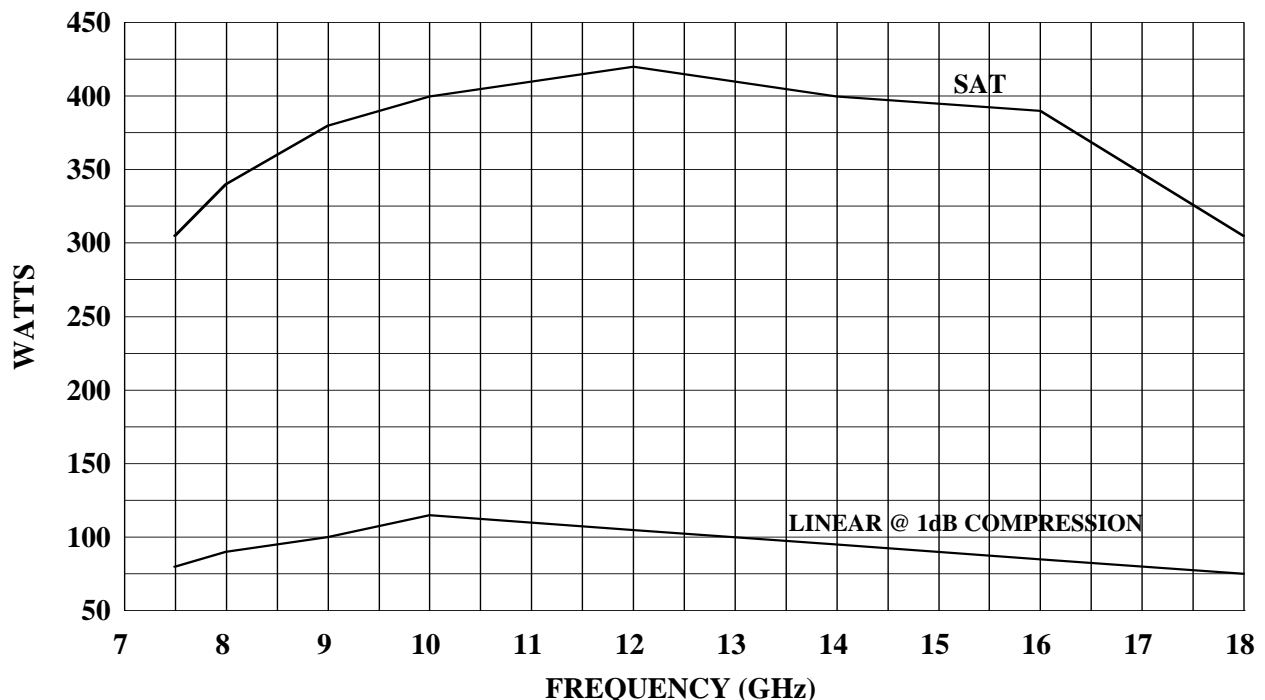
The amplifier's front panel digital display shows forward and reflected output plus extensive system status information accessed through a series of menus via soft keys. Status indicators include power on, warm-up, standby, operate, faults, excess reflected power warning and remote. Standard features include a built-in IEEE-488 (GPIB) interface, 0 dBm input, VSWR protection, gain control, RF output sample port, auto sleep, 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, the unit is designed for bench top use, but can be removed from the cabinet for rack mounting. The Model 300T7z5G18 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 special features.

300T7z5G18 TYPICAL POWER OUTPUT



SPECIFICATIONS, MODEL 300T7z5G18

POWER (fundamental), CW @ OUTPUT FLANGE

Nominal	350 watts
Minimum	285 watts 7.5–8GHz, 300 watts 8–18GHz
Linear @ 1dB Compression	75 watts minimum

FLATNESS±12 dB maximum, equalized for ±5 dB maximum at rated power

FREQUENCY RESPONSE7.5-18 GHz instantaneously

INPUT FOR RATED OUTPUT 1.0 milliwatt maximum

GAIN (at maximum setting)55 dB minimum

GAIN ADJUSTMENT (continuous range).....35 dB minimum

INPUT IMPEDANCE..... 50 ohms, VSWR 2.0:1 maximum

OUTPUT IMPEDANCE50 ohms, VSWR 2.5:1 typical

MISMATCH TOLERANCE..... Output power fold back protection at reflected power exceeding 60 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.....	0.5 microseconds min
Pulse Rate (PRF).....	100 kHz 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 2 dBc max., minus 5 dBc typ.

PRIMARY POWER 190-260 VAC, 50/60 Hz single phase, 2 KVA maximum

CONNECTORS

RF input	Type N precision female on rear panel
RF output	Type WRD –750D24 waveguide flange on rear panel
RF output sample port	Type N precision 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.

SIZE (W x H x D).....50.3 x 31 x 68.6 cm, 19.8 x 12 x 27 in

WEIGHT (approximate)52 kg, 115 lb

MODEL CONFIGURATIONS Model 300T7z5G18

- E** **Package Alternatives.** 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 (6U) x 68.6 cm, 19 x 10.5 (6U) x 27 in. Subtract approximately 13 kg, 30 lbs, for removal of outer enclosure.
- E2C** **Cabinet:** without outer enclosure, low profile, size 48.3 x 22.2 (5U) x 68.6 cm, 19 x 8.75 (5U) x 27 in.
- E2S** **Slides:** slides installed, add approximately 5 lbs, 2 kg.
- E3H** **Handles:** Front handles installed.
- S** **Special Features:** May select a special feature (extra cost) [S1R]
- S1R** Reflected sample port on rear panel, type N precision female connector. Forward and reflected sample port calibration data supplied on disk in Excel format at 51 points, evenly spaced over the specified frequency range.
- S2C** Ethernet Interface (removes IEEE-488 interface), RJ-45 on rear panel
- S2P** Forward and reflected sample ports on rear panel (Type N Precision), -50 dB below output (nominal)

Model Number	E	Features	S
300T7z5G18		Base model	
M1		E1C	
M2		E3H	
M3		E1C & E3H	
M4		E1C & E2S	
M5		E1C & E2S & E3H	
M6		Base model	S1R
M7		E1C	S1R
M8		E1C & E2S & E3H	S1R

Model number example: Model 300T7z5G18M2 would have option E3H front handles installed.

NOTE: Other M-versions are available. Contact factory for available configurations.