Model 750TP1G3/200T,
M1 through M5
750/500 Watts Pulse
Dual Band 1.15GHz–1.45GHz, 2.7GHz–3.1GHz
200 Watts CW, 1.0GHz–2.0GHz

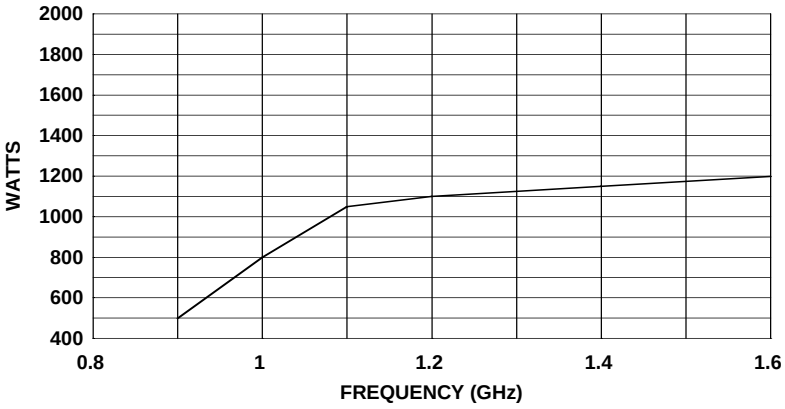
The Model 750TP1G3/200T is a self contained, forced air cooled, dual band traveling wave tube (TWT) microwave amplifier designed primarily for pulse applications at low to moderate duty factors where dual band operation and high gain are required. A 200 watt CW mode is included. A reliable TWT provides a conservative 750/500 watts minimum peak RF pulse power at the amplifier output connector. Stated power specifications are at the fundamental frequency.

The amplifier's front panel digital display shows forward and reflected average power output or forward and reflected peak power, 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 average or peak reflected power warning and remote. Standard features include a built-in IEEE-488 (GPIB) interface, 0 dBm input, TTL Gating, VSWR protection, gain control, RF output sample port, auto sleep, plus monitoring of TWT helix current, cathode voltage, collector voltage, 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.

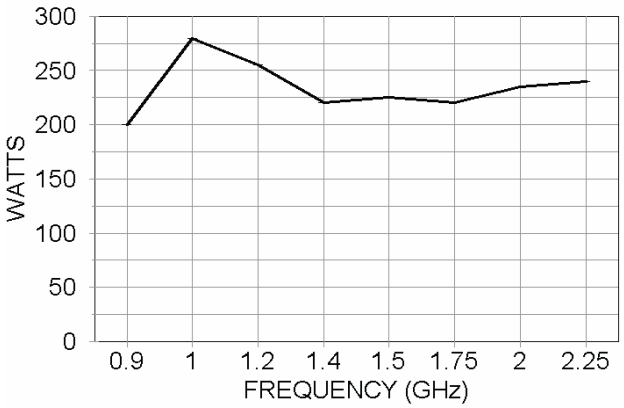
Housed in a stylish contemporary cabinet, the Model 750TP1G3/200T provides readily available pulsed and CW RF power (not simultaneously) for a variety of applications in Test and Measurement, (including EMC RF pulse susceptibility testing), Industrial and University Research and Development, and Service applications.

750TP1G3/200T Typical Power Output

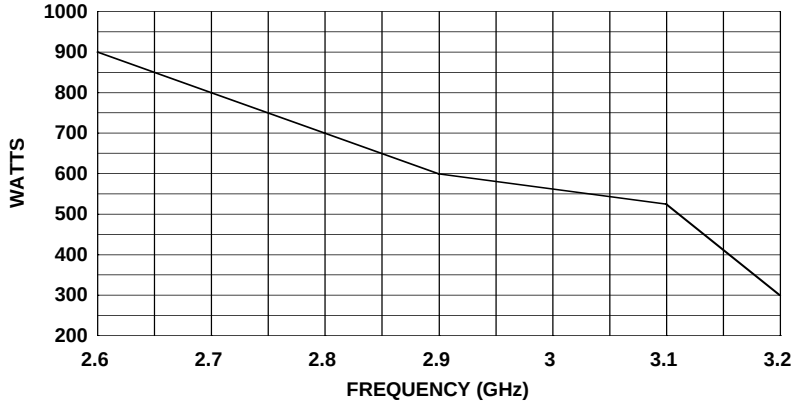
Pulse Power Mode



CW Power Mode



Pulse Power Mode



SPECIFICATIONS, MODEL 750TP1G3/200T

POWER (fundamental) @ OUTPUT CONNECTOR	PULSE POWER MODE PEAK PULSE	CW POWER MODE CW
Nominal	1400 watts 1.15–1.45GHz (low band)	242 watts 1–2GHz
Minimum	750 watts 1.15–1.45GHz (low band)	200 watts 1–2GHz
Nominal	525 watts 2.7–3.1GHz (high band)	
Minimum	500 watts 2.7–3.1GHz (high band)	
FLATNESS	±10dB maximum, ±7dB maximum at rated power within each band	±12dB maximum
FREQUENCY RESPONSE	1.15–1.45GHz/2.7–3.1GHz instantaneously	1–2GHz instantaneously
INPUT FOR RATED OUTPUT	1.0 milliwatt maximum	
GAIN (at maximum setting)	58 dB minimum low band 57 dB minimum high band	53 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 maximum	
MISMATCH TOLERANCE	Output pulse width foldback protection at reflected power exceeding: 500 Watts Peak	Output power foldback protection at reflected power exceeding: 40 Watts CW
	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.	
PULSE CAPABILITY		
Pulse Width	0.07–30 microseconds	0.07 microseconds minimum
Pulse Rate (PRF)	40kHz maximum	
Duty Cycle	6% maximum	to 100%
RF Rise and Fall	30 ns max (10% to 90%)	
Delay	300 ns max from pulse input to RF90%	
Pulse Width Distortion	±30 ns max (50% point of output pulse width compared to 50% points of input pulse width)	
Pulse Off Isolation	80 dB minimum, 90 dB typical	73 dB minimum, 83 dB typical
Pulse Input	TTL level, 50 ohm nominal termination	
NOISE POWER DENSITY (pulse on)	Minus 85 dBm/Hz (maximum), Minus 90 dBm/Hz(typical)	
(pulse off)	Minus 140 dBm/Hz (typical)	
HARMONIC DISTORTION	0 dBc maximum, Minus 5 dBc typical	
	Minus 15 dBc typical (high band)	
PRIMARY POWER	190-260 VAC, single phase; 50/60 Hz; 3.3 KVA maximum	
CONNECTORS		
RF input	Type N female on rear panel	
RF output	Type N female on rear panel	
RF output forward sample port	Type N female on rear panel	
Pulse input	Type BNC female on rear panel	
GPIB	IEEE-488 female on rear panel	
Interlock	DB-15 female on rear panel	
COOLING	Forced air (self contained fans), air entry and exit in rear.	
WEIGHT & SIZE	See Model Configurations.	

MODEL CONFIGURATION

E Must select one enclosure type from the following [E1 or E2 or E2S]:

E1 removable outer enclosure, size 19.8 x 10 x 35 in., 50.3 x 25.4 x 89 cm; add 14kg (30 lbs) to weight of E2.

E2 without outer enclosure, size 19 x 8.75 x 35 in, 48.3 x 22.2 x 89 cm; weight 64kg (140 lbs).

E2S without outer enclosure; slides and front handles installed for rack mounting; size same as E2, add 3kg (5 lbs) to weight of E2.

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

S1R Reflected sample port on rear panel, type N 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.

Model Number	**Features**	
750TP1G3/200T	**E**	**S**
750TP1G3/200T	E1	-
750TP1G3/200TM1	E2	
750TP1G3/200TM2	E2S	-
750TP1G3/200TM3	E1	S1R
750TP1G3/200TM4	E2	S1R
750TP1G3/200TM5	E2S	S1R