

Model 100T40G50
100 Watts CW
40GHz–50GHz

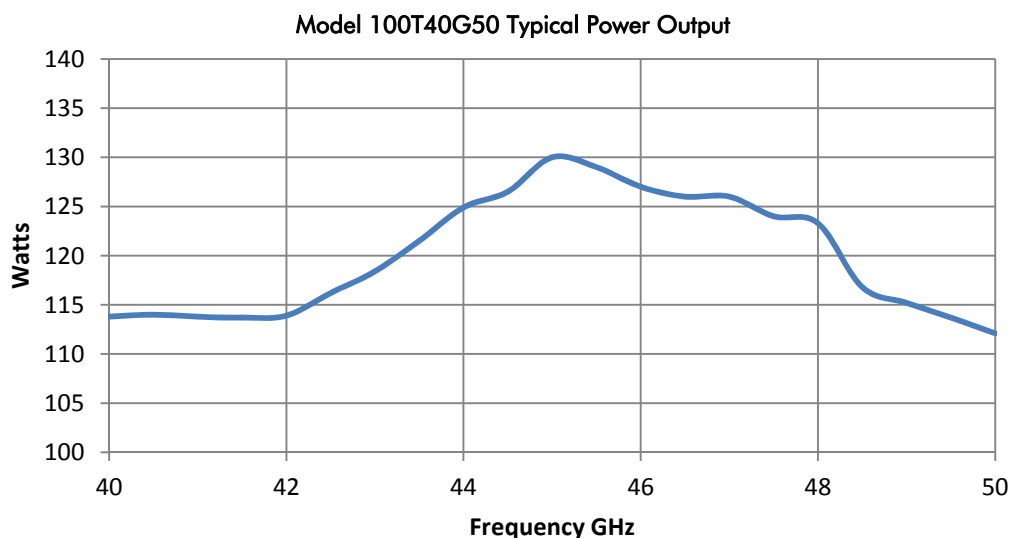
The Model 100T40G50 is a self-contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for applications where instantaneous bandwidth and high gain are required. A reliable TWT subsystem provides a conservative 100 watts minimum, measured at the amplifier output 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 ports, 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. The rated power is developed by efficiently power combining the outputs from two microwave tubes that are factory-matched in gain and phase.

Housed in a stylish contemporary cabinet, the unit is designed for benchtop use but can be removed from the cabinet for rack mounting. The Model 100T40G50 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.

The export classification for this equipment is ITAR. The export of this equipment is governed by the U.S. International Traffic in Arms Regulations (ITAR). This equipment must not be transferred to a foreign person/entity without proper authorization of the U.S. Government. Violations may result in administrative, civil or criminal penalties.



SPECIFICATIONS, MODEL 100T40G50

POWER (fundamental), CW@OUTPUT FLANGE	
Minimum	100 watts
FLATNESS.....	±8 dB maximum at rated power
FREQUENCY RESPONSE	40–50 GHz instantaneously
INPUT FOR RATED OUTPUT	1.0 milliwatt maximum
GAIN ADJUSTMENT (continuous range).....	35 dB minimum
INPUT IMPEDANCE.....	50 ohms, VSWR 2.0:1 maximum
OUTPUT IMPEDANCE	50 ohms, VSWR 2.5:1 typical
MODULATION CAPABILITY	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal. AM peak envelope power limited to specified power.
HARMONIC DISTORTION	Minus 22 dBc typical
SPURIOUS RESPONSE (non-harmonic).....	Minus 40 dBc typical (excluding harmonics)
PRIMARY POWER	190-260 VAC 50/60 Hz single phase 1.5 KVA maximum
CONNECTORS	
RF input	2.4mm female on front panel
RF output	Type WR-22 waveguide flange on rear panel, all tapped
RF output sample ports (forward and reflected)	2.4mm female on rear panel
Remote Interface	IEEE-488
Interlock	DB-15 (f) on rear panel
SIZE (W x H x D).....	50.3 x 43 x 76 cm (19.8 x 17 x 30 in.)
WEIGHT (approximate)	82 kg (180 lb)
COOLING.....	Forced air (self-contained fans), air entry and exit in rear
TEMPERATURE	0-50°C operating, (derate 2°C per 1000 feet above 3000 ft)
HUMIDITY	To 95% RH without condensation
EXPORT CLASSIFICATION	ITAR

MODEL CONFIGURATIONS

E	Package Alternatives. May select an alternative from the following [E1C or (E1C and E2S) and/or E3H]:
E1C	Cabinet: Without outer enclosure (for rack mounting), size 49 x 40 (9U) x 76 cm, 19 x 15.75 (9U) x 30 in. Subtract approximately 14 kg, 30 lbs, for removal of outer enclosure.
E2S	Slides: slides installed, add approximately 5 lbs, 2 kg.
E3H	Handles: Front handles installed.

Model Number	Features E
100T40G50	Base model
M1	E1C
M2	E3H
M3	E1C & E3H
M4	E1C & E2S
M5	E1C & E2S & E3H

Model number example: Model 100T40G50M2 would have option E3H front handles installed.