

Model 40T4G18
40 Watts CW
4.2-18GHz

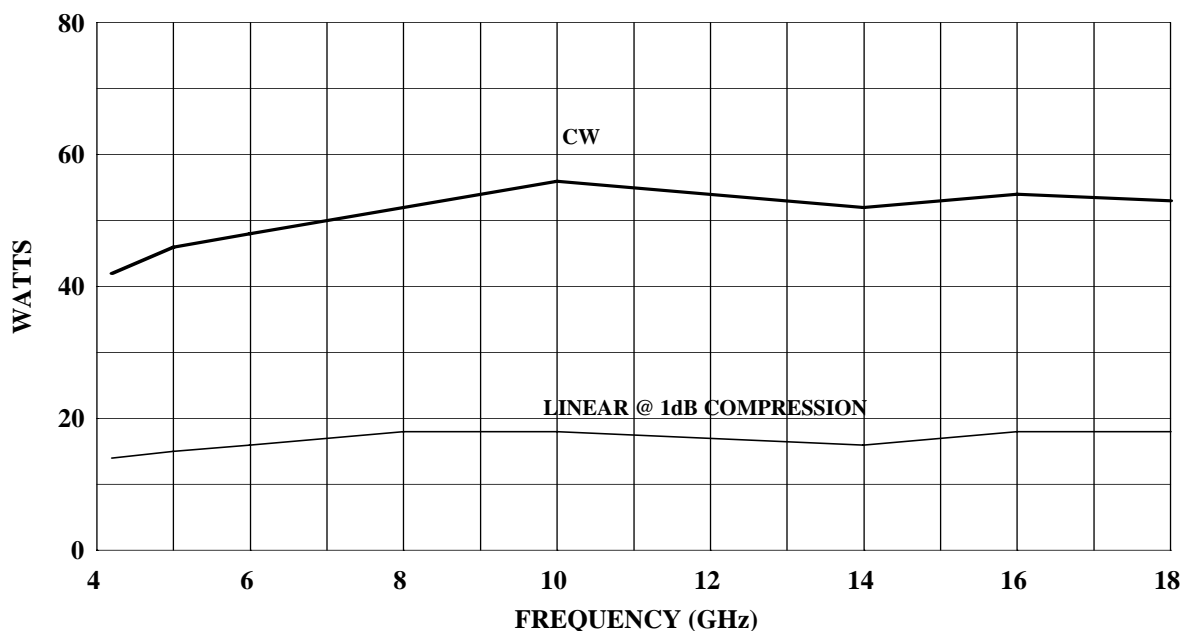
The Model 40T4G18 is a self contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for applications where low harmonic content is required in sub-band ranges and where wide instantaneous bandwidth, high gain and moderate power output are required. A reliable TWT provides a conservative 40 watts minimum at the amplifier output connector, 30 watts in low harmonic modes. 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, 0dBm input, 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, this unit is designed for benchtop use, but can be removed from the cabinet for rack mounting. The Model 40T4G18 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 packaging alternatives.

40T4G18 TYPICAL POWER OUTPUT



SPECIFICATIONS, MODEL 40T4G18

POWER (fundamental), CW, @ OUTPUT CONNECTOR

Nominal	50 watts
Minimum	40 watts, 30 watts in low harmonic mode
Linear @ 1dB Compression	10 watts minimum

FLATNESS..... ± 10 dB maximum, 4.2 - 18 GHz

FREQUENCY RESPONSE..... 4.2-18 GHz instantaneously or one of three selectable sub-bands in low harmonic mode

INPUT FOR RATED OUTPUT..... 1.0 milliwatt maximum

GAIN (at maximum setting)..... 46 dB minimum

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

MISMATCH TOLERANCE..... Output power foldback protection at reflected power exceeding 20 watts (13 watts in low harmonic mode). 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.

NOISE POWER DENSITY..... Minus 80 dBm/Hz (maximum)
Minus 90 dBm/Hz (typical)

HARMONIC DISTORTION (in user selectable sub-band at 30 watts)
Minus 20dBc maximum,
Minus 30dBc typical

HARMONIC DISTORTION (full band at 40 watts)..... 4.2-4.5 GHz; Plus 2.5 dBc maximum, Minus 0 dBc typical
4.5-6 GHz; Plus 0.5 dBc maximum, Minus 1 dBc typical
6-8 GHz; Minus 4 dBc maximum, Minus 6 dBc typical
8-10 GHz; Minus 6 dBc maximum, Minus 9 dBc typical
Above 10 GHz; Minus 10 dBc maximum, Minus 15 dBc typical

PRIMARY POWER..... 99-260 VAC
50/60 Hz single phase
800 VA maximum

CONNECTORS

RF input	Type N precision female on rear panel
RF output	Type N precision female on rear panel
RF output sample port	Type N precision female on rear panel
GPIB.....	IEEE-488 (f)
Interlock	DB-15 female on rear panel

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

SIZE (W x H x D)..... 19.8 x 10 x 27 in, 50.3 x 26 x 68.6 cm

WEIGHT (approximate)..... 85 lbs, 39 kg

CONFIGURATIONS AND OPTIONS

	OPTION	DESCRIPTION
package alternatives [1 or (1 and 2) and/or 3]	1	Without outer enclosure, size 19.0 x 8.75 x 27 in., 48.3 x 23 x 68.6 cm. Subtract approximately 20 lbs, 9 kg from weight for removal of outer enclosure.
	2	Slides installed, add approximately 5 lbs, 2 kg.
	3	Front pull handles installed.

OPTION COMPATIBILITY MATRIX

Selected Option	1	2	3	4	5	6	7	8	9	10
1	X	X	X	-	-	-	-	-	-	-
2	R	X	X	-	-	-	-	-	-	-
3	X	X	X	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-

Select options from the column on the left. Use this matrix to determine if the options chosen can be combined. An **X** indicates option combination is available. A hyphen (-) indicates option combination is not available. An **R** indicates that, in order to use the option in the left column, the option indicated at the top must also be selected. For combinations of multiple options check compatibility of each option with all others by progressing down the left hand columns.