

rf/microwave instrumentation

Model 105T1G18A, M1, M2, M3, M4 10 Watts CW 0.8-18 GHz

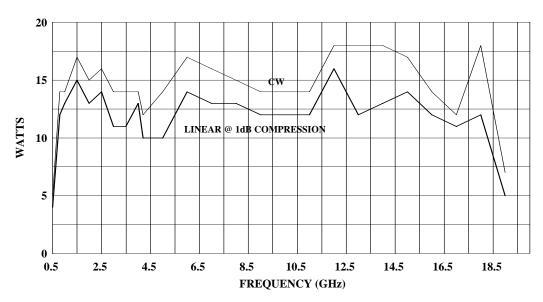
The Model 10ST1G18A is a self contained, forced air cooled, broadband hybrid solid state and traveling wave tube (TWT) microwave amplifier designed for applications where low harmonic content is required in sub-band ranges and where high gain and moderate power output are required. A reliable amplifier system that provides a conservative 10 watts minimum at the amplifier output connector with low harmonics. 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, OdBm input, gain control, RF output sample port, VSWR protection for the TWT only, plus monitoring of TWT helix current, cathode voltage, collector voltage, heater current, heater voltage, baseplate temperature and cabinet temperature. The appropriate sub-band is user selected from either the front panel menu or the GPIB interface. Modular design of the power supplies and RF components allow for easy access and repair. Use of switch mode power supplies results in significant weight reduction.

Housed in a stylish contemporary cabinet this unit is designed for bench top use but can be removed from the cabinet for rack mounting. The Model 10ST1G18A 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.

10ST1G18A TYPICAL POWER OUTPUT



SPECIFICATIONS Model 10ST1G18A

POWER (fundamental), CW, @ OUTPUT CONNECTOR Nominal Minimum Linear @ 1Db Compression	15 watts 10 watts
FLATNESS	±3 Db maximum, 0.8 – 4.2 GHz ±9 Db maximum, 4.2 – 18 GHz
FREQUENCY RESPONSE	0.8 – 18 GHz in one of four selectable sub-bands
INPUT FOR RATED OUTPUT	1.0 milliwatt maximum
GAIN (at maximum setting)	40 Db minimum
GAIN ADJUSTMENT (continuous range)	10 Db minimum (0.8 – 4.2 GHz) 35 Db minimum (4.2 – 18 GHz)
INPUT IMPEDANCE	50 ohms, VSWR 2.5:1 maximum
OUTPUT IMPEDANCE	50 ohms, VSWR 2.5:1 typical
MISMATCH TOLERANCE	100% of rated power without foldback from 0.8 – 4.2 GHz. Output power foldback protection above 4.2 GHz at reflected power exceeding 10 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.
NOISE POWER DENSITY (from 4.2 – 18 GHz)	Minus 80 dBm/Hz (maximum) Minus 90 dBm/Hz (typical)
HARMONIC DISTORTION (in user selectable sub-band	(at 10 watts) Minus 20dBc maximum, Minus 30dBc typical
PRIMARY POWER	99-260 VAC 50/60 Hz single phase 700 VA maximum
CONNECTORS RF input RF output RF output sample port GPIB Interlock COOLING	Type N precision female on rear panel Type N precision female on rear panel IEEE-488 female

MODEL CONFIGURATION

E	Must select one enclosure type from the following [E1 or E2 or E2S]:
E1	Removable outer enclosure, size 19.8 x 11.7 x
	27 in., 50.3 x 29.7 x 68.6 cm. Add approximately 30
	lb, 14 kg to weight of E2.
E2	Without outer enclosure size 19.0 x 10.5 x 27 in., 48.3
	x 26.7 x 68.6 cm. Weight approximately 90 lbs., 41
	kg.
E2S	Enclosure removed for rack mounting: slides and front
	handles installed, size same as E2. Add approximately
	5 lbs, 2 kg to weight of E2.
S	May select special features (extra cost) from the
	following: [S1F]:
S1F	Front panel connector, RF input, RF output and RF
	output sample port connectors on front panel, not on
	rear panel.

Model	Features	
	Е	S
10ST1G18A	E1	-
10ST1G18AM1	E2	-
10ST1G18AM2	E2S	-
10ST1G18AM3	E1	S1F
10ST1G18AM4	E2	S1F