

THOMSON-CSF

TRIODE TH 3T1100

The tube TH3T1100 is a triode emission with cooling by natural or forced ventilation, individual packages that can operate at full load up to a frequency of 60 MHz and has reduced load up to 120 MHz. Its anode, which has large thermal inertia, is cooled by radiation. It can dissipate a maximum power of 800W.

This tube has a particularly robust structure, especially suitable for equipment like industrial generators of high frequency.

GENERAL CHARACTERISTICS

ELECTRICAL

Nature of the Cathode	Thoriated Tungsten
Heating Mode	Direct
Heating Voltage	7.5 +/- 5% V
Heating Current, Approx.	18 A
Current not to exceed during the rise in voltage	80 A
Interelectrode Capacitance, Approx. :	
- Cathode-Grid (Cin)	17 pF
- Grid-Anode (Cgp)	11 pF
- Anode-Cathode (Cout)	0.6 pF
Amplification Factor (Average)	20
Slope (Ia=0.4 A)	14 mA/V

MECHANICAL

Operating Position	Vertical -- Anode output at the top or bottom
Cooling of the anode	By Radiation
Maximum temperature of the envelope	250 deg C
Maximum temperature of outputs of electrodes	175 deg C
Cooling of the envelope during the average power dissipation of the anode :	
- Below 400 W	Natural Convection (1)
- Above 400 W	Forced Air : 1.5m ³ /mn
Net weight, Approx.	650 g
Dimensions	See drawing

- (1) The tube must be prepared in such a way that a free flow of air can be carried out by natural circulation around the ball and the latter maintained in a good state of cleanliness.

ACCESSOIRES

SUPPORT		
Reference		TH 16039
CONNECTION OF ANODE (2)		
Reference		TH 13308
FAN FOR OUTPUT OF ELECTRODES		
Reference		TH 13308

CONDITIONS OF EMPLOYMENT

CLASS C TELEGRAPHY – HF POWER AMPLIFIER

LIMITS OF USE VALUES

Continues Anode Voltage	5.0	kV
Continues Grid Voltage	-800	V
Peak Cathode Current	5.0	A
Continues Anode Current	700	mA
Continues Grid Current	180	mA
Anode Power Dissipation	0.8	kW
Anode Input Power	3.0	kW
Grid Power Dissipation	50	W
Frequency at Full Load	60	MHz

EXAMPLES OF OPERATION

Continues Anode Voltage	3.5	4.5	5.0	kV
Grid Bias Voltage	-300	-400	-500	V
Grid HF Peak Voltage	460	550	680	V
Continues Anode Current	585	520	600	mA
Continues Grid Current, Approx. ...	100	85	100	mA
Anode Input Power	2.05	2.35	3	kW
Anode Power Dissipation	0.55	0.55	0.6	kW
Power Output, Approx. (3)	1.5	1.8	2.4	kW

- (2) The flexible connection of anode must not be tensioned
- (3) Without taking into account the parts in the circuits.

AUTO-OSCILLATOR FOR INDUSTRIAL USE

LIMITS OF USE VALUES

Continues Anode Voltage	5.0	kV
Continues Grid Voltage	-800	V
Peak Cathode Current	5.0	A
Continues Anode Current	650	mA
Continues Grid Current	150	mA
Anode Input Power in the Steady State	2.7	kW
Anode Power Dissipation in the Steady State	0.8	kW
Peak Anode Power Dissipation in the Intermittent State (4)..	1.0	kW
Grid Power Dissipation	50	W
Frequency at Full Load	60	MHz

EXAMPLES OF OPERATION

	<u>Steady State</u>		<u>Intermittant State</u>	
Continues Anode Voltage	4	5	5.0	kV
Grid Bias Voltage	-350	-400	-450	V
Grid HF Peak Voltage	500	550	640	V
Continues Anode Current	510	520	650	mA
Continues Grid Current, Approx. ...	85	90	120	mA
Anode Input Power	2.05	2.6	3.25	kW
Anode Power Dissipation	0.5	0.5	0.65	kW
Power Output, Approx. (5)	1.5	2	2.5	kW
Performance	73	77	77	%

- (4) Maximum Integration Time: 10s
Maximum Working Rate (Duty Cycle): 50%
- (5) Without taking into account the losses in the circuits.