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CERAMIC HYDROGEN THYRATRON



DESCRIPTION

The 7782 is a unipotential cathode three element hydrogen thyatron of ceramic metal construction designed for use in compact modulators for high performance radars and for missile applications.

ELECTRICAL	Nom. Min. Max.			
	Heater Voltage	6.3	5.8	
Heater Current (At 6.3 Volts)	5.5	3.5	7.0	Amperes
Reservoir Voltage	6.3	5.8	6.8	Volts A.C.
Reservoir Current (At 6.3 Volts)	1.5	1.0	2.5	Amperes
Minimum Heating Time		3		Minutes

MECHANICAL

Mounting Position	Any
Dimensions	Per Outline
Cooling	See Note 6

MAXIMUM RATINGS

Max. Peak Anode Voltage, Forward	14.0	Kilovolts
Max. Peak Anode Voltage, Inverse (Note 1)	14.0	Kilovolts
Min. Anode Supply Voltage	0.3	Kilovolts D.C.
Max. Peak Anode Current	350.0	Amperes
Max. Average Anode Current	200.0	Milliamperes
Max. RMS Anode Current (Note 2)	5.0	Amperes A.C.
Max. eby x ibx x prr (Pb)	4.0×10^9	
Max. Anode Current, Rate of Rise	2000	Amps./u sec.
Peak Trigger Voltage (Note 3)	600	Volts
Max. Anode Delay Time (Note 4)	0.50	u second
Max. Anode Delay Time Drift	0.10	u second
Max. Time Jitter (Note 5)	.005	u second
Ambient Temperature	-50^0 to $+150^0$	C
Shock Rating	500	G.
Vibration	30	G.

*This tube was previously designated by the Type Number KU-71.

NOTE 1 The peak inverse voltage should not exceed 2.5 KV during the first 25 microseconds after the pulse.

NOTE 2 The root mean square anode current shall be computed as the square root of the product of the peak current and the average current.

NOTE 3 The driver pulse, measured at the tube socket with the thyatron grid disconnected should have the following characteristics:

- A. Voltage 175 Volts (Min.)
- B. Duration 2 Microseconds (At 70 Percent Points)
- C. Impedance 1500 Ohms (Max.).
- D. Time of Rise 0.5 Microsecond (Max.)

The limits of anode time delay and anode time jitter are based on the minimum trigger. Using the highest permissible trigger voltage and lowest trigger source impedance materially reduces these values below the limits specified.

NOTE 4 The time of anode delay is measured between the 26 percent point on the rising portion of the unloaded grid voltage pulse and the point at which evidence of anode conduction first appears on the loaded grid pulse.

NOTE 5 Time jitter is measured at the 50 percent point on the anode current pulse.

NOTE 6 It may be desirable to employ forced air cooling under conditions of high Pb number operations. A cooling air stream of 5 cfm may be directed into the anode cap.

Additional information for specific applications can be obtained from the:

Electron Tube Applications Section, ITT Electron Tube Division Post Office Box 100, Easton, Pennsylvania 18043

