



7620 Hydrogen Thyatron



The Penta 7620 is a unipotential cathode three element hydrogen thyatron equipped with a ceramic envelope. The ruggedness and small size possible with ceramic construction suits this thyatron to the compact modulators of high performance radars.

GENERAL CHARACTERISTICS

Electrical	Nom.	Min.	Max.	
Heater Voltage.....	6.3	5.8	6.8	Volts AC
Heater Current.....	10.0	6.0	12.0	Amperes
Minimum Heating Time.....		5		Min.

Mechanical

Mounting Position.....	Any
Base	See Outline Drawing
Cooling (note 3)	
Dimension.....	See Outline

Maximum Ratings

Max. Peak Anode Voltage, forward	20.0	kV
Max. Peak Anode Voltage, inverse (note 4)		
Min. Anode Supply Voltage.....	1.0	kV DC
Max. Peak Anode Current	500	A
Max. Average Anode Current	500	mA
Max. RMS Anode Current (note 5)	8.0	AAC
Max. Pb (epy x ib x prr)	10.0 x 10 ⁹	
Peak Trigger Voltage (note 6)		
Max. Anode Delay Time (note 7)	0.5	μs
Max. Anode Delay Time Drift.....	0.1	μs
Max. Time Jitter (note 8).....	0.005	μs
Ambient Temp.....	-55 to +125	°C

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P E N T A L A B O R A T O R I E S

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ELECTRON TUBES FOR INDUSTRY



7620 HYDROGEN THYRATRON

Notes:

1. See outline drawing
2. Reservoir connected externally to cathode heater when tube installation is made in equipment.
3. Cooling of the anode is permissible
4. During the first 25 microseconds after conduction, the peak inverse anode voltage shall not exceed 5 kV.
5. The root mean square anode current shall be computed as the square root of the product of peak current and the average current.
6. The pulse produced by the driver circuit shall have the following characteristics when viewed at the tube socket with the tube grid disconnected.
 - A. Amplitude 200-500 Volts
 - B. Duration 2 Micro seconds (at 70% points)
 - C. Rise Time 0.5 Microseconds (max.)
 - D. Impedance 50-500 Ohms
7. The limits of anode 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.
8. The time of anode delay is measured between the 26 percent point on the rising portion of the unloaded grid voltage and the point at which anode conduction first evidences itself on the loaded grid pulse.
9. Time jitter is measured at the 50 percent portion on the anode current pulse.

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DIMENSIONAL DATA All Dimensions in Inches

