

**7322**  
**Ceramic**  
**Hydrogen Thyatron**



The 7322 is a 12.5 Megawatt, late ceramic hydrogen thyatron. The ceramic external anode design permits operation at unusually high power levels. The special features of the 7322 include a hydrogen reservoir to maintain optimum pressure and to insure long life.

**ELECTRICAL DATA, GENERAL**

	Nom.	Min.	Max.	
Heater Voltage -----	6.3	5.8	6.8	Volts AC
Heater Current (at 6.3 volts) -----		11.0	22.0	Amperes
Reservoir Voltage (Note 1) -----	6.3	5.8	6.8	Volts
Reservoir Current -----		3.0	6.0	Amperes
Minimum Heating Time -----		5		Minutes

**MECHANICAL DATA, GENERAL**

Mounting Position -----	Vertical, Base Down, Preferred
Base -----	Per Outline
Cooling -----	See Note 2
Dimensions -----	See Outline Drawing

**RATINGS**

Max. Peak Anode Voltage, Forward -----	25	Kilovolts
Max. Peak Anode Voltage, Inverse (Note 3) -----	25	Kilovolts
Min. Anode Supply Voltage -----	1.5	Kilovolts DC
Max. Peak Anode Current -----	1500	Amperes
Max. Average Anode Current (Note 2) -----	2.0	Amperes
Max. RMS Anode Current (Note 4) -----	40.0	Amperes AC
Max. epy x ib x prr (Note 2) -----	20.0 x 10 <sup>9</sup>	
Max. Anode Current Rate of Rise -----	5000	Amps./u sec.
Peak Trigger Voltage (Note 5) -----		



**P E N T A   L A B O R A T O R I E S**  
 9740 COZYCROFT AVENUE \* CHATSWORTH \* CALIFORNIA 91311  
 (800) 421-4219 \* (818) 882-3872 \* FAX: (818) 882-3968

**ELECTRON TUBES FOR INDUSTRY**



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Max. Peak Inverse Trigger Voltage -----	650	Volts
Max. Anode Delay Time (Note 6) -----	0.4	Microsecond
Max. Anode Delay Time Drift -----	0.25	Microsecond
Max. Time Jitter (Note 7) -----	0.005	Microsecond
Ambient Temperature -----	-55° to +125° C	

## Note 1

The optimum reservoir voltage for operation in accordance with standard test conditions is 6.3 V and should be held to within + 7.5%. Applications involving other operating conditions may necessitate the redetermination of the optimum reservoir voltage which will usually be within 1.0 V of the operation (1) setting. (Standard test conditions: 25 kv-1000 a-2.5 us-360 pps)

## Note 2

At average current levels exceeding 1.5 A when the maximum epy x ib x ppr exceeds  $10 \times 10^9$  forced air cooling is recommended. A simple 10 cfm blower direct at the anode and grid region is sufficient.

## Note 3

In pulsed operation, the peak inverse voltage, exclusive of a spike of .05 us maximum duration, shall not exceed 5.0 KV during the first 25 us following the anode pulse.

## Note 4

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

## Note 5

The driver pulse, measured at the tube socket (with thyatron grid disconnected) shall have the following characteristics: 550 volts minimum, 2500 volts maximum, tr-0.35 us maximum; grid pulse duration 2 us minimum; impedance of drive circuit 25 to 200 ohms.

## Note 6

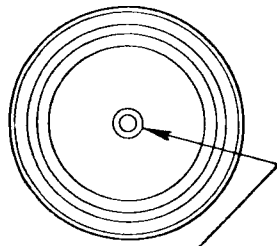
The time of anode delay is measured between the 26 percent point on the rising portion of the unloaded grid voltage pulse and the point at which anode conduction first evidences itself on the loaded grid pulse.

## Note 7

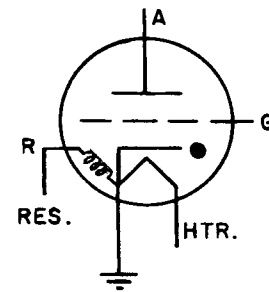
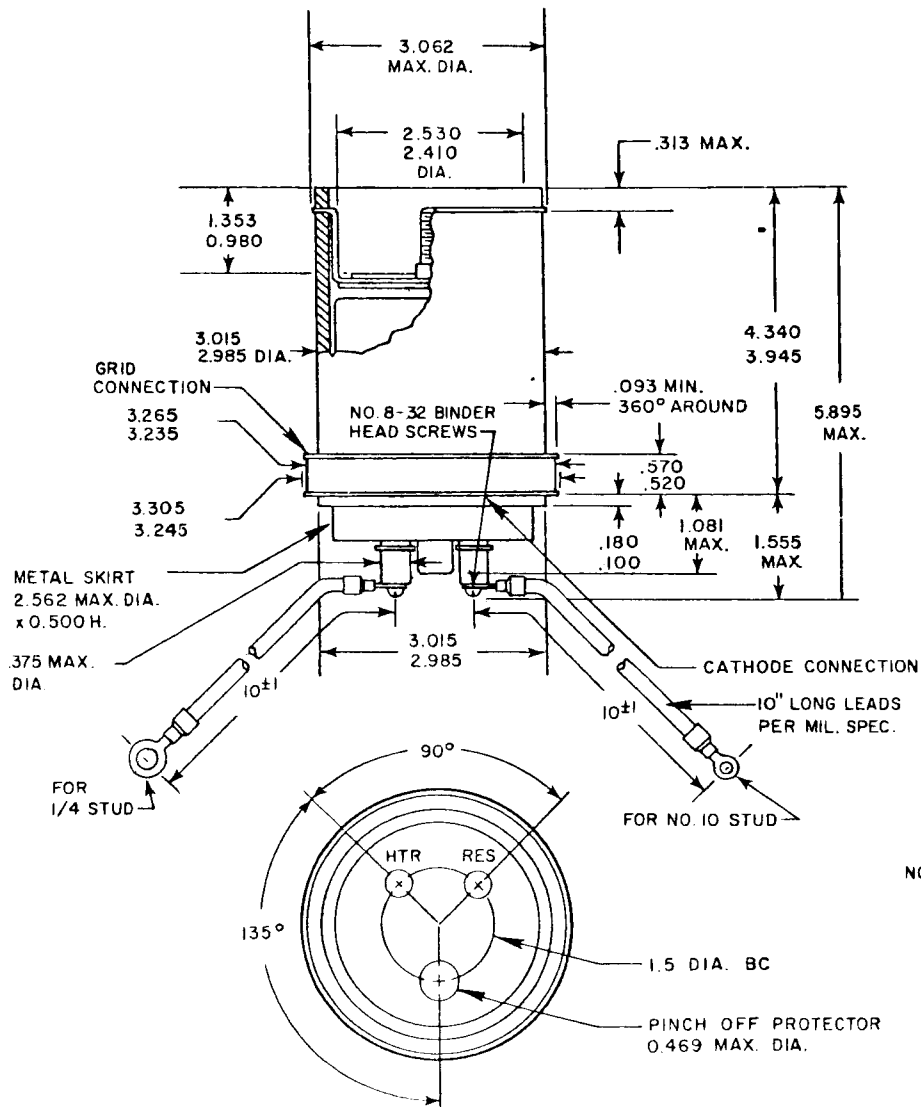
Time jitter is measure at the 50 percent point on the anode current pulse.



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1/4 x 20 UNC-2A x 5/8 MIN.  
THREAD LENGTH  
ANODE CONNECTOR



NOTE: USES X-254 (MT-4)  
MOUNTING SOCKET  
ASSEMBLY.  
FURNISHED SEPARATELY.