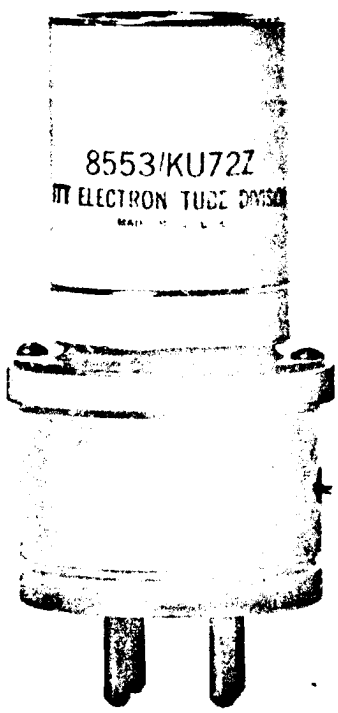
ELECTRON TUBE DIVISION
P.O. Box 100
Easton, Pennsylvania 18042
Telephone 215 252-7331

8553/KU-72Z

CERAMIC HYDROGEN THYRATRON



DESCRIPTION

The 8553/KU72Z is a unipotential cathode three element hydrogen thyratron equipped with a ceramic envelope. This electron tube features a hydrogen reservoir which is internally connected directly across the cathode heater supply.

This tube is a plug-in replacement for the 5C22 glass hydrogen thyratron. The ruggedness and small size possible with ceramic construction makes this tube suitable for use in the compact modulators of high performance radars.

ELECTRICAL DATA, GENERAL	Nom.	Min.	Max.	
Heater Voltage	6.3	5.8	6.8	Volts AC
Heater Current (at 6.3 volts)	7.8	6.0	10.0	Amperes
Minimum Heating Time		3		Minutes

MECHANICAL DATA, GENERAL	
Mounting Position	Any
Base	Per Outline Drwg.
Cooling (Note 3)	
Dimensions	Per Outline

RATINGS		
Max. Peak Anode Voltage, Forward	16.0	Kilovolts
Max. Peak Anode Voltage, Inverse (Note 4)	16.0	Kilovolts
Min. Anode Supply Voltage	0.5	Kilovolts DC
Max. Peak Anode Current	500	Amperes
Max. Average Anode Current	500	Milliamperes
Max. RMS Anode Current (Note 5)	6.5	Amperes AC
Max. epy x ib x prr (Pb) (Note 3)	7.0×10^9	
Max. Anode Current Rate of Rise	2000	Amps./u sec.
Peak Trigger Voltage (Note 6)		
Max. Anode Delay Time (Note 7)	0.4	Microsecond
Max. Anode Delay Time Drift	0.10	Microsecond
Max. Time Jitter (Note 8)	.005	Microsecond
Ambient Temperature	-55° to $+150^\circ$	C

This tube was previously designated by the type number KU-72Z

NOTE 1 See outline drawing.

NOTE 2 The reservoir heater is connected internally to the cathode heater.

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NOTE 3 Cooling of the anode is permissible and may be desirable under conditions of high Pb factor operation when 5 cfm of air may be directed into the anode cup. (A saturable reactor may also be required for operation at Pb - 7 x 10^9.)

NOTE 4 During the first 25 microseconds after conduction, the peak inverse anode voltage shall not exceed 5 KV.

NOTE 5 The root mean square anode current shall be computed as the square root of the product of peak current and the average current.

NOTE 6 The pulse produced by the driver circuit shall have the following characteristics when viewed at the 8553 socket with the tube grid disconnected.

A.	Amplitude	200-600 Volts
B.	Duration	2 Microseconds (at 70% points)
C.	Rate of Rise	1800 Volts/Microsecond (min.)
D.	Impedance	50-500 Ohms

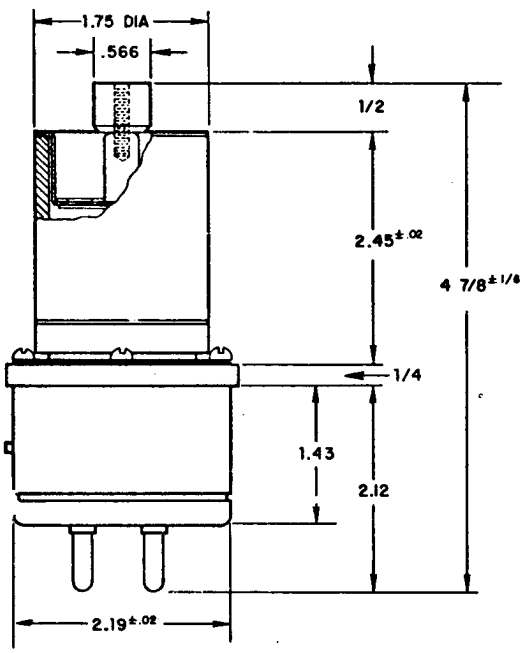
The limits of anode time delay and anode time jitter are based on the minimum trigger. Using the highest permissible trigger voltage and lowest trigger source impedance materially reduces these values below the limits specified.

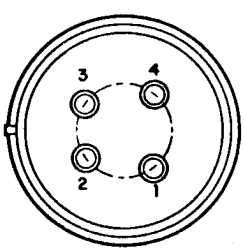
NOTE 7 The time of anode delay is measured between the 26 percent point on the rising portion of the unloaded grid voltage pulse and the point at which anode conduction first evidences itself on the loaded grid pulse.

NOTE 8 Time jitter is measured at the 50 percent point on the anode current pulse.

Additional information for specific applications can be obtained from the:

Electron Tube Applications Section, ITT Electron Tube Division, P. O. Box 100, Easton, Pennsylvania 18042





1 GRID
2 HEATER & CATHODE
3 HEATER
4 CATHODE
TOP CAP—ANODE

BASE A4-18

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