# engineering **TUBE DATA** Nov. 26, 1962

Components Division

KUTHE 8370 \*

from JEDEC release #3993,

## TENTATIVE

## DESCRIPTION:

\* THE 8370 IS A UNIPOTENTIAL CATHODE THREE ELEMENT HYDROGEN THYRATRON. AN ELECTRICALLY HEATED TITANIUM HYDRIDE RESERVOIR IS CONNECTED INTERNALLY across the cathode heaters. The 8370 was developed to meet the needs of THE MODULATOR DESIGNER FOR A LOW PLATE VOLTAGE THYRATRON FOR OPERATION AT A HIGH DUTY CYCLE.

ELECTRICAL DATA, GENERAL:	Nom.	MIN.	MAX.		
Heater Voltage Heater Current (at 6.3 volts) Minimum Heating Time	6.3	5•7 5•5	6.6 6.7	3	Volts AC Amperes Minutes
MECHANICAL DATA, GENERAL:					
Mounting Position Base Cooling (Note 1) Net Weight Dimensions				0.3	ANY PER OUTLINE POUNDS PER OUTLINE
RATINGS:					
MAX. PEAK ANODE VOLTAGE, FORWARD MAX. PEAK ANODE VOLTAGE, INVERSE MIN. ANODE SUPPLY VOLTAGE MAX. PEAK ANODE CURRENT MAX. AVERAGE ANODE CURRENT MAX. RMS ANODE CURRENT (NOTE 3) MAX. EPY X IB X PRR MAX. ANODE CURRENT RATE OF RISE PEAK TRIGGER VOLTAGE (NOTE 4) MAX. ANODE CELAY TIME (NOTE 5)		2)		5.0 5.0 0.3 85 100 2.9 2.5 1200	KILOVOLTS KILOVOLTS DC AMPERES MILLIAMPERES AMPERES AC x 109 AMPS / U SEC.
MAX. ANODE DELAY TIME (NOTE 5) MAX. ANODE DELAY TIME DRIFT MAX. TIME JITTER (NOTE 6) AMBIENT TEMPERATURE			-50° to	0.6 0.15 0.01	MICROSECOND MICROSECOND MICROSECOND C
AMOTENT TEMPERATURE			-70- 10	r 70°	C

\* This tube was previously designated by type number E-38.



#### Note 1:

COOLING OF THE ANODE LEAD IS PERMISSIBLE, BUT THERE SHALL BE NO AIR BLAST DIRECTLY ON THE BULB.

#### Note 2:

In pulsed operation, the PEAK INVERSE VOLTAGE, EXCLUSIVE OF SPIKE OF .05 US MAXIMUM DURATION, SHALL NOT EXCEED 2000 V DURING THE FIRST 25 US AFTER THE PULSE.

#### Note 3:

THE ROOT MEAN SQUARE ANODE CURRENT SHALL BE COMPUTED AS THE SQUARE ROOT OF THE PRODUCT OF PEAK CURRENT AND THE AVERAGE CURRENT.

#### NOTE 4:

Driver pulse, measured at tube socket with thyratron grid disconnected; egy = 175 V (min.), time of rise = 0.5 us (max.), grid pulse duration = 2 us (min.), impedance of driver circuit = 1500 ohms (max.).

#### **NOTE 5:**

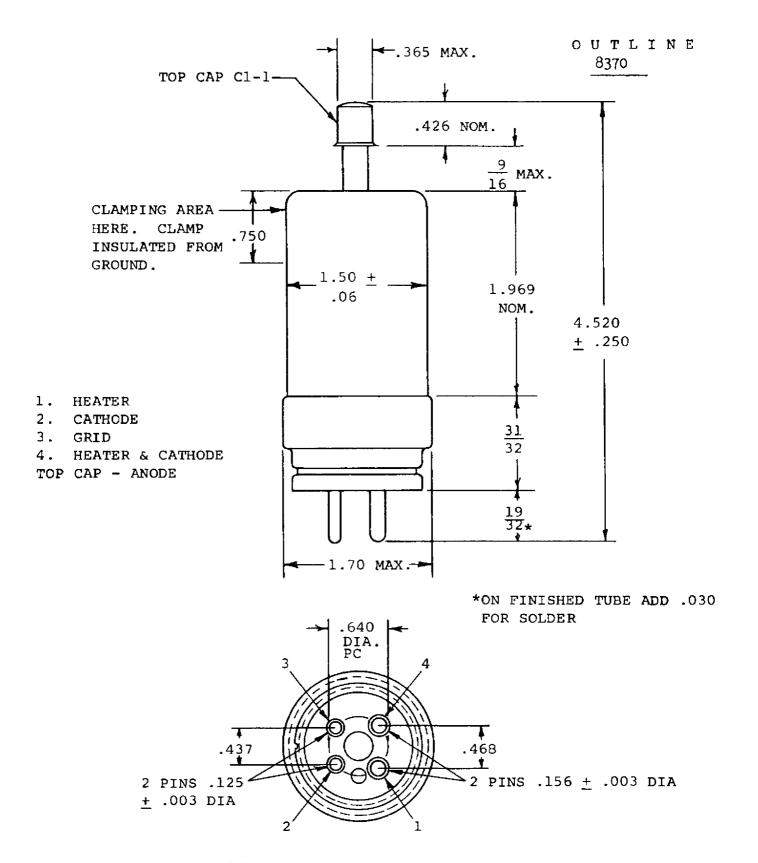
THE TIME OF ANODE DELAY IS MEASURED BETWEEN THE 26 PER CENT POINT ON THE RISING PORTION OF THE UNLOADED GRID VOLTAGE PULSE AND THE POINT AT WHICH ANODE CONDUCTION FIRST EVIDENCES ITSELF ON THE LOADED GRID PULSE.

# Note 6:

TIME JITTER IS MEASURED AT THE 50 PER CENT POINT ON THE ANODE CURRENT PULSE.

ADDITIONAL INFORMATION FOR SPECIFIC APPLICATIONS CAN BE OBTAINED FROM THE

ELECTRON TUBE APPLICATIONS SECTION ITT COMPONENTS DIVISION POST OFFICE Box 412 CLIFTON, NEW JERSEY



PIN ARRANGEMENT AND DIMENSIONS ONLY
AS PER A4-9 MIL-E-1C