

engineering TUBE DATA

KUTHE
7590

from JEDEC release #3993,
Nov. 26, 1962



Components Division

DESCRIPTION:

THE TYPE 7590 IS A THREE ELEMENT UNIPOTENTIAL CATHODE HYDROGEN THYRATRON DESIGNED FOR "CROW-BAR" SERVICE. THIS TUBE IS EQUIPPED WITH A HYDROGEN RESERVOIR FOR MAXIMUM DEPENDABILITY.

ELECTRICAL DATA, GENERAL:

	<u>NOM.</u>	<u>MIN.</u>	<u>MAX.</u>	
HEATER VOLTAGE	6.3	6.0	6.6	VOLTS AC
HEATER CURRENT (AT 6.3 VOLTS)		12.0	22.0	AMPERES
RESERVOIR VOLTAGE (NOTE 1)		2.5	5.5	VOLTS
* RESERVOIR CURRENT AT 4.5 VOLTS		2.0	5.0	AMPERES
MINIMUM HEATING TIME			3	MINUTES

MECHANICAL DATA, GENERAL:

MOUNTING POSITION		ANY
BASE		SEE OUTLINE
COOLING (NOTE 2)		
NET WEIGHT	1.5	POUNDS
DIMENSIONS		PER OUTLINE

RATINGS:

MAX. PEAK ANODE VOLTAGE, FORWARD, TRANSIENT (NOTE 3)	30.0	KILOVOLTS
MAX. PEAK ANODE VOLTAGE, FORWARD, OPERATING	25.0	KILOVOLTS
MAX. PEAK ANODE VOLTAGE, INVERSE	15.0	KILOVOLTS
MIN. ANODE SUPPLY VOLTAGE	10.0	KILOVOLTS DC
MAX. PEAK ANODE CURRENT	1000	AMPERES
* MAX. AVERAGE ANODE CURRENT (NOTE 4)	500	MILLIAMPERES
AVERAGING TIME	10	SECONDS
MAX. DISCHARGE TIME (NOTE 4)	0.1	SECONDS
MAX. ANODE CURRENT RATE OF RISE	2500	AMPS / U SEC.
* PEAK TRIGGER VOLTAGE (NOTE 5)		
MAX. ANODE DELAY TIME	1.0	MICROSECONDS
AMBIENT TEMPERATURE	-55° to +75°	C

* INDICATES CHANGES FROM DATA SHEET DATED 6-61

7-62



ELECTRON TUBE DEPARTMENT
COMPONENTS DIVISION

INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

P. O. BOX 412, CLIFTON, NEW JERSEY

NOTE 1:

ADJUST RESERVOIR VOLTAGE TO VALUE INDICATED ON TUBE WITHIN $\pm 5\%$.

NOTE 2:

NO COOLING REQUIRED.

NOTE 3:

THE MAXIMUM PEAK FORWARD TRANSIENT ANODE VOLTAGE RATING APPLIES TO A TRANSIENT VOLTAGE CONDITION WHEREIN THE DURATION OF THE TRANSIENT DOES NOT EXCEED TWO SECONDS.

NOTE 4:

THE ALLOWABLE TIME OF DISCHARGE VARIES WITH THE CURRENT AS SHOWN
FILTER DISCHARGE PERIOD 0 - 1.5 MS.

RECTIFIER SHORT CIRCUIT PERIOD	1.5 - 100 MS	25 A
" " " "	1.5 - 50 MS	50 A
" " " "	1.5 - 30 MS	85 A

TIME WILL BE MEASURED FROM THE INITIATION OF THE DISCHARGE.

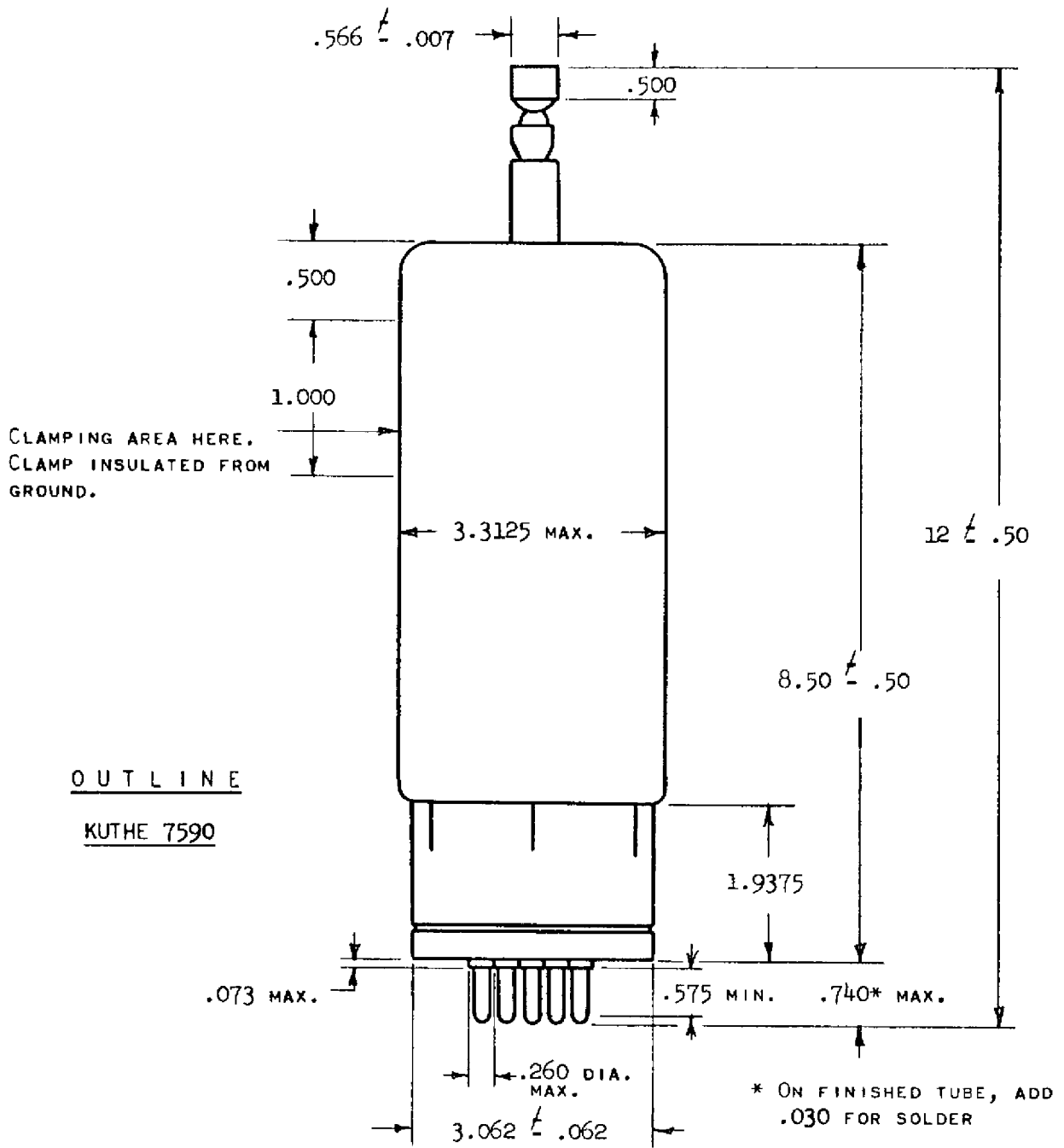
* NOTE 5:

THE DRIVER PULSE MEASURED AT THE TUBE SOCKET WITH THE THYRATRON GRID DISCONNECTED SHALL BE: EGY = 550 VOLTS MINIMUM, 2500 VOLTS MAXIMUM; RATE OF RISE 1800 VOLTS PER MICROSECOND; TP = 2.0 MICROSECONDS MINIMUM; IMPEDANCE OF DRIVER CIRCUIT 50 - 200 OHMS.

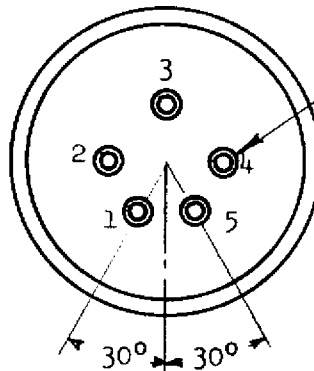
ADDITIONAL INFORMATION FOR SPECIFIC APPLICATIONS CAN BE OBTAINED FROM THE

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

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1. CAPSULE-HEATER
2. CATHODE
3. GRID
4. CAPSULE
5. HEATER



5 PINS $.187 \pm .003$ DIA. SPACED AS SHOWN ON 1.250 DIA. PC

METAL SHELL, 5 PIN BASE WITH MICALC OR EQUIVALENT INSERT. PIN DIMENSIONS AND LOCATION SAME AS A5-19 SHELL DIMENSION AS SHOWN.