ELECTRON TUBE DATA SHEET

WESTERN ELECTRIC 447A ELECTRON TUBE

DESCRIPTION

The 447A is a two-electrode inert-gas filled cold cathode tube designed primarily for use as a voltage reference and trouble indicator tube. The cathode red glow is visible through a hole in the anode for indicator use.

CHARACTERISTICS

Cathode Current	8	milliamperes max.
Anode Voltage Drop	82	volts
Regulation at 2 to 4 milliamperes d-c (Note 3, page 3)	0.5	volt

File: Cold Cathode Section

RATINGS, Absolute System (Note 1)

Cathode Current, Forward Maximum	8	milliamperes
Maximum Inverse Anode Current	0.0	milliampere
Ambient Temperature Limits	-55 to +60	centigrade

ELECTRICAL DATA, Throughout Life

	Min.	Bogey	Max.	
Anode Breakdown Voltage	110	115	120	volts
Anode Voltage Drop(E_{td}) at 4 Milliamperes (D-C) (Note 2)	81	82	83	volts
Regulation (2 to 4 Milliamperes, D-C) (Note 3)	-	0.2	0.5	volt
Coverage Current (Note 4)	-	3.0	4.0	milliamperes

MECHANICAL DATA

Mounting Position	Any
New Weight, Approximate	0.3 ounce
Bulb	T 6½
Base	Small Button 9 pin
Light Spot Size, approximate	0.20 inches

Dimensions and connections shown in outline drawing on page 4.

LIFE DATA

Drift in Anode Voltage Drop (E_{td}) in 500 hours at 8 mAdc . . . . 0.6 volts (max.)

HANDLING

This tube contains a small amount of krypton-85 gas which is a by-product radioactive material. The amount of krypton-85 is less than five microcuries, which is too small an amount to require any special care in use.

Atomic Energy Commission regulations require that the individual tube carton for tubes containing by-product radioactive material be appropriately marked. The marking includes the statement that tube disposal should be in approved manner.

Approved instructions for disposal of tubes containing krypton-85 are as follows:

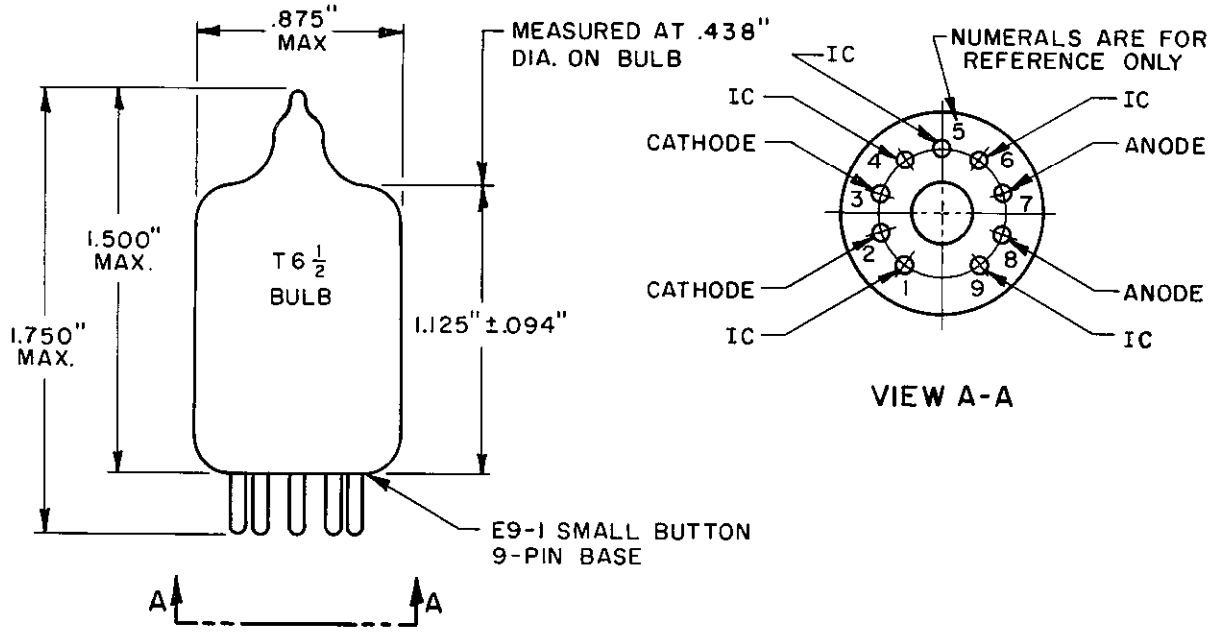
> Tubes to be disposed of should be broken or crushed in a well ventilated place releasing any resulting vapors to the outside atmosphere. The residual broken or crushed tubes should be disposed of in a normal public trash disposal system. Tubes should be disposed of at a rate of not more than 100 each week from any one location. Avoid breathing vapors from broken tubes.

Note 1: In the "Absolute System" the maximum ratings specified are limiting values above which the serviceability of the device may be impaired from the viewpoint of life and satisfactory performance. Maximum ratings, as such, do not constitute a set of operating conditions and all values may not, therefore, be attained simultaneously.

Note 2: These values are for new tubes. Anode voltage drop will stabilize within 3 minutes after starting.

Note 3: Regulation is defined to be Anode Voltage Drop (E_{td}) at 4 mAdc minus Anode Voltage Drop (E_{td}) at 2 mAdc.

Note 4: The current at which cathode glow will entirely cover the area defined by the anode hole. Such current should not exceed the above stated value.



NOTE: PINS MARKED IC (INTERNAL CONNECTION) SHOULD NOT BE CONNECTED TO ANY PORTION OF AN EXTERNAL CIRCUIT. FAILURE TO OBSERVE THIS PRECAUTION MAY RESULT IN IMPROPER OPERATION OF THE TUBE.

A development of Bell Telephone Laboratories, the research laboratories of the American Telephone and Telegraph Company and the Western Electric Company.

PRINTED IN U.S.A.

Western Electric Company