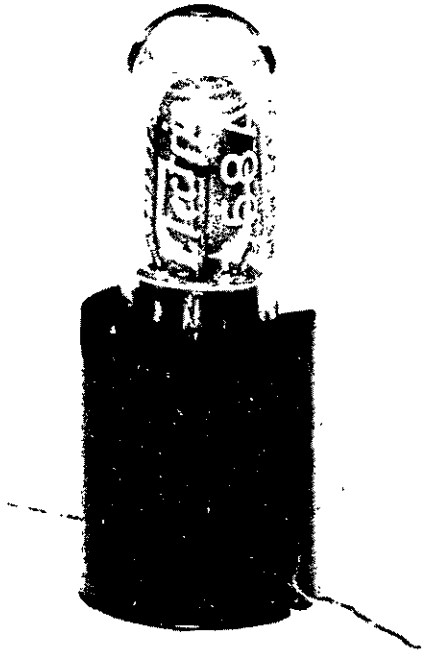
ELECTRON TUBE DATA SHEET

WESTERN ELECTRIC 358A ELECTRON TUBE



DESCRIPTION

The 358A is a two-electrode, inert-gas-filled, cold cathode tube designed to provide a visual signal for telephone work. When the tube is conducting, a glow will appear near the surface of the negative electrode. If a d.c. voltage supply is used the negative polarity should be applied to the upper electrode. The upper electrode terminal may be identified by the adjacent circular dot of contrasting color on the base. When the tube is operating with an alternating voltage a glow will appear on both electrodes.

CHARACTERISTICS

Anode Breakdown Voltage, Maximum			85	volts
Average Cathode Current.	7.5	10	18	milliamperes
Average Life, (approx. at above currents) . . .	5000	1000	100	hours

File: Cold Cathode Section

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RATINGS, Absolute System (Note 1)

Cathode Currents	
Maximum Peak	55 milliamperes
Maximum Average	18 milliamperes
Ambient Temperature Limits	-55 to +85° centigrade

ELECTRICAL DATA, Throughout Life (Note 2)

	Min.	Bogey	Max.	
Anode Breakdown Voltage	-	65	85	volts
Anode Voltage Drop	-	60	75	volts
Light Output at 15 mAdc	-	0.6	-	lumen

MECHANICAL DATA

Mounting Position . . . . . Any

Dimensions and terminal connections shown in outline drawing on page 3.

APPLICATION DATA

This tube possesses a unique property not common to filamentary type lamps in that its impedance is essentially infinite for voltages below breakdown. In some applications this is an advantageous feature since the tube may be used to pass current at the higher potentials without placing a conducting path across the line for signals of lower voltage.

Unlike filamentary type lamps the light output of this tube is proportional to the current through the tube instead of varying as a power of this current. This tube is well adapted to furnishing a visual signal from a varying voltage source.

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: When the tube is operating from a direct current supply, the upper electrode shall be used as the cathode.

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.

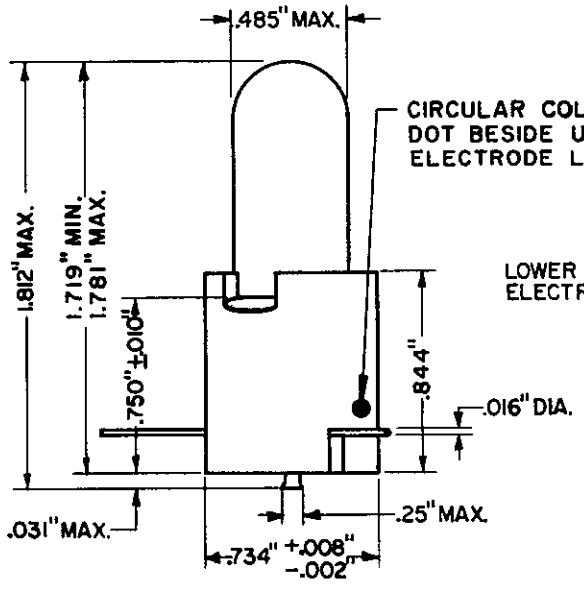

FIG. 1

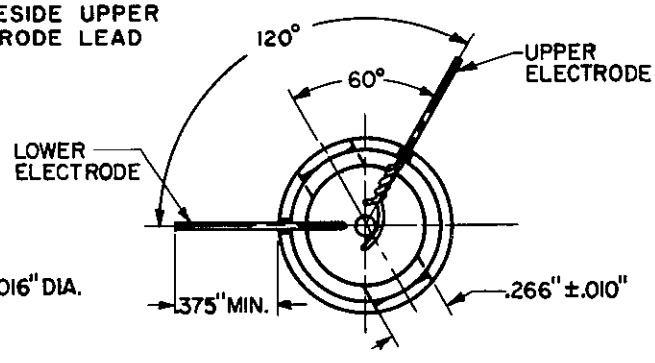

FIG. 2

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

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