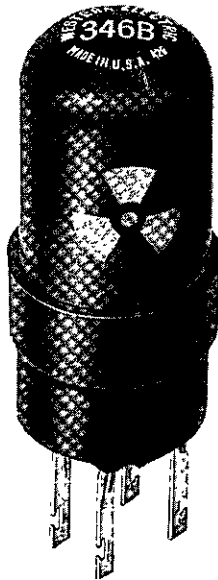


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ELECTRON TUBE DATA SHEET  
WESTERN ELECTRIC 346B ELECTRON TUBE



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DESCRIPTION

The 346B is a three-electrode, inert-gas-filled, cold cathode tube for use in relay, voltage regulator, or rectifier circuits. This tube is especially suitable for use in control circuits such as in triggering, counting, or switching apparatus.

MAXIMUM RATINGS

|                                     |       |                  |
|-------------------------------------|-------|------------------|
| Peak Anode Voltage . . . . .        |       | 225 volts        |
| Average Cathode Current . . . . .   | 10    | 100 milliamperes |
| Average Life, Approximate . . . . . | 10000 | 10 hours         |

MAXIMUM RATINGS, Absolute Values

|   |                       |
|---|-----------------------|
| Forward Peak Anode Voltage . . . . .              | 225 volts             |
| Forward Cathode Current <sup>1</sup>              |                       |
| Peak . . . . .                                    | 100 milliamperes      |
| Average . . . . .                                 | 35 milliamperes       |
| Averaging Time . . . . .                          | 2 seconds             |
| Inverse Peak Anode Current <sup>1</sup> . . . . . | 5 milliamperes        |
| Ambient Temperature Limits . . . . .              | -55 to +85 centigrade |

ELECTRICAL DATA

|  | Min.               | Bogey | Max.           |
|--|--------------------|-------|----------------|
| Starter Breakdown Voltage <sup>2</sup> . . . . .     | 65                 | 70    | 89 volts       |
| Starter Voltage Drop at 20 Milliamperes . . . . .    | 52                 | 60    | 74 volts       |
| Anode Voltage Drop at 20 Milliamperes. . . . .       | 72                 | 80    | 90 volts       |
| Transfer Current . . . . .                           | See curve - Fig. 3 |       |                |
| Ionization Time - Starter Gap <sup>3</sup> . . . . . | ---                | 6     | ---            |
| Deionization Time, Approximate                       |                    |       |                |
| Starter Gap . . . . .                                | ---                | 2     | ---            |
| Main Gap . . . . .                                   | ---                | 8     | ---            |
| Inverse Current at                                   |                    |       |                |
| -120 Volts Anode Potential <sup>4</sup> . . . . .    | ---                | ---   | 3 milliamperes |

MECHANICAL DATA

|  |         |
|--|---------|
| Mounting Position . . . . .                                      | Any     |
| Net Weight, Approximate . . . . .                                | 1 ounce |
| Dimensions and pin connectors shown in outline drawing on page 4 |         |

Note 1: Sufficient resistance must be used in series with the tube to assure that the electrode currents do not exceed their maximum rated values.

Note 2: Limits apply immediately after tube has conducted current. If the tube has been idle, these values initially may be as much as 3 volts higher or lower.

Note 3: With 15 volts starter overvoltage (15 volts above Starter Breakdown Voltage) with tube in total darkness.

Note 4: Negative anode voltage applied through 8000 ohms. Starter connected to anode through 100000 ohms.

HANDLING

Western Electric cold cathode tubes contain a minute amount of radium bromide which is a radioactive material. The amount in most types is too small to require any special care in use, handling or disposal.

A few types contain a larger quantity of radium bromide in which the radium approximates that found on a luminous watch dial. These types bear a red three-bladed propeller-shaped symbol on the tube envelope. Instructions for handling such tubes are given below and also in Bell System Practices for Central Office maintenance.

Installations ordinarily require no precautions against radiation. However, quantities of the tubes should not be so installed, or so stored outside the shipping carton, that they will be within a few inches of personnel or in proximity to photographic film for extended periods of time. For example, however, a 40-hour week exposure at about one (1) foot from a bank of 500 tubes (covering an area of 20 inches x 45 inches) is well within the accepted tolerance limits for personnel. Reasonable care should be exercised in handling and disposal of broken tubes. In general, attention should be given to the following:

- (a) Avoid breathing dust or vapors from broken tubes.
- (b) Avoid contacting broken parts with bare hands.
- (c) Use wet rag to pick up broken parts. Wrap broken parts in rag and tie securely so as to form a package. Thoroughly wash hands after disposal.
- (d) Dispose of broken or defective tubes as they are taken out of service. One or two tubes at a time may be disposed of with normal waste material. Accumulation of tubes in one concentrated area of the place of final disposition should be avoided.

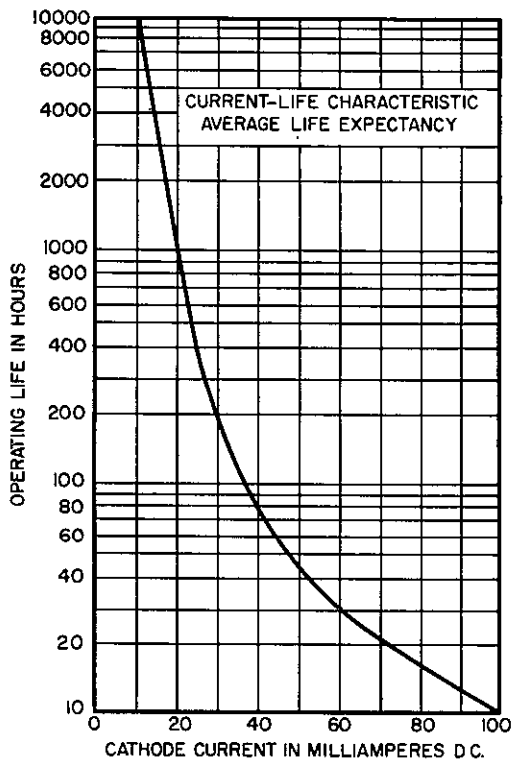


FIG. 1

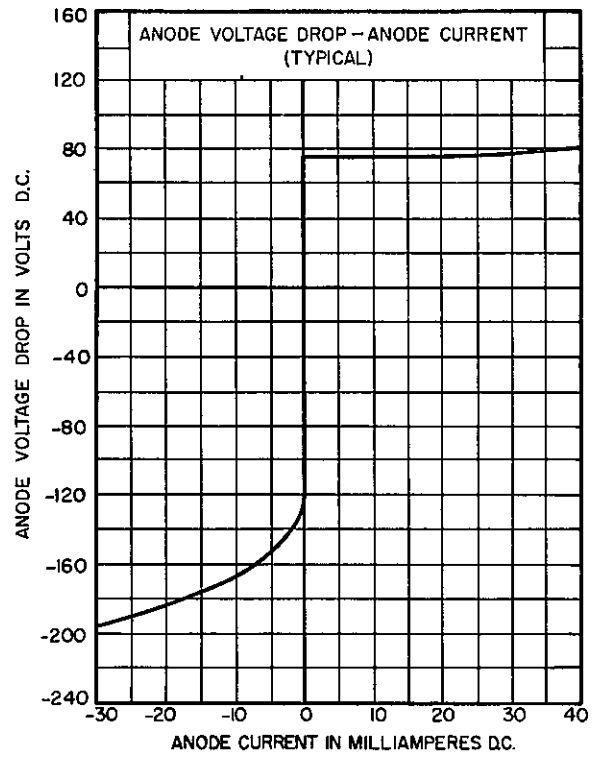


FIG. 2

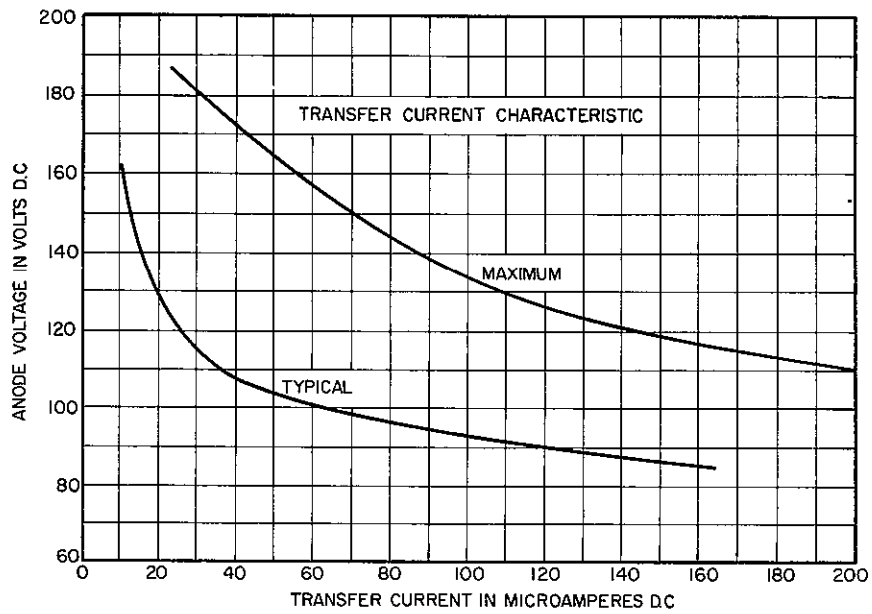
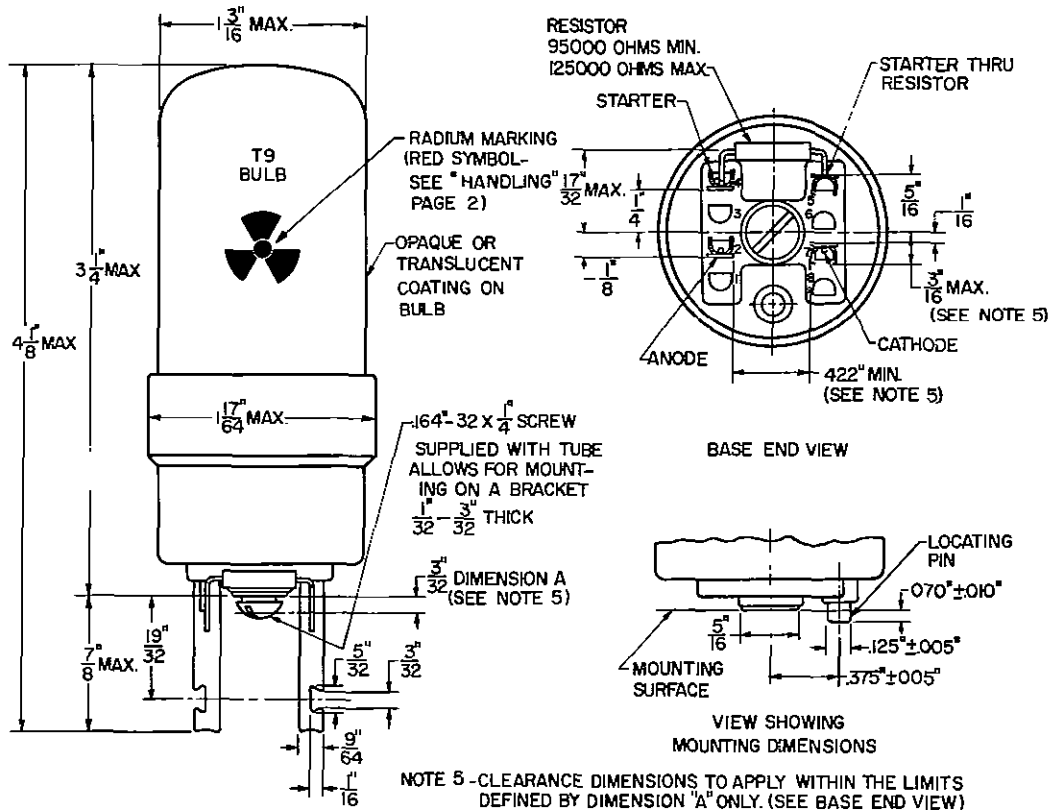


FIG. 3



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