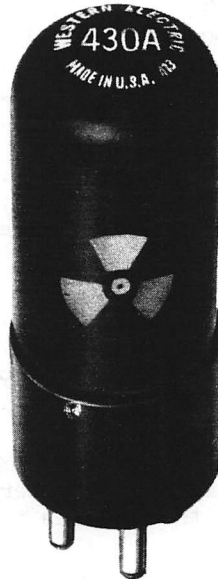


ELECTRON TUBE DATA SHEET WESTERN ELECTRIC 430A ELECTRON TUBE



DESCRIPTION

The 430A is a three-electrode, inert-gas-filled, cold cathode tube for use in relay, voltage regulator or rectifier circuits. This tube is mechanically and electrically identical to the 313C except that it has a much faster starter gap ionization time. The tube is especially suitable for use in fast switching circuits.

MAXIMUM RATINGS

Peak Anode Voltage		185 volts
Average Cathode Current	10	100 milliamperes
Average Life, Approximate	10,000	10 hours

MAXIMUM RATINGS, Absolute Values

Forward Peak Anode Voltage	185 volts
Forward Cathode Current ¹	
Peak	100 milliamperes
Average	35 milliamperes
Averaging Time	2 seconds
Inverse Peak Anode Current ¹	5 milliamperes
Ambient Temperature Limits	-55 to +85 centigrade

ELECTRICAL DATA, Throughout Life

	<u>Min.</u>	<u>Bogey</u>	<u>Max.</u>	
Starter Breakdown Voltage ²	65	70	85	volts
Starter Voltage Drop at 20 Milliamperes	52	60	74	volts
Anode Voltage Drop at 20 Milliamperes	68	75	85	volts
Transfer Current	See curve - Fig. 3			
Ionization Time, Starter Gap ³ . . . . .	...	0.07	0.20	milliseconds
Deionization Time, Approximate				
Starter Gap . . . . .	...	3	...	milliseconds
Main Gap . . . . .	...	10	...	milliseconds
Inverse Current at -120 Volts Anode Potential ⁴ . . . . .	...	...	3	milliamperes

MECHANICAL DATA

Mounting Position	Any
Net Weight, Approximate	1 ounce
Dimensions and pin connections 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 the tube in total darkness (See Fig. 4.)

Note 4: Negative anode voltage applied through 8000 ohms. Starter connected to anode through 100,000 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.

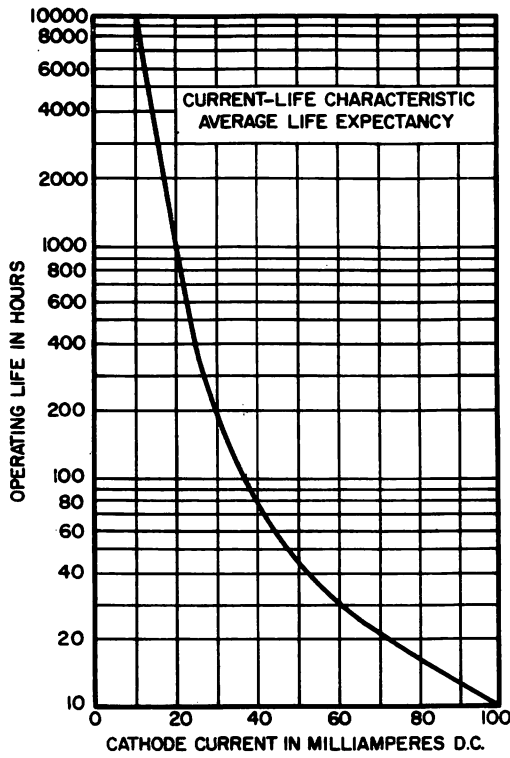


FIG. 1

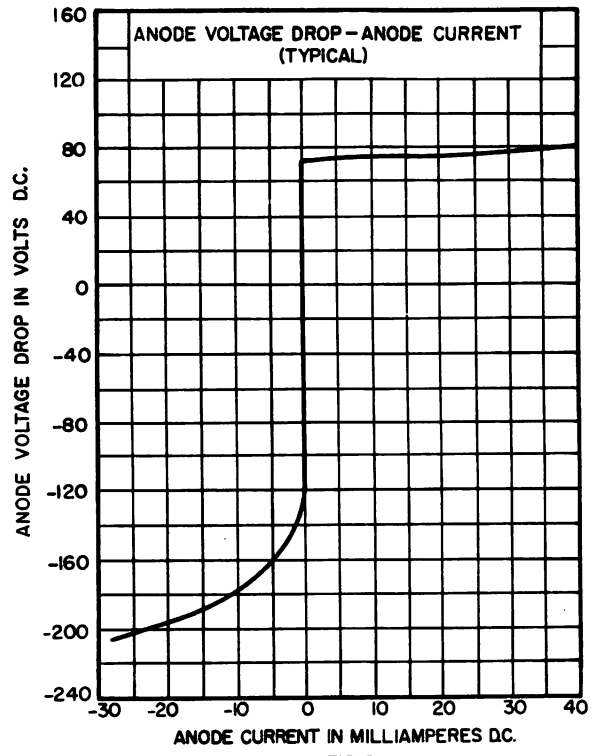


FIG. 2

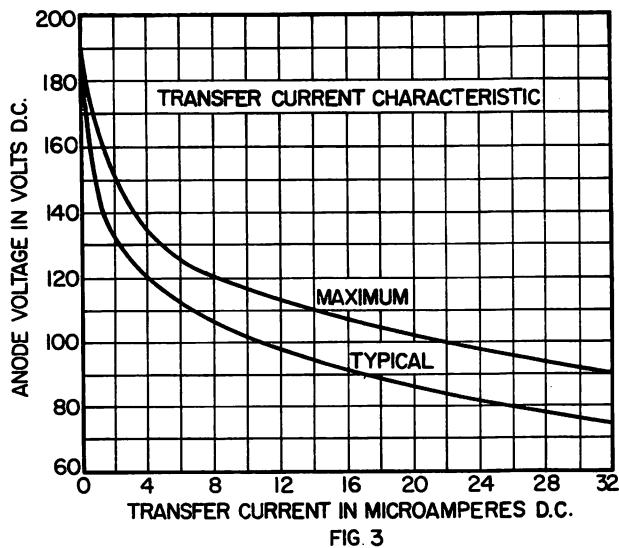


FIG. 3

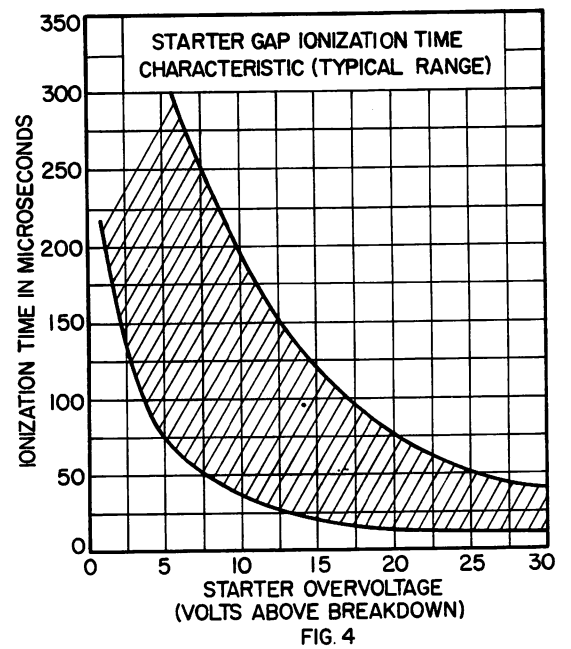
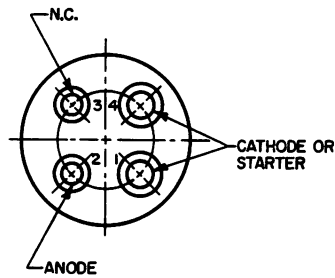
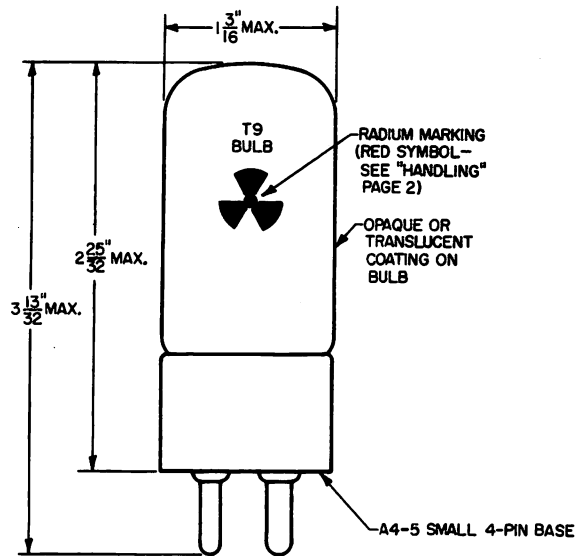


FIG. 4



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