

ELECTRON TUBE DATA SHEET WESTERN ELECTRIC 432B ELECTRON TUBE



DESCRIPTION

The 432B is a three-electrode inert-gas-filled cold cathode tube designed for use as a voltage reference tube. The third electrode is a starting element for use in circuits having insufficient voltage available for breakdown at the voltage reference point or requiring negligible overshoot of the reference voltage when starting. This tube is free of parasitic oscillations and has an exceptionally stable anode voltage drop characteristic.

CHARACTERISTICS

Cathode Current	4 to 8 milliamperes
Anode Voltage Drop	100 volts
Regulation, Max. (4 to 6 Milliamperes D-C)	0.75 volt

RATINGS, Absolute Values

Cathode Current ¹	
Maximum	8 milliamperes
Minimum ²	4 milliamperes
Inverse Starter or Anode Current, Maximum	0.0 milliampere
Starter Current, Minimum ³	0.2 milliampere
Ambient Temperature Limits	-55 to + 60 centigrade

ELECTRICAL DATA, Throughout Life

	<u>Min.</u>	<u>Bogey</u>	<u>Max.</u>	
Anode Breakdown Voltage	---	135	160	volts
Anode Voltage Drop at 6 Milliamperes (D-C) ⁴	99	100	103	volts
Starter Breakdown Voltage	---	135	200	volts
Starter Voltage Drop at 0.2 ma	---	102	---	volts
Transfer Current at 110 Anode Volts	---	60	200	microamperes
Regulation (4 to 6 Milliamperes, D-C)	---	0.3	0.75	volt
Temperature Sensitivity of Anode Voltage Drop				
Anode Current, 4 Milliamperes (D-C)	---	-0.01	---	volt/c
Anode Current, 8 Milliamperes (D-C)	---	-0.02	---	volt/c
Fluctuation ⁵	---	0.02	0.1	volt
Stability ⁶	---	0.2	0.8	volt

MECHANICAL DATA, Throughout Life

Mounting Position	Any
Net Weight, Approximate	0.3 ounce
Bulb	T 6-1/2
Base	Small Button 9-pin
Dimensions and Connections	See outline drawing Page 3

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

Note 2: The tube is capable of operating at current values below the rated "Minimum" value of 4 milliamperes in regulator applications where lower current is required, however, operation at values below 4 milliamperes for extended periods of time (hundreds of hours) may result in an increase in regulation.

Note 3: The minimum starter current requirement applies
 (a) when tube is operated for extended periods (hundreds of hours) between starting operations to assure maintaining starter breakdown and transfer characteristics.
 (b) to assure oscillation-free operation.

Note 4: These values are for new tubes. Anode voltage drop will stabilize within 3 minutes after starting. The stability characteristic should be considered during tube life.

Note 5: The anode voltage drop variation during a short period of time (one to ten minutes), with the tube operating at one value of current and temperature within its ratings, will not exceed the above stated maximum value.

Note 6: The drift of anode voltage drop over a period of 1000 hours, with the tube operating at one value of current and temperature within its ratings, will not exceed the above stated maximum value. Stability improves with operating life. After 1000-2000 hours operation the drift of anode voltage drop per 1000 hours will not exceed 0.3 volt.

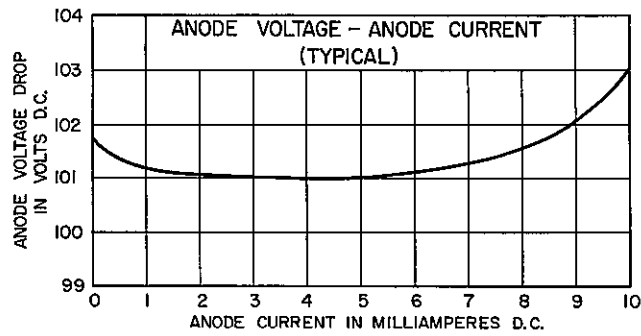


FIG. 1

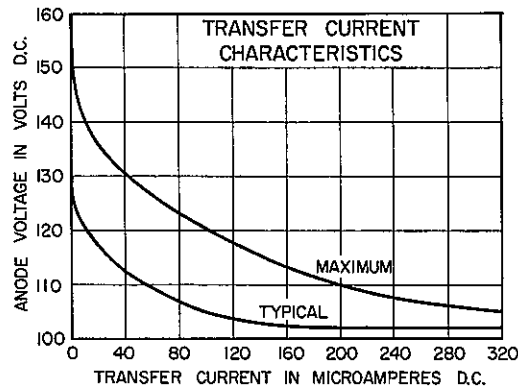
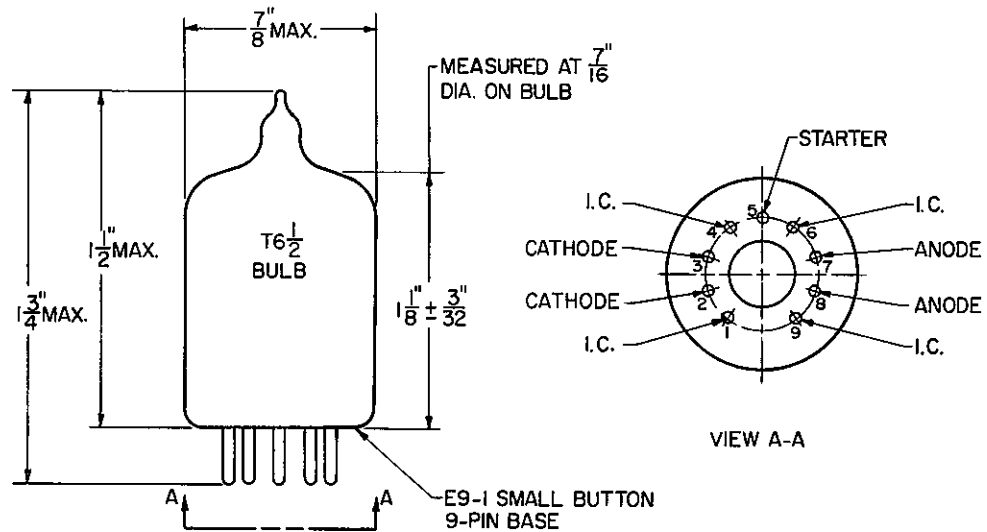


FIG. 2



NOTE: PINS MARKED I.C. (INTERNAL CONNECTION) SHOULD NOT BE CONNECTED TO ANY PORTION OF AN EXTERNAL CIRCUIT.

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Western Electric