

QUICK REFERENCE DATA (nominal values)

Maintaining voltage	150	V
Cathode current range	5 to 15	mA
Regulation voltage	4	V
Ignition delay time	250	ms

This data should be read in conjunction with GENERAL OPERATIONAL RECOMMENDATIONS—VOLTAGE STABILISER AND REFERENCE LEVEL TUBES which precede this section of the handbook.

CHARACTERISTICS AND RANGE VALUES FOR EQUIPMENT DESIGN measured at an ambient temperature of between 20 and 30°C unless otherwise stated.

The values given state the range over which the tube will operate both initially and during life. No allowance has been made for supply voltage and component variations. (note 1)

Initial values

Minimum voltage necessary for ignition (note 2)	180	V
Ignition delay time	See page C1	
Maintaining voltage at 10mA		
Maximum	151	V
Minimum	146	V
Increase in maintaining voltage as cathode current is increased from 5 to 15mA (regulation voltage)		
Maximum	5.0	V
Average	3.0	V
Temperature coefficient of maintaining voltage (approximate) at 10mA	+0.007 % per °C	
Typical maximum voltage jumps in the current range 10 to 15mA	75	mV
Cathode current above which the incremental resistance is positive	5.0	mA
Incremental resistance (approx.) at 10mA	250	Ω

Life performance (note 3)

Minimum voltage necessary for ignition (note 2)	180	V
Percentage variation of maintaining voltage at room temperature		
In 1000 hrs at 10mA (maximum)	+1 -0.5	%
In 10,000 hrs at 5 and 10mA (typical maximum)	+2 -1	%
In 30,000 hrs at 5 and 10mA (typical maximum)	+2 -1	%
Typical maximum increase in maintaining voltage as cathode current is increased from 5 to 15mA		
In 1000 hrs	4.0	V
In 10,000 hrs	6.0	V



ABSOLUTE MAXIMUM RATINGS

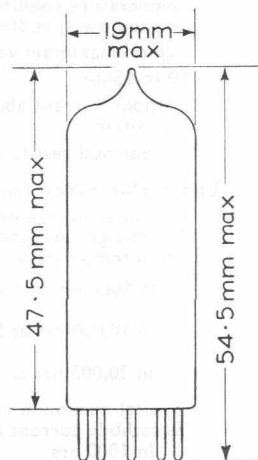
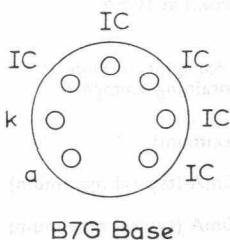
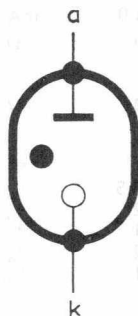
Cathode current		
Maximum for continuous operation	15	mA
Maximum surge (note 4)	40	mA
Minimum	5.0	mA
Maximum negative anode voltage	130	V
Minimum bulb temperature ($I_k = 0\text{mA}$)	-55	°C
Maximum ambient temperature		
For operation	+70	°C
For storage	+70	°C

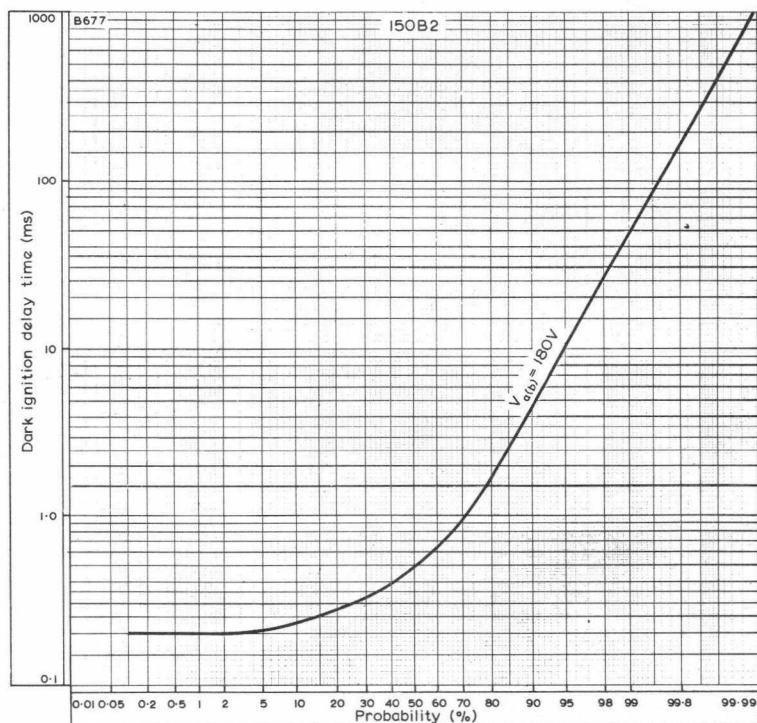
OPERATING NOTES

1. Thermal equilibrium is reached within 3 minutes of igniting the tube.
2. This value holds good over life in light or darkness. See graph on page C1.
3. These figures apply only when the tube is operated continuously at the currents stated.
4. To be restricted for long life to approximately 30 seconds in each 8 hours' use.

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CUMULATIVE DISTRIBUTION OF DARK IGNITION DELAY TIME

This curve shows the probability that a tube will ignite in less than the time shown. This will be to some extent dependent on the supply voltage. In general an increase in the supply voltage will reduce the ignition delay time.



FIGURE 1. CUMULATIVE DISTRIBUTION OF DARK IGNITION DELAY TIME. The curve shows the probability that a tube will ignite in less than the time shown. This will be to some extent dependent on the supply voltage. A general increase in the supply voltage will reduce the ignition delay.

