

# Low Noise Miniature Reference Tube

# GD 83 M

## Limit Ratings

Minimum anode current	3.5 mA
Maximum anode current	6.0 mA
Minimum anode supply voltage (Note 1)	130 V
Maximum negative anode voltage	50 V
Maximum starting current (Note 2)	10 mA
Maximum bulb temperature (Note 3)	
During operation	150°C
During storage and standby	100°C

## Characteristics (at preferred operating current of 4.5 mA (Note 4))

Initial values (measured at 25 to 30°C)	
Running voltage	83.0 to 84.5 V
*Incremental resistance	
Maximum	350 Ω
Minimum	110 Ω
*Maximum voltage jump (3.5—6.0 mA)	1 mV
Typical r.m.s. noise voltage (30 c/s—10 kc/s)	100 μV
*Nominal temperature coefficient over the range 25 to 120°C (Note 6)	—2.5 mV/°C
*See Note 5.	

## Life Performance

Typical variations of running voltage at 25°C over the period indicated.

For continuous operation at 4.5 mA

0—300 hours	0 to +0.35 V
300—2,500 hours	0 to +0.2 V
2,500—10,000 hours	+0.05 to +0.35 V

For storage or standby, the variations that can be expected up to 3,000 hours are negligible.

## Notes

- (1) This value holds good over life, in light or dark. In total darkness an ignition delay of up to 5 seconds may occur.
- (2) To be restricted for long life to approximately 30 seconds once or twice in each 8 hours use.
- (3) During conduction the bulb temperature is approximately 20°C above ambient temperature.
- (4) Equilibrium conditions are reached within 1 minute.
- (5) Information to date indicates that these values hold good with little or no change over life.
- (6) The characteristics curve connecting temperature coefficient and bulb temperature is continuous and repeatable.



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### Mechanical Data

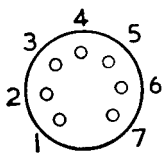
Mounting position

Any

Base

B7G

Base Connections  
(underside view)



Pin 1 Anode  
 2 Cathode  
 3 }  
 4 } Do not connect  
 5 }  
 6 }  
 7 }

