



5825

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HALF-WAVE VACUUM RECTIFIER

GENERAL DATA

Electrical:

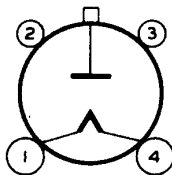
Filament, Thoriated Tungsten:
 Voltage 1.6 ac volts
 Current 1.25 amp
 Direct Interelectrode Capacitance:^o
 Plate to Filament 2.2 μ f
 Tube Voltage Drop at maximum
 peak plate current 1750 volts

^o with no external shield.

Mechanical:

Mounting Position Any
 Overall Length 5-11/16" \pm 5/32"
 Seated Length 5-1/6" \pm 5/32"
 Maximum Diameter 2-1/16"
 Bulb ST-16
 Cap Medium
 Base Medium-Shell Small 4-Pin
 Basing-Designation for BOTTOM VIEW 4P

Pin 1 - Filament
 Pin 2 - No
 Connection
 Pin 3 - No
 Connection



Pin 4 - Filament,
 Internal
 Shield
 Cap - Plate

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Maximum Ratings, Absolute Values:

For supply frequencies up to 250 kc

PEAK INVERSE PLATE VOLTAGE 60000 max. volts
 PEAK PLATE CURRENT 40 max. ma
 AVERAGE PLATE CURRENT 2 max. ma
 HOT-SWITCHING TRANSIENT CURRENT for
 duration of 0.1 sec. max. 100 max. ma
 PLATE DISSIPATION 3.5 max. watts
 BULB TEMPERATURE 80 max. $^{\circ}$ C

Typical Operation at 70 kc in Half-Wave Circuit with Capacitor-Input to Filter:

AC Plate-Supply Voltage (RMS) 21200 volts
 Filter-Input Capacitor 350 μ f
 Effective Plate-Supply Impedance 120000 ohms
 DC Output Current 2 ma
 DC Output Voltage at Input to Filter (Approx.):
 At half-load current (1 ma) 28000 volts
 At full-load current (2 ma) 26700 volts
 Voltage Regulation (Approx.):
 Half-load to full-load current 1300 volts

SEPT. 15, 1949

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TENTATIVE DATA

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CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	<u>Note</u>	<u>Min.</u>	<u>Max.</u>	
Filament Current	1	1.15	1.35	amp
Plate-Filament Capacitance	-	2.14	2.26	μf

Note: With 1.6 volts dc on filament.

OPERATING NOTES

When the filament is supplied from an rf power source which is at a high dc potential above ground, adjustment of the filament voltage by direct measurement is usually impractical. However, a simple method utilizing visual comparison of filament temperatures can be used for adjustment of filament power. The color temperature of the filament operating from an rf power source may be checked visually by observing in a darkened room the reflection of the incandescent filament upon the surface of the internal shield. A visual comparison of this color temperature with that obtained when the filament of another 5825 is operated from a dc or low-frequency ac supply of 1.6 volts, provides a convenient means for adjusting the amount of rf excitation to produce 1.6 volts (rms) at the filament terminals.

The filament must never under any condition of operation be allowed to reach a temperature higher than that caused by operating the filament on dc or low-frequency ac at a voltage of 1.68 volts. Operation at higher temperatures will cause impaired performance of the tube. During circuit adjustment, however, it is permissible to allow the filament voltage to rise to 2 volts for the brief interval required to make the adjustment.

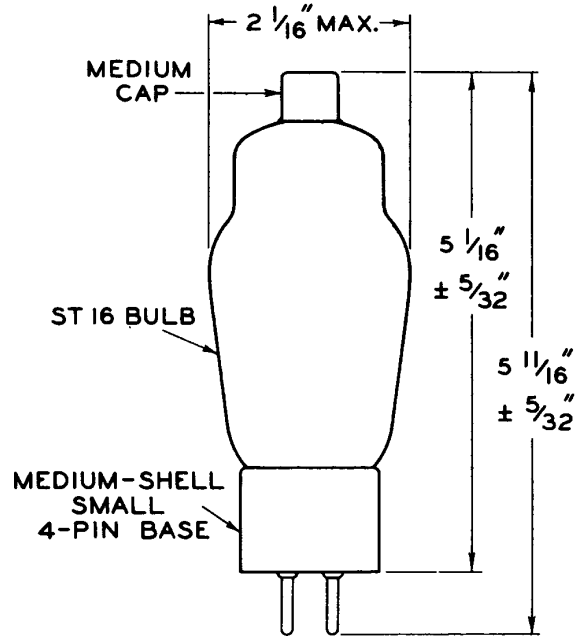
Soft x-rays are produced when the 5825 is operated at a plate voltage above approximately 20000 volts. These rays can constitute a health hazard unless the tube is adequately shielded. Relatively simple shielding should prove adequate, but the need for this precaution should be considered in equipment design.



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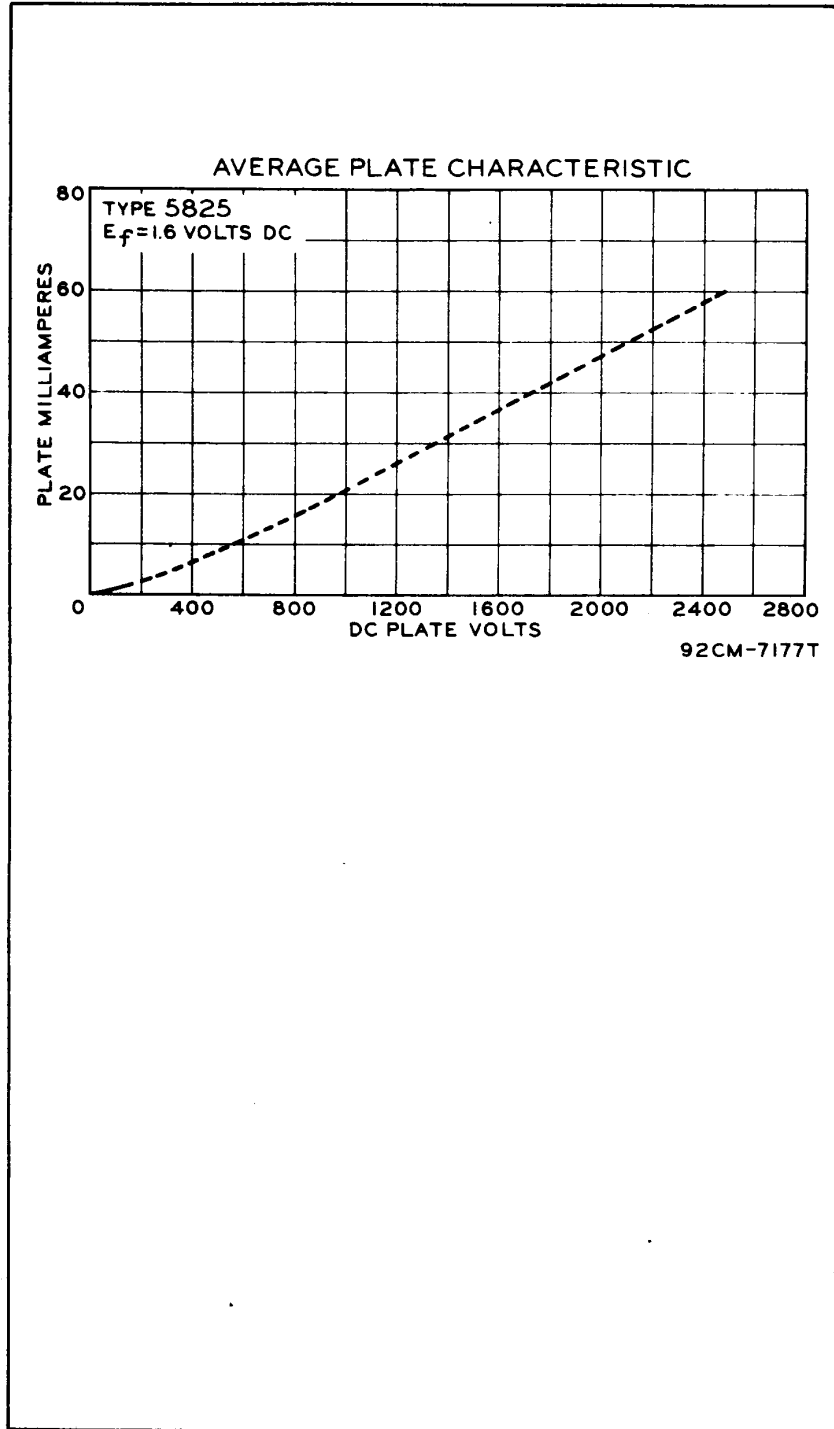
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