

**MECHANICAL DATA**

Bulb . . . . .	T-12
Base . . . . .	B6-73, Short Jumbo Shell Octal, 6-Pin
Top Cap . . . . .	C1-1, Small
Outline . . . . .	See Drawing
Basing . . . . .	8FU
Cathode . . . . .	Coated Unipotential
Mounting Position . . . . .	Any

**ELECTRICAL DATA**

**HEATER CHARACTERISTICS**

Heater Voltage . . . . .	6.3 Volts
Heater Current . . . . .	600 Ma
Peak Heater-Cathode Voltage	
Heater Negative with Respect to Cathode . . . . .	180 Volts Max.
Heater Positive with Respect to Cathode . . . . .	180 Volts Max.

**DIRECT INTERELECTRODE CAPACITANCES**

Grid to Plate . . . . .	1.0 $\mu\mu\text{f}$
Input . . . . .	3.8 $\mu\mu\text{f}$
Output . . . . .	0.04 $\mu\mu\text{f}$ Max.

**RATINGS (Design Center Values)**

<b>Voltage Control Service</b>	
DC Plate Voltage . . . . .	27000 Volts Max.
Unregulated DC Supply Voltage . . . . .	55000 Volts Max.
<b>Grid Voltage</b>	
DC . . . . .	-125 Volts Max.
Peak . . . . .	-550 Volts Max.
DC Plate Current . . . . .	1.5 Ma Max.
Plate Dissipation . . . . .	25 Watts Max.
<b>Grid Circuit Resistance</b>	
With Unregulated Supply Having an Equivalent Resistance of at Least 8 Megohms . . . . .	4 Megohms Max.
With Unregulated Supply Having an Equivalent Resistance Less Than 8 Megohms . . . . .	See Fig. 1

**CHARACTERISTICS**

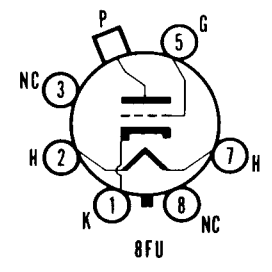
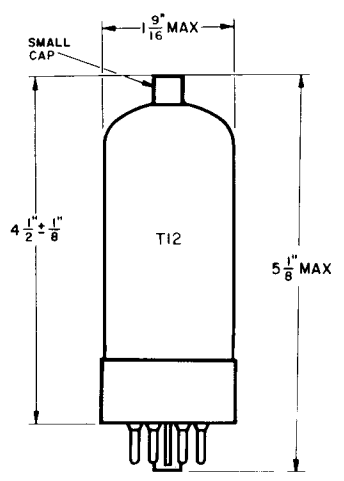
Amplification Factor . . . . .	1650
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**TYPICAL OPERATION**

<b>Shunt Voltage Regulator</b>		
Unregulated Supply		
DC Voltage . . . . .	29800	36300 Volts
Equivalent Resistance . . . . .	8	8 Megohms
<b>Voltage Divider Values</b>		
R1 (5 watts) . . . . .	120	220 Megohms
R2 (2 watts) . . . . .	1	1 Megohms
R3 (1/2 watt) . . . . .	2	3 Megohms
<b>Reference Voltage Supply</b>		
DC Value . . . . .	500	500 Volts
Equivalent Resistance . . . . .	1000	1000 Ohms

**QUICK REFERENCE DATA**

The Sylvania Type 6BD4A is a low current, sharp cutoff, beam triode designed for use as a voltage regulator in high voltage, low current supplies. The 6BD4A has a maximum plate voltage rating of 27,000 volts, a maximum plate current rating of 1.5 Ma and a maximum plate dissipation of 25 watts. With the exception of its higher plate voltage rating and plate dissipation the 6BD4A is identical to the Type 6BD4.



**SYLVANIA ELECTRIC PRODUCTS INC.**

**RADIO TUBE DIVISION EMPORIUM, PA.**

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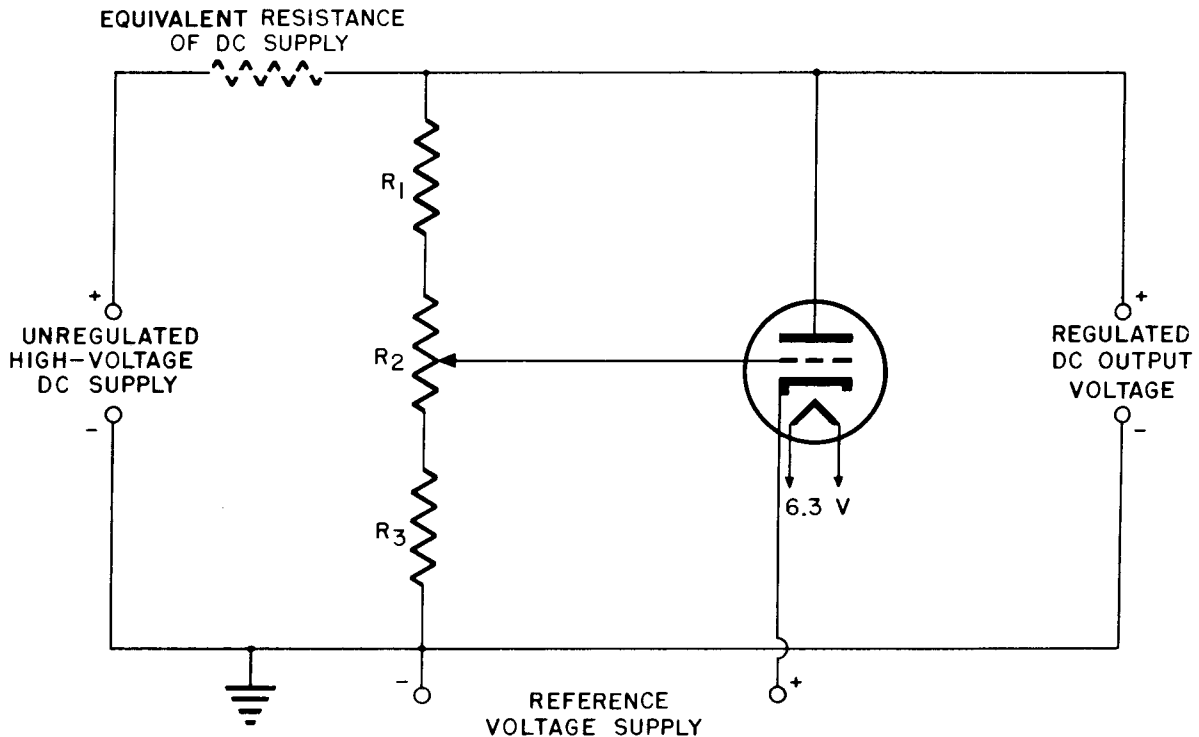
### TYPICAL OPERATION (Continued)

Effective Grid-Plate Transconductance . . . . .	138	116 $\mu$ mhos
DC Plate Current		
For Load Current of 0 Ma . . . . .	1055	1035 $\mu$ a
For Load Current of 1 Ma . . . . .	100	100 $\mu$ a
Regulated DC Output Voltage		
For Load Current of 0 Ma . . . . .	20000	27000 Volts
For Load Current of 1 Ma . . . . .	19700	26500 Volts

### WARNING:

*X-ray radiation shielding may be necessary to protect against possible danger of personal injury from prolonged exposure at close range if this tube is operated at higher than the manufacturer's Maximum Rated Anode voltage or 16,000 volts, whichever is less.*

### SHUNT REGULATOR CIRCUIT



AVERAGE TRANSFER CHARACTERISTICS

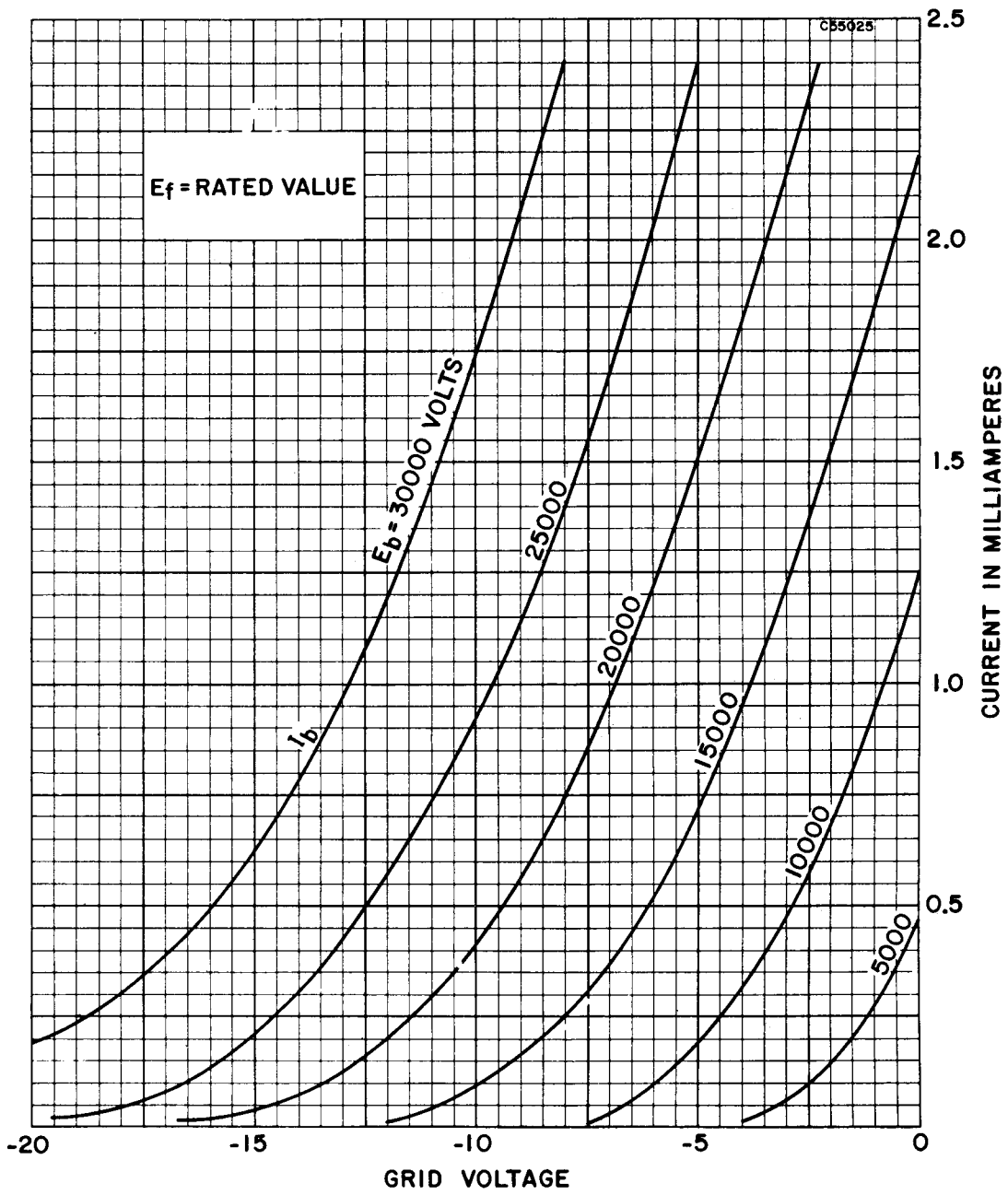


FIGURE 1  
Maximum Grid Circuit Resistance vs.  
Equivalent Resistance of Unregulated  
DC Voltage Supply

