

# ELECTRON TUBE

TENTATIVE

## HIGH VOLTAGE PENTODE

TYPE  
7683

### ... DESCRIPTION

The VICTOREEN 7683 is a beam-type pentode designed for use with plate voltages as high as 1 KV. Its high (20 ma) plate current and high (15 w) plate dissipation make it ideal for use in medium voltage power supplies as the shunt regulator tube or in higher voltage power supplies as the series regulator tube. Its high (5000) transconductance suggests its use in medium power, medium voltage amplifier circuits.

The VICTOREEN 7683 is constructed in a standard T-6 1/2 envelope and employs a nine pin miniature base.

### ELECTRICAL DATA

Heater Voltage . . . . . 6.3 V  
Heater Current . . . . . 150 ma  
Cathode Heating Time . . . 12 sec.  
Transconductance (Sm) . . . 5000  
Plate Resistance (rp) . . . 30 K  
Capacitance:  
G1 to P . . . . . —  
G1 to K . . . . . —  
P to K . . . . . 3.45μf

### MECHANICAL DATA

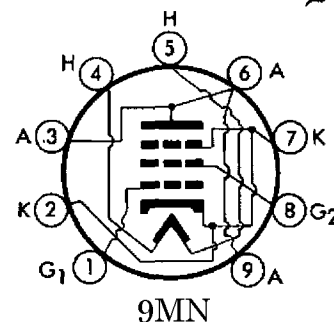
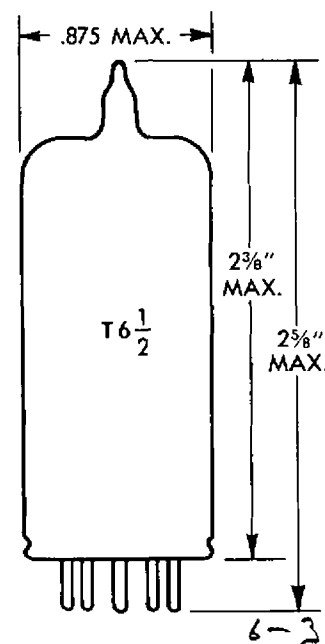
Mounting Position . . . . . Any  
Bulb . . . . . T-6 1/2  
Base . . . . . 9 pin min.  
~~Cap~~ . . . . . ~~Cl-3~~  
Av. Net Weight . . . . . .4 oz.  
Max. Shock . . . . . —  
Max. Vibration . . . . . —  
Life . . . . . 500 hrs.  
(Life test end point) Δ Sm = 25%

### RATINGS, ABSOLUTE VALUES

|                                        | Min.  | Max.   |
|----------------------------------------|-------|--------|
| Plate Dissipation (Pp) . . . . .       |       | 15 W   |
| Plate Current (Ib) . . . . .           |       | 20 ma  |
| Plate Voltage (Eb) . . . . .           |       | 1000 V |
| Heater-Cathode Voltage (Ehk) . . . . . |       | ±300 V |
| Grid Voltage (Ec1) . . . . .           |       | -100 V |
| Heater Voltage (Ef) . . . . .          | 5.7 V | 6.9 V  |
| Envelope Temperature . . . . .         |       | 220°C  |
| Grid Resistor . . . . .                |       | 0.5 M  |
| Screen Voltage (Ec2) . . . . .         |       | 250 V  |
| Screen Dissipation (Pg2) . . . . .     |       | 0.7 w  |

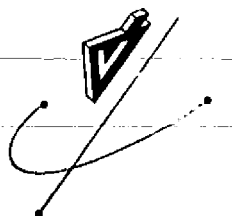
For applications requiring characteristics beyond those listed or for engineering data, contact VICTOREEN'S Application Engineering Dept.

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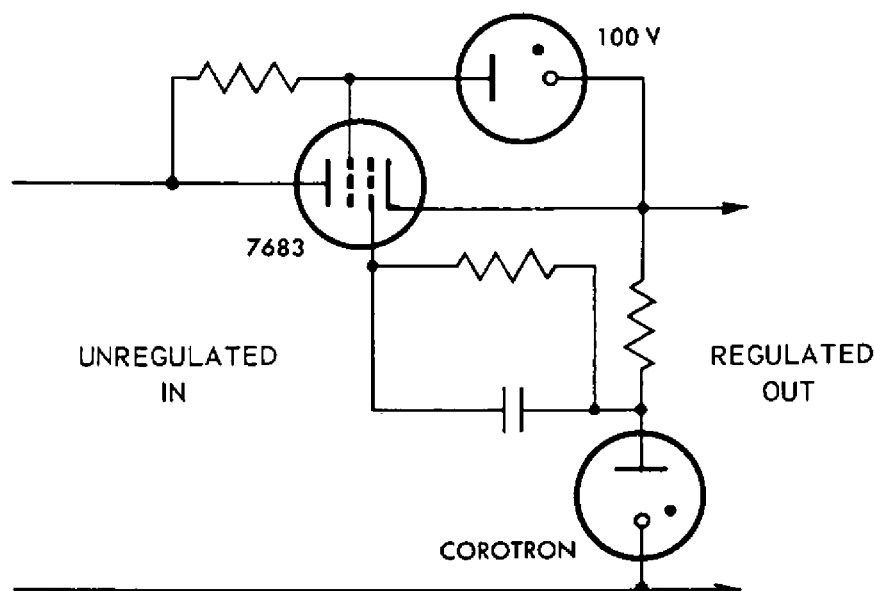
# TYPE 7683



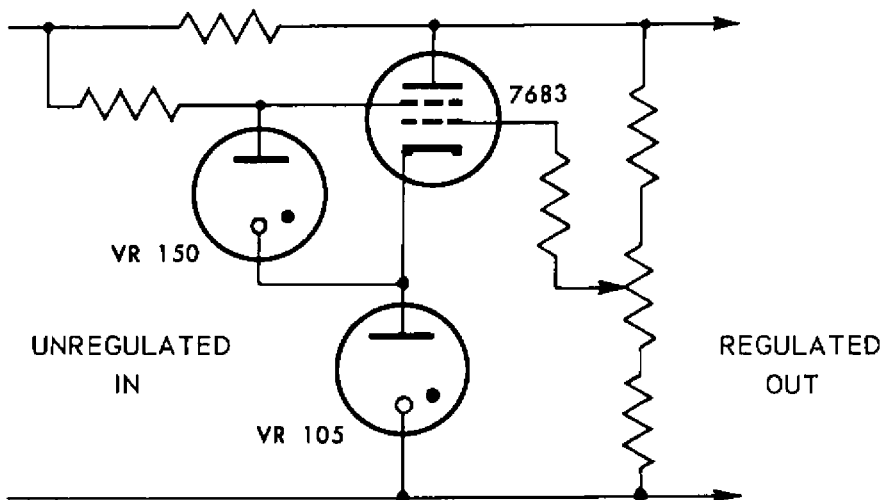
## TYPICAL OPERATION — AMPLIFIER

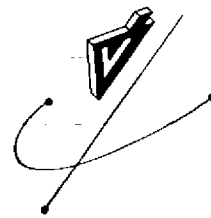
|                       |         |         |        |
|-----------------------|---------|---------|--------|
| Heater Voltage (Ef)   | 6.3 V   | 6.3 V   | 6.3 V  |
| Heater Current (If)   | 150 ma  | 150 ma  | 150 ma |
| Plate Voltage (Eb)    | 300 V   | 600 V   | 800 V  |
| Grid Voltage (Ec1)    | — .5 V  | — 1 V   | — 1 V  |
| Screen Voltage (Ec2)  | 250 V   | 250 V   | 250 V  |
| Plate Current (Ib)    | 12.6 ma | 10.6 ma | 12 ma  |
| Screen Current (Ic2)  | 2.2 ma  | 1.7 ma  | 1.6 ma |
| Plate Resistance (rp) | 28,000  | 34,000  | 35,000 |
| Transconductance (Sm) | 4200    | 4200    | 4200   |

## TYPICAL OPERATION SERIES REGULATOR



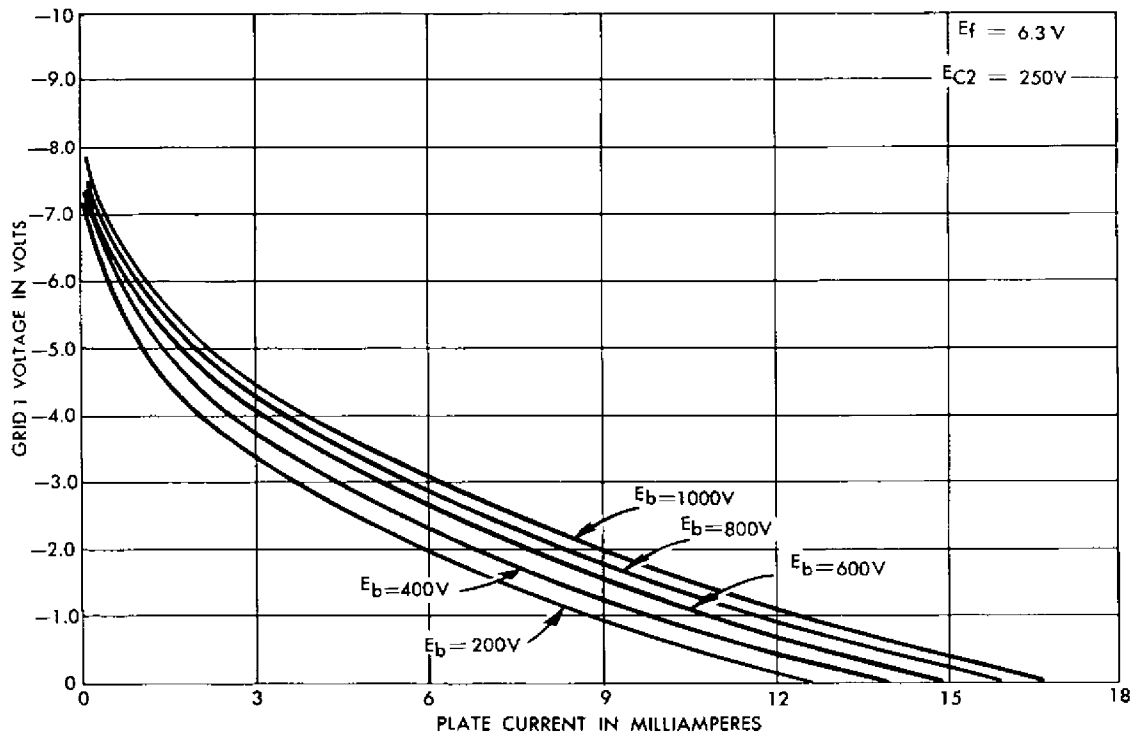
## TYPICAL OPERATION SHUNT REGULATOR



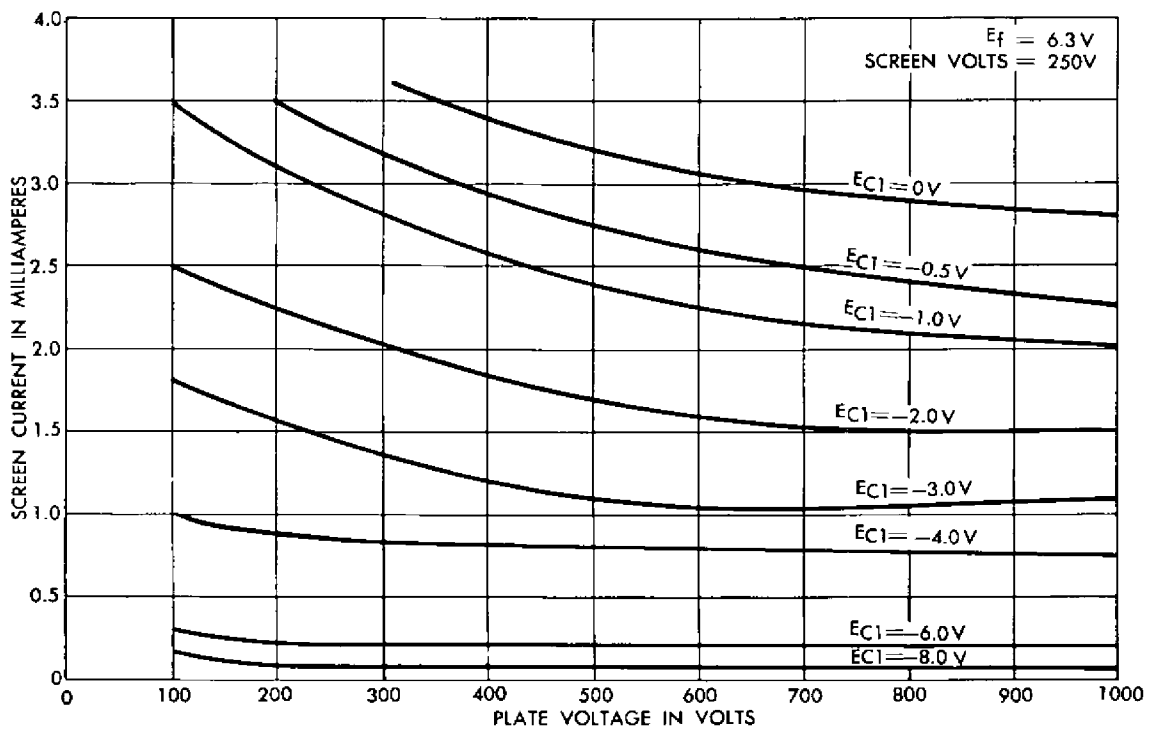


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### TRANSFER CHARACTERISTICS



### SCREEN CHARACTERISTICS



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TYPE 7683

PLATE CHARACTERISTICS

