

MECHANICAL DATA

Bulb	T-3
Base	E8-10, Subminiature Button, Flexible Leads
Outline	3-1
Basing	8EX
Cathode	Cold
Mounting Position	Any

RATINGS

Impact Acceleration ¹	450 g Max.
Fatigue (Vibrational Acceleration For Extended Periods) ²	2.5 g Max.
Bulb Temperature (Absolute Max.)	+160° C
	-55° C

ELECTRICAL DATA

RATINGS (Absolute Values)

Minimum, Ambient Light, Starting Voltage	115 Volts
Minimum Ionization Voltage in Total Darkness ³	140 Volts
Maximum DC Operating Current	3.5 Ma
Minimum DC Operating Current	1.5 Ma
Maximum Shunting Capacitance	0.02 $\mu\mu\text{f}$

CHARACTERISTICS

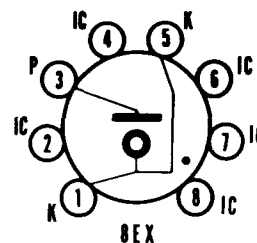
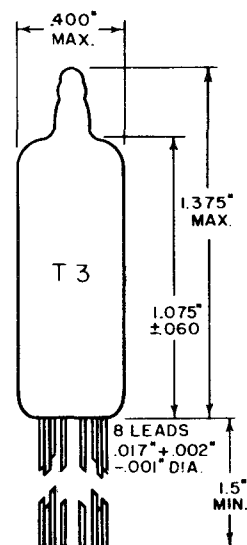
DC Operating Voltage ⁴	87 Volts
Maximum Regulation	3 Volts
Drift ⁵	200 Mv
Stability ⁶	5 Mv
Repeatability ⁷	150 Mv
Voltage Jump ⁸	50 Mv
Maximum Average Temperature Coefficient of DC Operating Voltage	
-20° C to +25° C Ambient	-15 Mv/°C
+25° C to 60° C Ambient	-5 Mv/°C
Noise Output Voltage, Maximum ⁹	50 Mv AC
Life Expectancy, 150° C Ambient Temperature	1000 Hours

NOTES:

- Forces in any direction as applied by the Navy Type High Impact (Flyweight) Shock Machine for Electronic Devices, or equivalent.
- Vibrational forces in any direction at 60 cycles per second for a period exceeding 100 hours.
- Test conducted in total darkness after tubes have been held in darkness for 24 hours.
- The anode voltage drop may range from tube to tube between 82 and 92 volts.
- The maximum operating voltage change, at any specific value of current within the operating range, during one hour of operation.
- The maximum operating voltage fluctuation having a frequency of 10 cycles per second or greater, at any specific value of current within the operating range.
- The maximum shift in operating voltage between successive firings of the tube.
- The maximum sudden jump in operating voltage when operating current is varied slowly over the specified operating range.
- Across plate resistor of 10,000 ohms, with applied vibrational acceleration of 2.5 g at 25 cycles per second.
- Do not use pins marked "IC" as circuit tie points. Any connection to these leads may cause erratic tube performance.

QUICK REFERENCE DATA

The Sylvania Type 6308 is a subminiature, gas filled cold cathode, glow discharge diode intended for use as a voltage reference tube in electronically regulated power supplies. The 6308 is designed for operation under conditions of severe shock, vibration and high temperature.



(Note 10)

**SYLVANIA ELECTRIC
PRODUCTS INC.**
RADIO TUBE DIVISION

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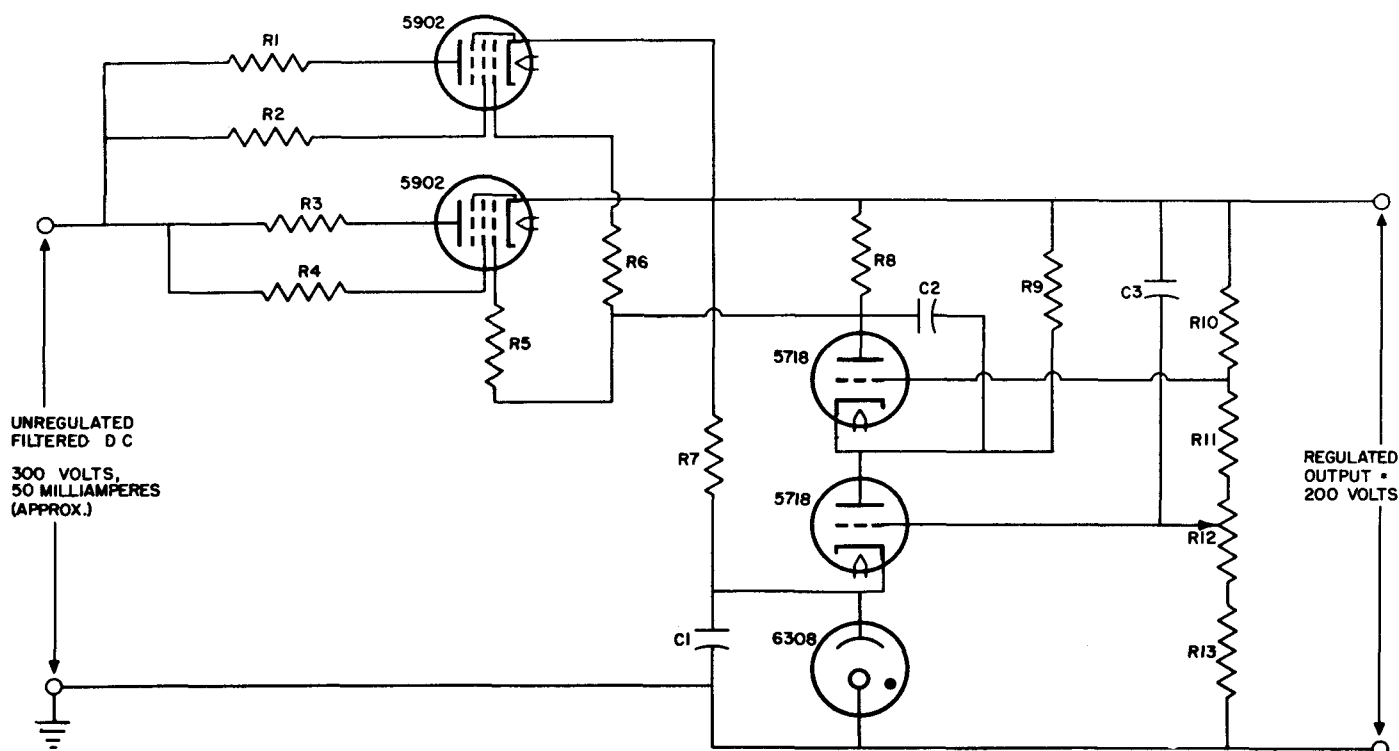
MARCH 1954

APPLICATION DATA

The Sylvania Type 6308 is a subminiature, cold cathode, gas filled, glow discharge tube designed for service as a voltage reference tube in electronically regulated power supplies. It has an operating current range of 1.5 to 3.5 Ma over which a substantially constant operating voltage of 87 volts is maintained. The maximum sudden voltage jump is limited to 50 Mv when the tube is operated within the specified operating range. Two cathode leads are provided which may be used to disconnect the load when the tube is removed from its socket. The flexible leads may be soldered directly to the circuit components without the use of a socket.

The Sylvania Type 6308 features long life and stable performance and is designed for service under conditions of severe shock and vibration.

TYPICAL OPERATING CIRCUIT FOR THE TYPE 6308



$R_1 = 200 \text{ Ohms}$
 $R_2 = 500 \text{ Ohms}$
 $R_3 = 200 \text{ Ohms}$
 $R_4 = 500 \text{ Ohms}$
 $R_5 = 200 \text{ Ohms}$
 $R_6 = 200 \text{ Ohms}$

$R_7 = 50,000 \text{ Ohms}$
 $R_8 = 490,000 \text{ Ohms}$
 $R_9 = 200,000 \text{ Ohms}$
 $R_{10} = 200,000 \text{ Ohms}$
 $R_{11} = 150,000 \text{ Ohms}$
 $R_{12} = 50,000 \text{ Ohm,}$
 1 Watt, Pot.

$R_{13} = 250,000 \text{ Ohms}$
 $C_1 = 0.01 \mu\text{f, } 200 \text{ V}$
 $C_2 = 510 \mu\text{f, } 500 \text{ V}$
 $C_3 = 0.05 \mu\text{f, } 200 \text{ V}$

All resistors are 0.5 watt, except the potentiometer.