from JETEC release #1591, Feb. 20, 1956

ADVANCE DATA

MECHANICAL DATA

Base	Ceramic button with central pin
Envelope	Metal
Connections	
Pin	Anode
Metal Envelope	Cathode
Cathode	Cold
Mounting Position	Any

RATINGS

Impact Acceleration	1000 g Max.
Fatigue (Vibrational Acceleration for Extended Periods)	10 g Max.
Maximum Bulb Temperature	160 °C

ELECTRICAL DATA

RATINGS (Absolute Values)

Maximum DC Operating Current	3.5 Ma
Minimum DC Operating Current	1.5 Ma

CHARACTERISTICS

Minimum DC Starting Voltage	150 Volts
DC Operating Voltage (1)	84.5 Volts
Maximum Regulation	1.8 Volts
Drift (2)	35 Mv
Repeatability (3)	5 Mv
Voltage Jump (4)	1 Mv
Maximum Leakage Current (5)	85 uua
Maximum Vibration Noise (6)	0.3 Mvac
Average Temperature Coefficient of DC Operating Voltage +30°C to +70°C	-5 Mv/°C
Life Expectancy	
at 160°C Ambient Temperature	500 hours
at 30°C Ambient Temperature	1000 hours

APPLICATION DATA

The Sylvania Type 6789 is a 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 is maintained. This type has superior drift, repeatability, oscillation and noise characteristics. The maximum sudden voltage

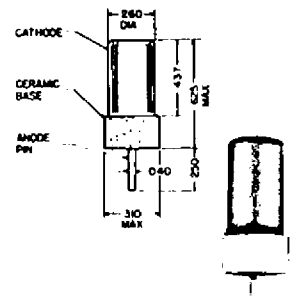
Continued on Reverse

QUICK REFERENCE DATA

The Sylvania Tube Type 6789 is a glow discharge voltage reference tube designed and processed for extreme ruggedness and unusual stability.

The construction is simple and rigid, consisting of three parts: an external cathode (metal envelope), an anode rod (center pin), and a ceramic insulator button - all refractory materials. Thus, the entire tube can be outgassed at unusually high temperatures for improved life stability.

The external cathode design permits minimum size and insures that a minimum amount of insulation material be exposed to the glow discharge, further enhancing stability of operation.



Actual size

SYLVANIA ELECTRIC PRODUCTS INC.
RADIO TUBE DIVISION
Prepared and Released by The
PRODUCT DEVELOPMENT LABS.
KEW GARDENS, N. Y.
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APPLICATION DATA: CONT'D

jump is limited to 1 Mv at any point within the specified current range. It is recommended that the tube always be operated at the same current level for maximum performance.

The type features long life and stable performance and is designed for service under severe conditions of temperature, shock and vibration.

NOTES:

1. The anode voltage drop may range from tube to tube between 83 volts and 87 volts.

2. The maximum operating voltage change during one hour of operation at 2.5 Ma following a one-hour warmup.

3. The maximum shift of operating voltage in five successive firings. Each reading taken at the end of one minute of operation, followed by a one minute off period before refiring.

4. The maximum sudden jump in operating voltage when operating current is varied slowly over the specified operating range.

5. Measured with 85 volts across non-conducting tube.

6. Across a plate load resistor of 10,000 ohms with an applied vibrational acceleration of 15 G at 40 cycles per second.