**ADVANCE DATA**

**MECHANICAL DATA**

<table>
<thead>
<tr>
<th>Base</th>
<th>Ceramic button with central pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Envelope</td>
<td>Metal</td>
</tr>
<tr>
<td>Connections</td>
<td></td>
</tr>
<tr>
<td>Pin</td>
<td>Anode</td>
</tr>
<tr>
<td>Metal Envelope</td>
<td>Cathode</td>
</tr>
<tr>
<td>Cathode</td>
<td>Cold</td>
</tr>
<tr>
<td>Mounting Position</td>
<td>Any</td>
</tr>
</tbody>
</table>

**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): 85.5 Volts
- Maximum Regulation: 1.8 Volts
- Drift (2): 35 Mv
- Repeatability (3): 5 Mv
- Voltage Jump (4): 1 Mv
- Maximum Leakage Current (5): 85 µa
- Maximum Vibration Noise (6): 0.3 Mvac
- Average Temperature Coefficient of DC Operating Voltage +30°C to +70°C: -5 Mv/°C

**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

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**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.

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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 refriring.

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.