SYLVANIA ELECTRIC
RMA Registration Data

TYPE 5901
PENTODE

The Type 5901 is a subminiature semi-remote cutoff rf pentode capable of operation in the uhf region. This type is characterized by long life and stable performance. It is designed for service where severe conditions of mechanical shock and vibration are encountered, and it is suitable for high operating temperatures.

MECHANICAL DATA

GENERAL

Style .................................................. subminiature
Cathode ........................................... coated, unipotential
Bulb ..................................................... T-3
Base .................................................. K8-1,(1) Subminiature Button--Flexible Leads
Outline .............................................. 3-1
Maximum Bulb Diameter ......................... 0.400 inch
Maximum Overall Bulb Length ................... 1.375 inches
Minimum Lead Length .............................. 1.500 inches
Mounting Position ................................. any
Basing .............................................. 8DL

Lead Connections:
Lead 1 ... grid #1  Lead 5 ... plate
Lead 2 ... cathode and grid #3  Lead 6 ... heater
Lead 3 ... heater  Lead 7 ... grid #2
Lead 4 ... cathode and grid #3  Lead 8 ... cathode and grid #3

RATINGS(2)

Maximum Impact Acceleration(3) .................. 450 G
Maximum Uniform Acceleration (4) ................. 1,000 G
Maximum Vibrational Acceleration for Extended Periods(5) ........... 2.5 G

ELECTRICAL DATA

GENERAL

Direct Interelectrode Capacitances:(6) .........
Grid to Plate, maximum .......................... 0.015 μf
Input .................................................. 4.20 μf
Output ................................................. 4.00 μf
Heater Voltage (ac or dc) ....................... 6.3 volts
Heater Current ..................................... 150 milliamps

RATINGS(5) -- Absolute System

Heater Voltage (ac or dc)(7) ..................... 6.3 (±10%) volts
Maximum Plate Voltage (dc) .................... 165 volts
Maximum Grid #2 Voltage (dc) .................. 155 volts
Maximum Plate Dissipation ...................... 1.10 watts
Maximum Grid #2 Dissipation ................... 0.55 watts
Maximum Heater-Cathode Voltage .............. ±1200 volts

(See Page 2 for all notes.)
**TYPE 5901**

**CHARACTERISTICS**

<table>
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<tr>
<th>Conditions</th>
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<tbody>
<tr>
<td>Heater Voltage (ac or dc)</td>
<td>6.3</td>
</tr>
<tr>
<td>Plate Voltage (dc)</td>
<td>100</td>
</tr>
<tr>
<td>Grid #2 Voltage (dc)</td>
<td>100</td>
</tr>
<tr>
<td>Cathode Resistor</td>
<td>150</td>
</tr>
<tr>
<td>Plate Current</td>
<td>7.5</td>
</tr>
<tr>
<td>Grid #2 Current</td>
<td>2.4</td>
</tr>
<tr>
<td>Transconductance</td>
<td>5,000</td>
</tr>
<tr>
<td>Plate Resistance</td>
<td>230,000</td>
</tr>
<tr>
<td>Grid #1 Voltage for 10 µamps Plate Current</td>
<td>-9.0</td>
</tr>
<tr>
<td>Noise Output Voltage, maximum&lt;sup&gt;(8)&lt;/sup&gt;</td>
<td>100</td>
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<tr>
<th>Life Expectancy, at 180 °C Maximum Bulb Temperature</th>
<th>5,000 hours</th>
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<tr>
<td>Life Expectancy, at 250 °C Maximum Bulb Temperature</td>
<td>1,500 hours</td>
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</table>

<sup>(1) With 1.500 inches Minimum Lead Length as specified above.</sup>

<sup>(2) Limitations beyond which normal tube performance and tube life may be impaired.</sup>

<sup>(3) Forces in any direction as applied by the NRL Impact Machine for Electronic Devices, or equivalent.</sup>

<sup>(4) Forces in any direction applied gradually, as in centrifuge.</sup>

<sup>(5) Vibrational forces in any direction at 60 cycles per second for a period exceeding 100 hours.</sup>

<sup>(6) External shield of 0.405 inch diameter connected to cathode.</sup>

<sup>(7) Tube life and reliability of performance are directly related to the degree of regulation of the heater voltage to its center-rated value of 6.3 volts.</sup>

<sup>(8) Across plate resistor of 10,000 ohms, with applied vibrational acceleration of 15 G.</sup>