ADVANCE DATA

MECHANICAL DATA

Bulb T-5 1/2
Outline 5-2
Base E7-1, Miniature Button 7-Pin
Basing 7BQ
Cathode Coated Unipotential
Mounting Position Any

RATINGS

Bulb Temperature (at hottest point) 1200 °F
Operational Altitude 60,000 Ft.

DURABILITY CHARACTERISTICS

Impact Acceleration 450 G
Vibrational Acceleration for an Extended Period 2.5 G
On - Off Heater Cycles 2000

ELECTRICAL DATA

HEATER CHARACTERISTICS

Heater Voltage (±10%) 6.3 Volts
Heater Current 225 mA

CONTROLLED DETERMINATIONS

Interelectrode Insulation 200 Megohms Min.
Total Grid Current 1.0 μA dc Max.
Heater-Cathode Leakage 15 μA dc Max.
Vibration Output 50 mV ac Max.

DIRECT INTERELECTRODE CAPACITANCES (Shield No. 316)

Grid to Plate 1.7 μF
Input: k to (h+g+ext.shd.) 6.0 μF
Output: p to (h+g+ext.shd.) 4.5 μF Max.
Heater to Cathode: 3.0 μF Max.
Plate to Cathode: 0.3 μF Max.

SYLVANIA ELECTRIC PRODUCTS INC.
RADIO TUBE DIVISION
EMPORIUM, PA.

Prepared and Released By The
TECHNICAL PUBLICATIONS SECTION
EMPORIUM, PENNSYLVANIA

October 24, 1957

from JETEC release #2045, Nov. 25, 1957
RATINGS (Design Maximum System)

UHF Amplifier Service

<table>
<thead>
<tr>
<th></th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>150 Vdc</td>
</tr>
<tr>
<td>Plate Dissipation</td>
<td>2.25 Watts</td>
</tr>
<tr>
<td>Cathode Current</td>
<td>20 mA</td>
</tr>
<tr>
<td>Negative Grid Voltage</td>
<td>50 Vdc</td>
</tr>
<tr>
<td>External Grid Circuit Resistance</td>
<td>Max.</td>
</tr>
<tr>
<td>Fixed Bias</td>
<td>0.1 Megohm</td>
</tr>
<tr>
<td>Self Bias</td>
<td>0.5 Megohm</td>
</tr>
<tr>
<td>Heater-Cathode Voltage</td>
<td></td>
</tr>
<tr>
<td>Heater Negative with respect to Cathode</td>
<td></td>
</tr>
<tr>
<td>Total DC plus peak</td>
<td>200 Volts</td>
</tr>
<tr>
<td>Heater Positive with respect to Cathode:</td>
<td></td>
</tr>
<tr>
<td>Total DC plus peak</td>
<td>200 Volts</td>
</tr>
<tr>
<td></td>
<td>100 Volts</td>
</tr>
</tbody>
</table>

AVERAGE CHARACTERISTICS (each section)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>150 Vdc</td>
</tr>
<tr>
<td>Cathode Bias Resistor</td>
<td>100 Ohms</td>
</tr>
<tr>
<td>Plate Current</td>
<td>13.5 mA</td>
</tr>
<tr>
<td>Transconductance</td>
<td>8500 μhos</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>40</td>
</tr>
<tr>
<td>Grid No. 1 Voltage for Ib = 40 μA</td>
<td>-15 Vdc</td>
</tr>
</tbody>
</table>

NOTES:

1. Design-maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron device of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions. These values are chosen by the device manufacturer to provide acceptable serviceability of the device; taking responsibility for the effects of changes in operating conditions due to variations in device characteristics.

The equipment manufacturer should design so that initially and throughout life no design maximum values for the intended service is exceeded with a bogey device under the worst probable operating conditions with respect to supply voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

2. Test performed as a measure of the mechanical durability of the tube structure.

3. Force as applied in any direction by the Navy Type High Impact (Flyweight) Shock Machine for Electronic Devices.

4. Vibrational forces applied in any direction for a period of 96 hours.

5. One cycle consists of the application of EF = 7.0 V for one minute and interruption of the filament voltage for four minutes. A voltage of Ehk = 140 Vac is applied continuously.
6. Measured with $E_f = 6.3 \, \text{V}$; $E_g = -100 \, \text{Vdc}$; $E_p = -300 \, \text{Vdc}$; Cathode is positive so that no cathode emission occurs.

7. Measured with $E_f = 6.3 \, \text{V}$; $E_b = 175 \, \text{Vdc}$; $R_k = 150 \, \text{ohms}$; $R_g = 0.25 \, \text{Meg}$.

8. Measured with $E_f = 6.3 \, \text{V}$; $E_{hk} = \pm 100 \, \text{Vdc}$.

9. Measured with $E_f = 6.3 \, \text{V}$; $E_b = 150 \, \text{Vdc}$; $E_c = 0$; $R_k = 100 \, \text{ohms}$; $C_k = 1000 \, \mu\text{F}$; $R_p = 2000 \, \text{ohms}$; $F = 25 \, \text{cps}$; $A_c = 2.5 \, \text{G}$.

10. Shield tied to ground.

11. Shield tied to Grid.