TUNG-SOL

PENTODE

COATED UNIPOTENTIAL CATHODE
HEATER
6.3 VOLS 450 MA.
AC OR DC
ANY MOUNTING POSITION

METAL SHELL

THE 6AC7/1852 INCORPORATES FEATURES MAKING IT SUITABLE FOR HIGH GAIN AMPLIFIER CIRCUITS. IT HAS A HIGH RATIO OF TRANSCONDUCTANCE TO PLATE CURRENT, MAINTAINING REASONABLE LOW CAPACITANCE AND CLOSE ELECTRODE SPACING.

DIRECT INTERELECTRODE CAPACITANCES
WITH SHELL CONNECTED TO CATHODE

GRID TO PLATE: (G₄ TO P) MAX. 0.015 µµf
INPUT: G₄ TO (H + K + G₂ + G₃ + S) 11 µµf
OUTPUT: P TO (H + K + G₂ + G₃ + S) 5 µµf

RATINGS
INTERPRETED ACCORDING TO RCA STANDARD MB-210

HEATER VOLTAGE 6.3 VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE 90 VOLTS
MAXIMUM PLATE VOLTAGE 300 VOLTS
MAXIMUM GRID #2 VOLTAGE 150 VOLTS
MAXIMUM GRID #2 SUPPLY VOLTAGE 300 VOLTS
MAXIMUM PLATE DISSIPATION 3.02 WATTS
MAXIMUM SCREEN DISSIPATION 0.38 WATT

CONTINUED ON FOLLOWING PAGE

INDICATES A CHANGE OR ADDITION
## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

### CLASS A\textsubscript{1} AMPLIFIER

<table>
<thead>
<tr>
<th>Condition</th>
<th>( A )</th>
<th>( B )</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEATER VOLTAGE</td>
<td>6.3</td>
<td>6.3</td>
</tr>
<tr>
<td>HEATER CURRENT</td>
<td>450</td>
<td>450</td>
</tr>
<tr>
<td>PLATE VOLTAGE</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>GRID #3 VOLTAGE\textsuperscript{C}</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>GRID #2 SUPPLY VOLTAGE\textsuperscript{D}</td>
<td>150</td>
<td>300</td>
</tr>
<tr>
<td>GRID #2 SERIES RESISTOR</td>
<td>60,000</td>
<td>160</td>
</tr>
<tr>
<td>CATHODE-BIAS RESISTOR (MIN.)\textsuperscript{E}</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>PLATE RESISTANCE (APPROX.)</td>
<td>9,000</td>
<td>9,000</td>
</tr>
<tr>
<td>TRANSCONDUCTANCE</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>GRID #2 CURRENT</td>
<td>2.5</td>
<td>2.5</td>
</tr>
</tbody>
</table>

\textsuperscript{A} CONDITION 1 WITH FIXED SCREEN SUPPLY GIVES A SHARP CUT-OFF CHARACTERISTIC.

\textsuperscript{B} CONDITION 2 WITH SERIES SCREEN RESISTOR GIVES AN EXTENDED CUT-OFF CHARACTERISTIC FOR APPLICATIONS WHERE GAIN IS CONTROLLED BY VARIATION OF GRID BIAS.

\textsuperscript{C} TO MINIMIZE FEEDBACK THE SUPPRESSOR SHOULD BE CONNECTED DIRECTLY TO GROUND IF USED IN RF AND IF STAGES.

\textsuperscript{D} SCREEN SUPPLY VOLTAGES IN EXCESS OF 150 VOLTS REQUIRE THE USE OF A SERIES-DROPPING RESISTOR TO LIMIT THE VOLTAGE AT THE SCREEN TO 150 VOLTS WHEN THE PLATE CURRENT IS AT ITS NORMAL VALUE OF 10 MILLIAMPERES.

\textsuperscript{E} CATHODE BIAS RESISTOR SHOULD BE ADJUSTED TO GIVE A PLATE CURRENT OF 10 MILLIAMPERES. THE DC RESISTANCE IN THE GRID CIRCUIT SHOULD NOT EXCEED 0.25 MEGOHM WHEN THE SCREEN VOLTAGE IS OBTAINED FROM A FIXED SOURCE. WHEN A SERIES SCREEN RESISTOR IS USED WITH FULL CATHODE BIAS, THE DC RESISTANCE IN THE GRID CIRCUIT MAY BE AS HIGH AS 0.5 MEGOHM.

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**Graph:**

- **6AC7**
  - \( E_f = 6.3 \) Volts
  - \( E_{C2} = 150 \) Volts
  - \( E_{C3} = 0 \) Volts

- **Axes:**
  - Plate volts (in 100-unit increments)
  - Plate current (in milliamperes)

- **Equations:**
  - \( E_{C1} = 0 \)
  - \( E_{C1} = -0.5 \)
  - \( E_{C1} = -1.0 \)
  - \( E_{C1} = -1.5 \)
  - \( E_{C1} = -2.0 \)
  - \( E_{C1} = -2.5 \)
  - \( E_{C1} = -3.0 \)
  - \( E_{C1} = -3.5 \)
  - \( E_{C1} = -4.0 \)

**Label:**

- \( I_b \)
- \( I_{C2} \)

**Date:**

- **PLATE**
  - 1968
- **SEPT. 2**
  - 1947

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