TUNG-SOL

DOUBLE TRIODE
MINIATURE TYPE

UNIPOTENTIAL CATHODES

SERIES
HEATER
PARALLEL
12.6 VOLTS
6.3 VOLTS
150 MA.
300 MA.

AC OR DC

BOTTOM VIEW
SMALL BUTTON
9 PIN BASE

ANY MOUNTING POSITION

FOR 12.6 VOLT OPERATION APPLY HEATER VOLTAGE BETWEEN PINS #4 AND #5. FOR 6.3 VOLT OPERATION APPLY HEATER VOLTAGE BETWEEN PIN #9 AND PINS #4 AND #5 CONNECTED TOGETHER.

THE 12AX7 COMBINES TWO COMPLETELY INDEPENDENT HIGH-MU TRIODES IN THE SMALL 9 PIN BUTTON CONSTRUCTION. IT IS ADAPTABLE TO APPLICATIONS WHERE HIGH VOLTAGE GAIN AND LOW HEATER POWER ARE IMPORTANT CONSIDERATION, SUCH AS VOLTAGE AMPLIFIERS, PHASE INVERTERS AND MULTIVIBRATORS. THE CENTER TAPPED HEATER CONNECTION PERMITS OPERATION FROM EITHER A 6.3 VOLT OR 12.6 VOLT SUPPLY AND IN 300 MA. OR 150 MA. SERIES HEATER SERVICE.

DIRECT INTERELECTRODE CAPACITANCES
WITH NO EXTERNAL SHIELD

GRID TO PLATE: (G TO P) 1.7 1.7 \( \mu \text{F} \)
INPUT: G TO (H + K) 1.6 1.6 \( \mu \text{F} \)
OUTPUT: P TO (H + K) 0.46 0.34 \( \mu \text{F} \)

RATINGS
INTERPRETED ACCORDING TO I.R.A. STANDARD MS-210

EACH TRIODE UNIT

HEATER VOLTAGE 12.6 6.3 VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE 180 VOLTS
MAXIMUM PLATE VOLTAGE 300 VOLTS
MAXIMUM NEGATIVE DC GRID VOLTAGE 50 VOLTS
MAXIMUM POSITIVE DC GRID VOLTAGE 0 VOLTS
MAXIMUM PLATE DISSIPATION 1 WATT

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS
CLASS A\textsubscript{1} AMPLIFIER - EACH TRIODE UNIT

HEATER VOLTAGE 12.6 6.3 12.6 6.3 VOLTS
HEATER CURRENT 150 300 150 300 MA.
PLATE VOLTAGE 100 250 VOLTS
GRID VOLTAGE -1 -2 VOLTS
PLATE CURRENT 0.5 1.2 MA.
PLATE RESISTANCE 80 000 62 500 OHMS
TRANSCONDUCTANCE 1 250 1 600 \( \mu \text{MOS} \)
AMPLIFICATION FACTOR 100 100

SIMILAR TYPE REFERENCE: Characteristics somewhat similar to types 6SL7GT and 12SL7GT.
**CONTINUED FROM PRECEDING PAGE**

**RESISTANCE COUPLED AMPLIFIER**

<table>
<thead>
<tr>
<th>( R_1 ) MEG.</th>
<th>( R_C ) MEG.</th>
<th>( E_{bb} = 90 ) VOLTS</th>
<th>( E_{bb} = 180 ) VOLTS</th>
<th>( E_{bb} = 300 ) VOLTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>( R_k ) GAIN</td>
<td>( E_O )</td>
<td>( R_k ) GAIN</td>
</tr>
<tr>
<td>0.1</td>
<td>0.22</td>
<td>4700</td>
<td>35(^a)</td>
<td>4</td>
</tr>
<tr>
<td>0.22</td>
<td>0.47</td>
<td>7400</td>
<td>45(^b)</td>
<td>6</td>
</tr>
<tr>
<td>0.47</td>
<td>1.0</td>
<td>13000</td>
<td>52(^c)</td>
<td>8</td>
</tr>
</tbody>
</table>

\( E_O \) is RMS output at grid current point.

Gain measured at 5.0 volts RMS output except as indicated.

\(^a\) Output voltage of 2 volts RMS.

\(^b\) Output voltage of 3 volts RMS.

\(^c\) Output voltage of 4 volts RMS.

---

**NOTE:** Coupling capacitors \( C_g \) and \( C_k \) should be selected to give desired frequency response. \( R_L \) should be adequately bypassed by capacitor \( C_C \).

---

**PLATE 1932**

**DEC. 1, 1947**

**COPYRIGHT 1947 BY TUNG-SOL LAMP WORKS INC. ELECTRONIC TUBE DIVISION NEWARK, NEW JERSEY, U.S.A.**