EDISWAN
MAZDA
30PL13
TRIODE OUTPUT BEAM TETRODE
TENTATIVE

GENERAL
The 30PL13 is a Triode Output Beam Tetrode, each section having its own cathode. It is suitable for use in 110° Frame Time Base stages of AC/DC powered television receivers having series connected heater chains.

RATING

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Tetrode</th>
<th>Triode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater Current (amps)</td>
<td>$I_h$</td>
<td>0.3</td>
</tr>
<tr>
<td>Heater Voltage (volts)</td>
<td>$V_h$</td>
<td>16.0</td>
</tr>
<tr>
<td>Maximum Anode Voltage (volts) $V_a(\text{max})$</td>
<td></td>
<td>250*</td>
</tr>
<tr>
<td>Maximum Screen Voltage (volts) $V_g2(\text{max})$</td>
<td></td>
<td>250</td>
</tr>
<tr>
<td>Maximum Anode Dissipation (watts) $P_a(\text{max})$</td>
<td></td>
<td>7.0</td>
</tr>
<tr>
<td>Maximum Screen Dissipation (watts) $P_g2(\text{max})$</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>Maximum Mean Cathode Current (mA) $I_{a(\text{av})\text{max}}$</td>
<td></td>
<td>2.4</td>
</tr>
<tr>
<td>Mutual Conductance (mA/V) $g_m$</td>
<td>3.4‡</td>
<td>18‡</td>
</tr>
<tr>
<td>Amplification Factor $\mu$</td>
<td></td>
<td>18‡</td>
</tr>
<tr>
<td>Maximum Heater/Cathode Voltage (volts r.m.s.) $V_{h-k} (\text{max})$</td>
<td></td>
<td>150†</td>
</tr>
<tr>
<td>Maximum Grid 1/Cathode Resistance (Self Bias) (megohms) $R_{g1-k(\text{max})}$</td>
<td></td>
<td>2§</td>
</tr>
</tbody>
</table>

* Maximum Peak Positive Anode Voltage (pulse) 2.0kV
Maximum Peak Negative Anode Voltage (pulse) 500V
Maximum pulse duration 4% of one cycle and not more than 800μs.

‡ Measured at $V_a = 200V$, $I_a = 10mA$.
† Measured with respect to the higher potential heater pin.
§ Maximum Tetrode Grid1/Cathode resistance, fixed bias, 1 megohm.

The characteristics for the triode section of the 30PL13 are the same as for the 6/30L2 triode.

March 1960

ASSOCIATED ELECTRICAL INDUSTRIES LTD.
RADIO & ELECTRONIC COMPONENTS DIVISION
EDISWAN
MAZDA
30PL13
TRIODE OUTPUT BEAM TETRODE
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DIMENSIONS
Maximum Overall Length (mm) 78.5
Maximum Diameter (mm) 22.2
Maximum Seated Height (mm) 71.5
Approximate Nett Weight (ozs) $\frac{1}{2}$
Approximate Packed Weight (ozs) $\frac{3}{4}$

MOUNTING POSITION—Unrestricted

TYPICAL OPERATION—Frame Time-Base.

The frame output stage should be designed to allow for valve spread and deterioration during life in addition to component variation. Values of total tetrode peak anode current available from a new average valve and at the assumed end of life point on any valve are as follows:

$$V_a \quad V_{g2} \quad V_{g1} \quad I_a (mA)$$

Average New Valve 55 170 $-1$ 175
Assumed End of Life Condition 50 170 $-1$ 110

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Issue 1/2
BASE—Noval (B9A)

Viewed from free end of pins.

**CONNECTIONS**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
<th>Symbol(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Triode Grid</td>
<td>$g_t$</td>
</tr>
<tr>
<td>2</td>
<td>Tetrode Cathode, Beam Plates, Shield</td>
<td>$k_q, b_p, s$</td>
</tr>
<tr>
<td>3</td>
<td>Tetrode Control Grid</td>
<td>$g_1$</td>
</tr>
<tr>
<td>4</td>
<td>Heater</td>
<td>$h$</td>
</tr>
<tr>
<td>5</td>
<td>Heater</td>
<td>$h$</td>
</tr>
<tr>
<td>6</td>
<td>Tetrode Anode</td>
<td>$a_q$</td>
</tr>
<tr>
<td>7</td>
<td>Tetrode Screen Grid</td>
<td>$g_2$</td>
</tr>
<tr>
<td>8</td>
<td>Triode Cathode</td>
<td>$k_t$</td>
</tr>
<tr>
<td>9</td>
<td>Triode Anode</td>
<td>$a_t$</td>
</tr>
</tbody>
</table>

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RADIO & ELECTRONIC COMPONENTS DIVISION
CHARACTERISTIC CURVES: $i_a, lg_2/V_g$

Tetrode Section
EDISWAN
MAZDA
30PL13
TRIODE OUTPUT BEAM TETRODE
TENTATIVE

CHARACTERISTIC CURVES: $I_a/V_a$
Tetrode Section
$V_{g2} = 170\text{V}$.

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