TUNG-SOL

PENTODE
MINIATURE TYPE

COATED FILAMENT

SERIES FILAMENT
$E_1$ APPLIED BETWEEN PINS 1 & 7
$E_{91}$ REFERRED TO PIN 1
2.8 VOLTS
50 MA.

PARALLEL FILAMENT
$E_1$ APPLIED BETWEEN PIN 1 AND PINS 1 & 7 TIED TOGETHER
$E_{91}$ REFERRED TO -F
1.4 VOLTS
100 MA.

A SHUNTING RESISTOR MUST BE CONNECTED BETWEEN PINS 1 AND 5 FOR SERIES-FILAMENT OPERATION TO BY-PASS ANY CATHODE CURRENT IN EXCESS OF THE 6 MA. RATED MAXIMUM PER SECTION. AN ADDITIONAL SHUNTING RESISTOR MAY BE NECESSARY BETWEEN PINS 1 AND 7 IF OTHER TUBES USED IN SERIES-FILAMENT ARRANGEMENT CONTRIBUTE TO THE FILAMENT CURRENT OF THE 3Q4.

ANY MOUNTING POSITION

THE 3Q4 IS A FILAMENTARY TYPE POWER OUTPUT PENTODE IN THE MINIATURE CONSTRUCTION. IT IS CHARACTERIZED BY ECONOMY OF FILAMENT POWER AND HIGH POWER SENSITIVITY ADAPTING IT TO USE IN THE "3-WAY" OPERATED PORTABLE RECEIVERS.

RATINGS
INTERPRETED ACCORDING TO DESIGN-MAXIMUM SYSTEM

<table>
<thead>
<tr>
<th>FILAMENT VOLTAGE</th>
<th>SERIES FILAMENT</th>
<th>PARALLEL FILAMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM PLATE VOLTAGE</td>
<td>2.8</td>
<td>1.4</td>
</tr>
<tr>
<td>MAXIMUM GRID #2 VOLTAGE</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>MAXIMUM CATHODE CURRENT</td>
<td>6A</td>
<td>6A</td>
</tr>
</tbody>
</table>

A FOR EACH 1.4 VOLT FILAMENT SECTION.

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A1 AMPLIFIER

| FILAMENT VOLTAGE | 2.8 | 1.4 | 1.4 |
| FILAMENT CURRENT | 50 | 100 | 100 |
| PLATE VOLTAGE | 90 | 85 | 90 |
| GRID #2 VOLTAGE | 90 | 85 | 90 |
| PEAK AF SIGNAL VOLTAGE | -4.5 | -5 | -4.5 |
| ZERO-SIGNAL PLATE CURRENT | 4.5 | 4.5 | 4.5 |
| ZERO-SIGNAL GRID #2 CURRENT (NOMINAL) | 7.7 | 6.9 | 9.5 |
| PLATE RESISTANCE (APPROX.) | 1.7 | 1.5 | 2.1 |
| TRANSCONDUCTANCE | 0.12 | 0.12 | 0.1 |
| LOAD RESISTANCE | 2 000 | 1 975 | 2 150 |
| TOTAL HARMONIC DISTORTION | 10 000 | 10 000 | 10 000 |
| POWER OUTPUT | 240 | 250 | 270 |

→ INDICATES A CHANGE.
3Q4 PARALLEL FILAMENT

$E_f = 1.4$ Volts DC

$E_{c2} = 90$ Volts

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**Graph 1:**
- **PLATE (I_b) OR SCREEN (I_{c2}) MILLIAMPERES**
- **PLATE VOLTS**
- Curves for $E_{c1} = 0$, $E_{c2} = 0$, $E_{c4} = 0$, $E_{c4} = 4.5$ Volts

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**Graph 2:**
- **POWER OUTPUT - MILLIWATTS**
- **LOAD RESISTANCE - KILOHMS**
- Curves for $P_0$, Dist.
- $E_f = 1.4$ Volts DC
- $E_b = 90$ Volts
- $E_{c2} = 90$ Volts
- $E_{c4} = 4.5$ Volts
- **TOTAL HARMONIC DISTORTION - PERCENT**