PENTODE

COATED FILAMENT FOR

AF AND RF APPLICATIONS

ANY MOUNTING POSITION

GLASS BULB
MINIATURE BUTTON
7 PIN BASE E7-1
OUTLINE DRAWING
JEDEC 5-2

THE IU4 IS A MINIATURE FILAMENTARY TYPE SHARP CUT-OFF PENTODE AMPLIFIER. IT IS INTENDED FOR RF OR AF APPLICATION WHERE CONSERVATION OF BATTERY POWER IS IMPORTANT.

DIRECT INTERELECTRODE CAPACITANCES
WITH OR WITHOUT SHIELD 316 CONNECTED TO PIN 1 OR 5

GRID TO PLATE: G1 TO P (MAX.) 0.01 pf
INPUT: G1 TO (F + G2 + G3 + I.S.) 3.6 pf
OUTPUT: P TO (F + G2 + G3 + I.S.) 7.5 pf

FILAMENT CHARACTERISTICS AND RATINGS
DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS 1.4 VOLTS 50 MA.

FILAMENT SUPPLY LIMITS:
VOLTAGE OPERATION: 1.5 VOLT DRY CELL SUPPLY 1.1 TO 1.6 VOLTS
OTHER BATTERY SUPPLIES OR POWER LINE 1.1 TO 1.5 VOLTS

MAXIMUM RATINGS
DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

PLATE VOLTAGE → 120 VOLTS
GRID 2 VOLTAGE → 120 VOLTS
POSITIVE DC GRID 1 VOLTAGE → 0 VOLTS
CATHODE CURRENT → 6.6 MA.

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→ INDICATES A CHANGE.
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TYPICAL OPERATING CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>PLATE VOLTAGE</td>
<td>90 VOLTS</td>
</tr>
<tr>
<td>GRID 2 VOLTAGE</td>
<td>90 VOLTS</td>
</tr>
<tr>
<td>GRID 1 VOLTAGE</td>
<td>0 VOLTS</td>
</tr>
<tr>
<td>PLATE RESISTANCE (APPROX.)</td>
<td>1.0 MEGOHM</td>
</tr>
<tr>
<td>TRANSCONDUCTANCE</td>
<td>900 uMHOs</td>
</tr>
<tr>
<td>PLATE CURRENT</td>
<td>1.6 MA</td>
</tr>
<tr>
<td>GRID 2 CURRENT</td>
<td>0.50 MA</td>
</tr>
<tr>
<td>GRID 1 VOLTAGE FOR I_b = 10 uA</td>
<td>-4 VOLTS</td>
</tr>
</tbody>
</table>

**Pentode Connection**

- $E_f = 1.4$ Volts
- $E_{c2} = 90$ Volts

![Graph of plate milliamperes vs. plate volts for a pentode connection with $E_c = +0.5$ and $E_f = 1.4$ Volts]$E_{c2} = 90$ Volts
1U4
PENTODE CONNECTION

\[ E_t = 1.4 \text{ Volts} \]

\[ E_b = 90 \text{ Volts} \]

\[ E_{c2} = 90 \text{ Volts} \]

- \( I_b \)
- \( I_{c2} \)
- \( g_m \)

PLATE (Ib) OR GRID 2 (Ic2) MILLIAMPERES

GRID VOLTS

TRANSCONDUCTANCE (gm) - MICROMHOS