MECHANICAL DATA

Bulb .............................................................. T-51/2
Base .............................................................. E7-1, Miniature Button 7-Pin
Outline ............................................................ 5-1
Basing .............................................................. 7BD
Cathode ............................................................ Coated Unipotential
Mounting Position .............................................. Any

ELECTRICAL DATA

HEATER CHARACTERISTICS

Heater Voltage ............................................... 6.3 Volts
Heater Current ................................................ 300 Ma
Heater-Cathode Voltage (Design Center Values)
Heater Negative with Respect to Cathode
Total DC and Peak .............................................. 90 Volts Max.
Heater Positive with Respect to Cathode
Total DC and Peak .............................................. 90 Volts Max.

DIRECT INTERELECTRODE CAPACITANCES

<table>
<thead>
<tr>
<th>Shielded</th>
<th>Unshielded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid to Plate (g1 to p)</td>
<td>0.020</td>
</tr>
<tr>
<td>Input: g1 to (h+k+g2+g3 &amp; i.s.)</td>
<td>4.0</td>
</tr>
<tr>
<td>Output: p to (h+k+g2+g3 &amp; i.s.)</td>
<td>2.8</td>
</tr>
</tbody>
</table>

RATINGS (Design Center Values)

<table>
<thead>
<tr>
<th>Rating</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>180 Volts Max.</td>
</tr>
<tr>
<td>Grid No. 2 Supply Voltage</td>
<td>180 Volts Max.</td>
</tr>
<tr>
<td>Grid No. 2 Voltage</td>
<td>See Rating Chart</td>
</tr>
<tr>
<td>Plate Dissipation</td>
<td>1.7 Watts Max.</td>
</tr>
<tr>
<td>Grid No. 2 Dissipation</td>
<td>0.5 Watt Max.</td>
</tr>
<tr>
<td>Positive DC Grid No. 1 Voltage</td>
<td>0 Volts Max.</td>
</tr>
<tr>
<td>Cathode Current</td>
<td>18 Ma Max.</td>
</tr>
</tbody>
</table>

CHARACTERISTICS AND TYPICAL OPERATION

Class A1 Amplifier
Plate Voltage ............................................... 28 Volts
Grid No. 2 Voltage .......................................... 28 Volts
Grid No. 1 Voltage .......................................... -1.0 Volts
Plate Current .............................................. 2.7 Ma
Grid No. 2 Current ......................................... 1.0 Ma
Transconductance .......................................... 2500 μmhos
Plate Resistance (approx.) ............................... 0.1 Megohm
Grid No. 1 Voltage for I_b = 10 μa .................... -4.5 Volts

NOTE:
1. External shield No. 316 connected to Pins 2 and 7.
AVERAGE PLATE CHARACTERISTICS

$E_f = \text{RATED VALUE}$

$E_{C2} = 28 \text{ VOLTS}$

CURRENT IN MILLIAMPERES

PLATE VOLTAGE
AVERAGE CHARACTERISTICS

Current in Milliamperes vs. Plate Voltage

$E_f =$ RATED VALUE
$E_{C2} = 28$ VOLTS

$E_{C1} =$ constants

- $E_{C1} = 0$ VOLTS
- $E_{C1} = -0.5$ VOLTS
- $E_{C1} = -1.0$ VOLTS
- $E_{C1} = -1.5$ VOLTS
- $E_{C1} = -2.0$ VOLTS
- $E_{C1} = -2.5$ VOLTS
AVERAGE TRANSFER CHARACTERISTICS

GRID NO. 1 VOLTAGE

CURRENT IN MILLIAMPERES

$E_I = \text{RATED VALUE}$
AVERAGE TRANSFER CHARACTERISTICS

$E_t = \text{RATED VALUE}$

$E_b \cdot E_c = 32 \text{ VOLTS}$

- Current in Milliamperes
- GRID NO. 1 VOLTAGE

Values:
- 1.6
- 2.0
- 2.4
- 2.8
- 3.2
AVERAGE TRANSFER CHARACTERISTICS

\[ E_f = \text{RATED VALUE} \]

TRANSCONDUCTANCE (g_m) IN MICROMOS

GRID NO. 1 VOLTAGE

-4.0 -3.0 -2.0 -1.0 0
AVERAGE TRANSFER CHARACTERISTICS

GRID NO. 1 VOLTAGE

PLATE RESISTANCE (R\(_p\)) IN MEGOHMS

\(E_f = \text{RATED VALUE}\)

\(E_b = E_{CC} = 20 \text{ VOLTS}\)

Values:
- 24
- 28
- 32

-4.0 -3.0 -2.0 -1.0 0
RATING CHART

SCREEN GRID VOLTAGE EXPRESSED AS PER CENT OF MAX. SCREEN GRID SUPPLY VOLTAGE RATING

SCREEN GRID INPUT RATING EXPRESSED AS PER CENT OF MAX.