DIODE PENTODE

COATED FILAMENT

FILAMENT
1.4 VOLTS 50 MA.
DC
ANY MOUNTING POSITION

THE 155 IS A DIODE PENTODE AMPLIFIER ESPECIALLY DESIGNED FOR DETECTOR-AUDIO SERVICE IN COMPACT, LIGHT-WEIGHT, PORTABLE EQUIPMENT. THE HIGH OPERATING EFFICIENCY ALLOWS IT TO BE USED WITH EXTREMELY LOW PLATE-SUPPLY VOLTAGE.

DIRECT INTERELECTRODE CAPACITANCES →

DIODE PLATE TO GRID #1  0.1  µµf
DIODE PLATE TO FILAMENT & PIN #2  1.1  µµf

RATINGS
INTERPRETED ACCORDING TO DESIGN-MAXIMUM SYSTEM

FILAMENT VOLTAGE  1.4  VOLTS
MAXIMUM PLATE VOLTAGE  90  VOLTS
MAXIMUM GRID #2 VOLTAGE  90  VOLTS
MAXIMUM CATHODE CURRENT  3  MA.
MAXIMUM DIODE CURRENT FOR CONTINUOUS OPERATION  0.25  MA.
MAXIMUM POSITIVE DC GRID #1 VOLTAGE  0  VOLTS
MAXIMUM NEGATIVE DC GRID #1 VOLTAGE  -50  VOLTS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS
CLASS A1 AMPLIFIER - PENTODE UNIT

FILAMENT VOLTAGE  1.4  VOLTS
FILAMENT CURRENT  50  MA.
PLATE VOLTAGE  67.5  VOLTS
GRID #2 VOLTAGE  67.5  VOLTS
GRID #1 VOLTAGE  0  VOLTS
PLATE RESISTANCE (APPROX.)  0.6  MEGOHM
TRANSCONDUCTANCE  625  µMHO
PLATE CURRENT  1.6  MA.
GRID #2 CURRENT  0.4  MA.
GRID #1 VOLTAGE (APPROX.) FOR 1 µ = 10 µA DC  -5  VOLTS
AVERAGE DIODE CURRENT AT 10 VOLTS DC  1.5  MA.

CONTINUED ON FOLLOWING PAGE

A WITHOUT EXTERNAL SHIELD OR WITH EXTERNAL SHIELD #326 CONNECTED TO PIN #1.
B WITHOUT EXTERNAL SHIELD.
### Typical Operating Conditions and Characteristics

**Resistance Coupled Amplifier**

**Pentode Unit**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filament Voltage</td>
<td>1.4</td>
<td>1.4</td>
<td>Volts</td>
</tr>
<tr>
<td>Plate Supply Voltage</td>
<td>45</td>
<td>90</td>
<td>Volts</td>
</tr>
<tr>
<td>Screen Supply Voltage</td>
<td>45</td>
<td>90</td>
<td>Volts</td>
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<tr>
<td>Control Grid Voltage</td>
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<td>0</td>
<td>Volts</td>
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<tr>
<td>Plate Load Resistor</td>
<td>470 kOhm</td>
<td>470 kOhm</td>
<td>Ohms</td>
</tr>
<tr>
<td>Control Grid Resistor</td>
<td>10</td>
<td>10</td>
<td>MegOhms</td>
</tr>
<tr>
<td>Series Screen Resistor</td>
<td>2.2</td>
<td>2.2</td>
<td>MegOhms</td>
</tr>
<tr>
<td>Screen By-Pass Condenser</td>
<td>0.1 µF</td>
<td>0.1 µF</td>
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</tr>
<tr>
<td>Input Condenser</td>
<td>0.01 µF</td>
<td>0.01 µF</td>
<td></td>
</tr>
<tr>
<td>Output Condenser</td>
<td>0.01 µF</td>
<td>0.01 µF</td>
<td></td>
</tr>
<tr>
<td>Grid Resistor of Following Stage</td>
<td>1.0</td>
<td>1.0</td>
<td>MegOhms</td>
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<tr>
<td>Signal Source Impedance (Max.)</td>
<td>1000</td>
<td>1000</td>
<td>Ohms</td>
</tr>
<tr>
<td>Distortion</td>
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<td>5</td>
<td>Percent</td>
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<tr>
<td>Output Voltage</td>
<td>5.5</td>
<td>17.0</td>
<td>Volts</td>
</tr>
<tr>
<td>Voltage Gain at 400 CPS</td>
<td>33</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

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**IS5 Diode Unit**

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

**Graph:**

- **DC Volts Developed by Diode:**
  - Scale from -40 to 0 Volts.
- **Rectified Microamperes:**
  - Scale from 0 to 150.
- **RMS Signal Input:**
  - Scale from 0 to 30 Volts.
- **Resistor Values:**
  - 0.1 Meg, 0.25 Meg, 0.5 Meg, 1 Meg, 2 Meg.