7027
BEAM POWER TUBE
For high-fidelity audio-amplifier applications

GENERAL DATA

Electrical:
Heater, for Unipotential Cathode:
Voltage ............ 6.3 ....... ac or dc volts
Current ............ 0.9 ............... amp
Direct Interelectrode Capacitances: 0
Grid No.1 to plate ........... 1.5 μf
Grid No.1 to cathode & grid No.3,
grid No.2, and heater ........... 10 μf
Plate to cathode & grid No.3,
grid No.2, and heater .......... 7.5 μf

Characteristics, Class A 1 Amplifier:
Plate Voltage ............. 250 volts
Grid-No.2 (Screen-Grid) Voltage ........... 250 volts
Grid-No.1 (Control-Grid) Voltage ........... 14 volts
Plate Resistance [Approx.] ........... 22500 ohms
Transconductance ......... 6000 μhmhos
Plate Current ............. 72 ma
Grid-No.2 Current .......... 5 ma

Mechanical:
Operating Position ........... Any
Maximum Overall Length .......... 4.62"
Maximum Seated Length .......... 4.06"
Maximum Diameter ............. 1.63"
Bulb ........... T12
Base ........... Small-Wafer Octal 8-Pin with Sleeve (JETEC No.8B-191)

Basing Designation for BOTTOM VIEW .................. BHY

Pin 1 – Grid No.2
Pin 2 – Heater
Pin 3 – Plate
Pin 4 – Grid No.2
Pin 5 – Grid No.1
Pin 6 – Grid No.1
Pin 7 – Heater
Pin 8 – Cathode, Grid No.3

PUSH-PULL AF POWER AMPLIFIER — Class A B 1

Maximum Ratings, Design-Center Values:
PLATE VOLTAGE ........... 450 max. volts
GRID-No.2 (SCREEN-GRID) VOLTAGE ........... 400 max. volts
CATHODE CURRENT:
Peak ........... 400 max. ma
DC ........... 110 max. ma
GRID-No.2 INPUT ........... 3.5 max. watts
PLATE DISSIPATION ........... 25 max. watts

0: See next page.
# BEAM POWER TUBE

## PEAK HEATER–CATHODE VOLTAGE:
- Heater negative with respect to cathode: 200 max. volts
- Heater positive with respect to cathode: 200 max. volts

### Typical Operation with Fixed Bias:
*Values are for 2 tubes*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>330</td>
<td>400</td>
<td>450</td>
</tr>
<tr>
<td>Grid-No.2 Voltage</td>
<td>330</td>
<td>300</td>
<td>350</td>
</tr>
<tr>
<td>Grid-No.1 (Control-Grid) Voltage</td>
<td>-24</td>
<td>-25</td>
<td>-30</td>
</tr>
<tr>
<td>Peak AF Grid-No.1-to-Grid-No.1 Voltage</td>
<td>48</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>Zero-Signal Plate Current</td>
<td>122</td>
<td>102</td>
<td>95</td>
</tr>
<tr>
<td>Max.-Signal Plate Current</td>
<td>184</td>
<td>152</td>
<td>194</td>
</tr>
<tr>
<td>Zero-Signal Grid-No.2 Current</td>
<td>5.6</td>
<td>6</td>
<td>3.4</td>
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<tr>
<td>Max.-Signal Grid-No.2 Current</td>
<td>18.5</td>
<td>17</td>
<td>19.2</td>
</tr>
<tr>
<td>Effective Load Resistance</td>
<td>4500</td>
<td>6600</td>
<td>6000</td>
</tr>
<tr>
<td>Total Harmonic Distortion</td>
<td>1</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td>Max.-Signal Power Output</td>
<td>31.5</td>
<td>34</td>
<td>50</td>
</tr>
</tbody>
</table>

### Typical Operation with Cathode Bias:
*Values are for 2 tubes*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate-Supply Voltage</td>
<td>400</td>
<td>380</td>
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<tr>
<td>Grid-No.2 Supply Voltage</td>
<td>300</td>
<td>380</td>
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<tr>
<td>Cathode Resistor</td>
<td>200</td>
<td>180</td>
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<tr>
<td>Peak AF Grid-No.1-to-Grid-No.1 Voltage</td>
<td>57</td>
<td>68.5</td>
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<tr>
<td>Zero-Signal Plate Current</td>
<td>112</td>
<td>138</td>
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<tr>
<td>Max.-Signal Plate Current</td>
<td>128</td>
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<tr>
<td>Zero-Signal Grid-No.2 Current</td>
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<td>5.6</td>
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<tr>
<td>Max.-Signal Grid-No.2 Current</td>
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<td>20</td>
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</tr>
<tr>
<td>Effective Load Resistance</td>
<td>6600</td>
<td>4500</td>
<td></td>
</tr>
<tr>
<td>Total Harmonic Distortion</td>
<td>2</td>
<td>3.5</td>
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<tr>
<td>Max.-Signal Power Output</td>
<td>32</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>

### Maximum Circuit Values:
- Grid-No.1–Circuit Resistance: 0.1 max. megohm
- For cathode-bias operation: 0.5 max. megohm

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**PUSH-PULL AF POWER AMPLIFIER — Class AB**

Grid No.2 of each tube connected to tap on plate winding of output transformer

### Maximum Ratings, Design-Center Values:
- PLATE AND GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE: 450 max. volts

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\[\text{See next page.}\]