ARCTURUS

TYPE 12KYGT MIDGET

REMOTE CUT-OFF PENTODE AMPLIFIER

Heater Voltage
Heater Current

12.5 Volts
.150 Ampere

OPERATING CHARACTERISTICS

Plate Voltage 100
Screen Grid Voltage 100
Control Grid Voltage -3
Plate Current 6.5
Screen Grid Current 1.6
Plate Resistance 250,000
Transconductance 1325
Amplification Factor 350
Control Grid Voltage for
transconductance = 2 umhos -38.5
-42.5 Volts

DIRECT INTERELECTRODE CAPACITANCES

Grid to plate .005 µuf (max)
Input 4.0 µuf
Output 9.0 µuf

APPLICATION

Type 12KYGT is one of a new line of tubes designed primarily for series heater operation in AC-DC receivers. Through the use of a small resistance connected in series with the heaters the need for plug-in resistors or line cords is eliminated. Only half the heater power for the entire receiver is required compared to designs using .5 ampere types.

from RMA release #156, Jan. 7, 1939
MECHANICAL DATA

Coated unipotential cathode
Outline drawing .................. 9-18
Base .......................... B7-27, small wafer octal 7-pin, metal sleeve
Top cap ....................... C1-3, skirted miniature
Maximum diameter .................. 1-5/16"
Maximum overall length .................. 3-5/16"
Maximum seated height .................. 2-3/4"
Pin connections .................. Basing 7R
  Pin 1 - Base sleeve
  Pin 2 - Heater
  Pin 3 - Plate
  Pin 4 - Grid #2
  Pin 5 - Grid #3
  Pin 7 - Heater
  Pin 8 - Cathode, internal shield
  Top cap - Grid #1
Mounting position .................. any

ELECTRICAL DATA

Direct Inter electrode Capacitances*

Grid to plate: (g1 to p) max ................. .005 \mu\mu F
Input: g1 to (h+k+g2+g3+B.S.+i.s.) ................. 4.6 \mu\mu F
Output: p to (h+k+g2+g3+B.S.+i.s.) ................. 12 \mu\mu F

*External shield #308 connected to pin #8.

Ratings

Heater voltage .................. 12.6 volts
Maximum plate voltage .................. 300 volts
Maximum grid #2 voltage .................. See J5-C4
Maximum grid #2 supply voltage .................. 300 volts
Maximum positive dc grid #1 voltage .................. 0 volts
Maximum plate dissipation .................. 2.75 watts
Maximum grid #2 dissipation .................. 0.35 watt
Maximum heater-cathode voltage .................. 90 volts

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<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater voltage</td>
<td>12.6</td>
<td>12.6</td>
<td>12.6</td>
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<tr>
<td>Heater current</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Plate voltage</td>
<td>100</td>
<td>250</td>
<td>250</td>
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<tr>
<td>Grid #2 voltage</td>
<td>100</td>
<td>100</td>
<td>125</td>
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<tr>
<td>Grid #1 voltage</td>
<td>-1</td>
<td>-3</td>
<td>-3</td>
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<tr>
<td>Grid #3 voltage</td>
<td>Pin #5 connected to Pin #8 at socket</td>
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<tr>
<td>Plate resistance (approx.)</td>
<td>0.15</td>
<td>0.8</td>
<td>0.6</td>
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<tr>
<td>Transconductance</td>
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<td>1450</td>
<td>1650</td>
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<tr>
<td>Plate current</td>
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<td>7.0</td>
<td>10.5</td>
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<tr>
<td>Grid #2 current</td>
<td>2.7</td>
<td>1.7</td>
<td>2.6</td>
</tr>
<tr>
<td>Grid #1 voltage (approx.) for Gm = 2 μmhos</td>
<td>-38</td>
<td>-42</td>
<td>-52</td>
</tr>
</tbody>
</table>

Refer to "Interpretation of Receiving Tube Ratings"