SHARP-CUTOFF PENTODE

MINIATURE TYPE

Intended for RP and IP Broad-Band Applications where dependable performance under shock and vibration are paramount. The 5654 is a "premium" version of the 6AK5.

GENERAL DATA

Electrical:
Heater, Pure Tungsten, for Unipotential Cathode:
- Voltage: 6.3 ± 10% ... ac or dc volts
- Current: 0.175 ... amp

Direct Interelectrode Capacitances:
- Grid No.1 to Plate: 0.020 max. ... μf
- Input: 4.0 ... μf
- Output: 2.85 ... μf

Mechanical:
- Mounting Position: Any
- Maximum Overall Length: 1-3/4"
- Maximum Seated Length: 1-1/2"
- Length from Base Seat to Bulb Top (Excluding tip): 1-1/8" ± 3/32"
- Maximum Diameter: 3/4"
- Bulb: T-5-1/2"
- Base: Small-Button Miniature 7-Pin (JETEC No.ET-1)

AMPLIFIER - Class A1

Maximum Ratings, Absolute Values:
- PLATE VOLTAGE: 200 max. volts
- GRID-No.2 (SCREEN) VOLTAGE: 155 max. volts
- PLATE DISSIPATION: 1.85 max. watts
- GRID-No.2 INPUT: 0.55 max. watt
- CATHODE CURRENT: 20 max. ma
- PEAK HEATER-CATHODE VOLTAGE:
  - Heater positive with respect to cathode: 100 max. volts
  - Heater negative with respect to cathode: 100 max. volts

Typical Operation and Characteristics:
- Plate Voltage: 120 volts
- Grid-No.2 Voltage: 120 volts

△ According to RTMA Standard ET-109A with external shield No.316.

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Cathode-Bias Resistor ....... 180 180 ohms
Plate Resistance (Approx.) .... 0.30 0.50 megohm
Transconductance ......... 5000 5100 μmhos
Plate Current ............ 7.5 7.7 ma
Grid-No.2 Current .......... 2.5 2.4 ma
Grid-No.1 Voltage (Approx.)
for plate current of 10 μamp . -8.5 -8.5 volts

Maximum Circuit Values:
Grid-No.1-Circuit Resistance .... 0.5 max. megohm

SPECIAL RATINGS & PERFORMANCE DATA

Shock Rating:
Impact Acceleration .......... 500 max. g
Tubes are held rigid in three different positions in a Navy Type, High Impact (flyweight) Shock Machine and are subject to 500 g impact acceleration.

Fatigue Rating:
Vibrational Acceleration .... 2.5 max. g
Tubes are rigidly mounted and subjected in each of three positions to 2.5 g vibrational acceleration at 60 cycles per second for 32 hours.

Heater Cycling Life Performance:
Cycles of Intermittent Operation .... 2000 min. cycles
Under the following conditions: With heater voltage of 75 volts cycled 1 minute on and 1 minute off, heater positive with respect to cathode by +100 volts dc, and plate, grid-No.2, and grid-No.1 voltage = 0 volts.

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Note</th>
<th>Min.</th>
<th>Max.</th>
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</thead>
<tbody>
<tr>
<td>Heater Current</td>
<td>1</td>
<td>0.160</td>
<td>0.190</td>
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<tr>
<td>Grid-No.1-to-Plate Capcitance</td>
<td></td>
<td>-</td>
<td>0.020</td>
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<tr>
<td>Input Capcitance</td>
<td>-</td>
<td>3.4</td>
<td>4.6</td>
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<tr>
<td>Output Capcitance</td>
<td>-</td>
<td>2.45</td>
<td>3.25</td>
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<tr>
<td>Plate Current</td>
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<td>2</td>
<td>12</td>
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<tr>
<td>Transconductance</td>
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<td>3500</td>
<td>6500</td>
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<tr>
<td>Reverse Grid Current</td>
<td>1.3</td>
<td>-</td>
<td>0.1</td>
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</tbody>
</table>

Note 1: With 6.3 volts ac on heater.
Note 2: With plate voltage of 120 volts, grid-No.2 voltage of 120 volts, and grid-No.1 voltage of -2 volts.
Note 3: With plate voltage of 120 volts, grid-No.2 voltage of 120 volts, grid-No.1 voltage of -2 volts, and grid-No.1 resistor of 0.1 megohm.

CURVES
are the same as shown for Type 6AK5
in the Receiving Tube Section

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TENTATIVE DATA