SHARP-CUTOFF PENTODE
7-PIN MINIATURE TYPE
For use in automobile radio receivers operating directly from 12-volt storage batteries

GENERAL DATA

Electrical:
Heater, for Unipotential Cathode:
Voltage range: 10 to 15.9 dc volts
This voltage range is on an absolute basis. For longest life, it is recommended that the heater be operated within the voltage range of 11 to 14 volts.
Current (Approx.)
at 12.6 volts: 0.15 amp
Direct Interelectrode Capacitances:
Grid No. 1 to plate: 0.05 max. μf
Grid No. 1 to cathode, grid No. 3, grid No. 2, and heater: 7.6 μf
Plate to cathode, grid No. 3, grid No. 2, and heater: 6.2 μf

Mechanical:
Operating Position: Any
Maximum Overall Length: 2-1/8"
Maximum Seated Length: 1-7/8"
Length, Base Seat to Bulb Top (Excluding tip): 1-1/2" ± 3/32"
Diameter: 0.650" to 0.750"
Dimensional Outline: See General Section
Bulb: T5-1/2
Base: Small-Button Miniature 7-Pin (JEDEC No. E7-1)
Basing Designation for BOTTOM VIEW: .7BK

Pin 1 - Grid No. 1
Pin 2 - Grid No. 3
Pin 3 - Heater
Pin 4 - Heater
Pin 5 - Plate
Pin 6 - Grid No. 2
Pin 7 - Cathode

AMPLIFIER — Class A₁

Maximum Ratings, Design-Maximum Values:
PLATE VOLTAGE: 33 max. volts
GRID-No. 2 (SCREEN-GRID) VOLTAGE: 33 max. volts
GRID-No. 1 (CONTROL-GRID) VOLTAGE:
Positive-bias value: 0 max. volts
PEAK HEATER-CATHODE VOLTAGE:
Heater negative with respect to cathode: 30 max. volts
Heater positive with respect to cathode: 30 max. volts

Characteristics:
Heater Voltage: 12.6 volts
Plate Voltage: 12.6 volts

₀ Without external shield.
### SHARP-CUTOFF PENTODE

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Grid-No.3 (Suppressor-Grid) Voltage</td>
<td>0 volts</td>
</tr>
<tr>
<td>Grid-No.2 Voltage</td>
<td>12.6 volts</td>
</tr>
<tr>
<td>Grid-No.1 Supply Voltage</td>
<td>0 volts</td>
</tr>
<tr>
<td>Grid-No.1 Resistor (Bypassed)</td>
<td>2.2 megohms</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>40000 ohms</td>
</tr>
<tr>
<td>Transconductance</td>
<td>3100 μmhos</td>
</tr>
<tr>
<td>Plate Current</td>
<td>3 ma</td>
</tr>
<tr>
<td>Grid-No.2 Current</td>
<td>1.4 ma</td>
</tr>
<tr>
<td>Grid-No.1 Voltage (Approx.) for plate μa = 10</td>
<td>-4.5 volts</td>
</tr>
</tbody>
</table>

**Maximum Circuit Values:**

<table>
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<th>Value</th>
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<tbody>
<tr>
<td>Grid-No.1 Circuit Resistance</td>
<td>10 max. megohms</td>
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</tbody>
</table>