Beam Power Tube

For Use as a Horizontal-Deflection Amplifier Tube in Color and Black-and-White Television Receivers

GENERAL DATA

Electrical:
Heater Characteristics and Ratings:
Voltage (AC or DC) .................. 6.3 ± 0.6 volts
Current at heater volts = 6.3 .... .. 2.500 amp
Peak heater-cathode voltage:
Heater negative with respect to cathode ........ 200 max. volts
Heater positive with respect to cathode .......... 200 max. volts
Direct Interelectrode Capacitances:
Grid No.1 to plate .................. 0.5 pf
Grid No.1 to cathode & grid No.3, grid No.2, and heater .... 23.0 pf
Plate to cathode & grid No.3, grid No.2, and heater ........ 11.0 pf

Characteristics, Class A1 Amplifier:

<table>
<thead>
<tr>
<th>Plate Voltage ..........</th>
<th>70</th>
<th>175</th>
<th>125</th>
<th>volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid No.2 (Screen-Grid) Voltage</td>
<td>125</td>
<td>125</td>
<td>-</td>
<td>volts</td>
</tr>
<tr>
<td>Grid No.1 (Control-Grid) Voltage</td>
<td>0</td>
<td>-25</td>
<td>-25</td>
<td>volts</td>
</tr>
<tr>
<td>Amplification Factor .</td>
<td>-</td>
<td>-</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>-</td>
<td>5500</td>
<td>-</td>
<td>ohms</td>
</tr>
<tr>
<td>Transconductance . . .</td>
<td>-</td>
<td>10500</td>
<td>-</td>
<td>µmhos</td>
</tr>
<tr>
<td>Plate Current ........</td>
<td>550d</td>
<td>110</td>
<td>-</td>
<td>ma</td>
</tr>
<tr>
<td>Grid-No.2 Current ....</td>
<td>42d</td>
<td>5</td>
<td>-</td>
<td>ma</td>
</tr>
<tr>
<td>Grid-No.1 Voltage (Approx.) for plate ma. = 1 ....</td>
<td>-</td>
<td>-55</td>
<td>-</td>
<td>volts</td>
</tr>
</tbody>
</table>

Mechanical:
Operating Position ........................................ Any
Type of Cathode .................................. Coated Unipotential
Maximum Overall Length .................. 5"
Seated Length ................................ 4-1/4" ± 3/16"
Maximum Diameter ....................... 1-9/16"
Bulb ........................................ T12
Cap ........................................ Small (JEDEC No.C1-1)
Base ....................................... Short Medium-Shell Octal 8-Pin with External Barriers, Style B (JEDEC No.BB-118)
Basing Designation for BOTTOM VIEW: 8JC

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

HORIZONTAL-DEFLECTION AMPLIFIER

Maximum Ratings, Design-Maximum Values:

For operation in a 525-line, 30-frame system:

DC PLATE-SUPPLY VOLTAGE .................. 990 max. volts
PEAK POSITIVE-PULSE PLATE VOLTAGE ...... 6500 max. volts
PEAK NEGATIVE-PULSE PLATE VOLTAGE ...... 1100 max. volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE ...... 190 max. volts
PEAK NEGATIVE-PULSE GRID-No.1 VOLTAGE .... 250 max. volts
CATHODE CURRENT:
   Peak ....................................... 1100 max. ma
   Average ................................... 315 max. ma
GRID-No.2 INPUT ................................ 3.2 max. watts
PLATE DISSIPATION g .......................... 24 max. watts
BULB TEMPERATURE (At hottest point on bulb surface) ....... 220 max. °C

Maximum Circuit Values:

Grid-No.1—Circuit Resistance:
   For grid-resistor-bias operation g .... 0.47 max. megohm

a The dc component must not exceed 100 volts.
b Without external shield.
c With grid No.2 connected to plate.
d These values can be measured by a method involving a recurrent wave form such that the plate dissipation, grid-No.2 input, and cathode current will be kept within ratings in order to prevent damage to the tube.
e As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.
f This rating is applicable where the duration of the voltage pulse does not exceed 15 percent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 percent of one horizontal scanning cycle is 10 microseconds.
g It is essential that the plate dissipation be limited in the event of loss of grid signal. For this purpose, some protective means such as a cathode resistor of suitable value be employed.

→ indicates a change.
AVERAGE CHARACTERISTICS

$E_F = 6.3$ VOLTS
GRID-N=2 VOLTS=0

GRID-N=2 MILLIAMPERES ($i_C$)

PLATE MILLIAMPERES ($i_B$)

PLATE VOLTS

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-9311
AVERAGE CHARACTERISTICS

$E_f = 6.3$ VOLTS
GRID-$N=2$ VOLTS $= 125$

GRID-$N=2$ MILLIAMPERES ($Ic_2$)

PLATE MILLIAMPERES ($I_b$)

PLATE VOLTS

ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, MARRISON, NEW JERSEY

92CM-9309