6DT6A
SHARP-CUTOFF PENTODE

Miniature type used as FM detector in color and black-and-white television receivers. Outlines section, 5C; requires miniature 7-contact socket. Types 3DT6A and 4DT6A are identical with type 6DT6A except for heater ratings.

<table>
<thead>
<tr>
<th></th>
<th>3DT6A</th>
<th>4DT6A</th>
<th>6DT6A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater Voltage (ac/dc)</td>
<td>3.15</td>
<td>4.2</td>
<td>6.3</td>
</tr>
<tr>
<td>Heater Current</td>
<td>0.6</td>
<td>0.45</td>
<td>0.3</td>
</tr>
<tr>
<td>Heater Warm-up Time (Average)</td>
<td>11</td>
<td>11</td>
<td>—</td>
</tr>
<tr>
<td>Heater-Cathode Voltage:</td>
<td>±200 max</td>
<td>±200 max</td>
<td>±200 max</td>
</tr>
<tr>
<td>Peak value</td>
<td>100 max</td>
<td>100 max</td>
<td>100 max</td>
</tr>
<tr>
<td>Average value</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Direct Interelectrode Capacitances (Approx.)*
- Grid No.1 to Plate: 0.02 pF
- Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield: 5.8 pF
- Grid No.3 to Plate: 1.7 pF
- Grid No.1 to Grid No.3: 0.1 pF
- Grid No.3 to Cathode, Heater, Grid No.1, Grid No.2, and Internal Shield: 6.1 pF

* External shield connected to cathode.

Class A1 Amplifier

CHARACTERISTICS
- Plate Supply Voltage: 150 volts
- Grid No.3 (Suppressor Grid) Connected to cathode at socket
- Grid-No.2 (Screen-Grid) Supply Voltage: 100 volts
- Cathode-Bias Resistor: 560 ohms
- Plate Resistance (Approx.): 0.15 megohm
- Transconductance, Grid No.1 to Plate: 1350 µmhos
- Transconductance, Grid No.3 to Plate: 515 µmhos
- Plate Current: 1.55 mA
- Grid-No.2 Current: 1.8 mA
- Grid-No.1 Voltage (Approx.) for plate current of 10 µA: -5.2 volts
- Grid-No.3 Voltage (Approx.) for plate current of 10 µA: -4.2 volts

FM Detector

MAXIMUM RATINGS (Design-Maximum Values)
- Plate Voltage: 330 volts
- Grid-No.3 Voltage: 28 volts
- Grid-No.2 Supply Voltage: 330 volts
- Grid-No.2 Voltage: See curve page 300
- Grid-No.1 (Control-Grid) Voltage, Positive-bias value: 0 volts
- Plate Dissipation: 1.7 watts
- Grid-No.2 Input: 1.1 watts
  - For grid-No.2 voltages up to 165 volts
  - For grid-No.2 voltages between 165 and 330 volts
  - See curve page 300

MAXIMUM CIRCUIT VALUES
- Grid-No.1-Circuit Resistance:
  - For fixed-bias operation: 0.25 megohm
  - For cathode-bias operation: 0.5 megohm

6DT8
HIGH-MU TWIN TRIODE

Miniature type used in radio and television receiver applications and in push-pull rf amplifiers or as frequency converter in FM tuners. Outlines section, 6B; requires miniature 9-contact socket. Type 12DT8 is identical with type 6DT8 except for the heater ratings. Except for heater and heater-cathode ratings, inter-electrode capacitances, and bazing arrangement, these types are identical with miniature type 12AT7.
MEDIUM-MU TRIODE

Nuvistor type used at frequencies up to 1000 MHz in uhf oscillator stages of color and black-and-white television receivers. Outlines section, 1; requires nuvistor socket. Type 2DV4 is identical with type 6DV4 except for heater ratings.

Class A Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

<table>
<thead>
<tr>
<th></th>
<th>2DV4</th>
<th>6DV4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Supply Voltage</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Plate Voltage</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Grid Voltage:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative-bias value</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Peak positive value</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Plate Dissipation</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Cathode Current</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>2DV4</th>
<th>6DV4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Supply Voltage</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Cathode-Bias Resistor</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>3100</td>
<td></td>
</tr>
<tr>
<td>Transfer Resistance</td>
<td>11500</td>
<td></td>
</tr>
<tr>
<td>Plate Current</td>
<td>10.5</td>
<td>mA</td>
</tr>
<tr>
<td>Grid Voltage (Approx.)</td>
<td>10</td>
<td>volts</td>
</tr>
</tbody>
</table>

TYPICAL OPERATION AS OSCILLATOR AT 950 MHZ

<table>
<thead>
<tr>
<th></th>
<th>2DV4</th>
<th>6DV4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Grid Voltage</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Grid Resistor</td>
<td>5600</td>
<td></td>
</tr>
<tr>
<td>Plate Current</td>
<td>8</td>
<td>mA</td>
</tr>
<tr>
<td>Grid Current</td>
<td>350</td>
<td>μA</td>
</tr>
</tbody>
</table>
MAXIMUM CIRCUIT VALUES

Grid-Circuit Resistance:
- For fixed-bias operation ........................................ 0.1 megalohm
- For cathode-bias operation .................................... 0.2 megalohm
* For operation at metal-shell temperatures up to 135°C.

6DW4
6DW4A

Refer to chart at end of section.

6DW4B

HALF-WAVE VACUUM RECTIFIER

Novar types used as damper tubes in horizontal-deflection circuits of color and black-and-white television receivers. Outlines section, 11D and 30B, respectively; require novar 9-contact socket. Socket terminals 1, 3, 6, and 8 should not be used as tie points; it is recommended that socket clips for these pins be removed to reduce the possibility of arc-over and to minimize leakage. These tubes, like other power-handling tubes, should be adequately ventilated.

Heater Voltage (ac/dc) ........................................ 6.3 volts
Heater Current .................................................. 1.2 amperes
Direct Interelectrode Capacitances (Approx.):
- Plate to Cathode and Heater ................................ 6.5 pF
- Cathode to Plate and Heater ................................ 9 pF
- Heater to Cathode .......................................... 2.8 pF

Damper Service

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

MAXIMUM RATINGS (Design-Maximum Values)

- Peak Inverse Plate Voltage# ................................ 5500 volts
- Peak Plate Current .......................................... 1300 mA
- Average Plate Current ...................................... 250 mA
- Plate Dissipation ........................................... 8.5 watts
- Heater-Cathode Voltage:
  - Peak value .................................................. +300 to -5000 volts
  - Average value ........................................... +100 to -900 volts

CHARACTERISTIC, Instantaneous Value

- Tube Voltage Drop for plate current of 350 mA .............. 25 volts
# Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

6DW5

Refer to chart at end of section.

6DX8

Refer to chart at end of section.