6N7
6N7GT
6P5GT
6P7G
6Q7
6Q7G
6Q7GT
6Q11
6R7
6R7G
6R7GT
6RHH2
6RHH8
6RK19
6RP22
6S4

Refer to chart at end of section.
Refer to chart at end of section.
Refer to chart at end of section.
Refer to chart at end of section.
Refer to chart at end of section.
For replacement use type 6K11/6Q11.
Refer to chart at end of section.
For replacement use type 6BC8/6BZ8.
For replacement use type 6KN8/6RHH8.
For replacement use type 6BR3/6RK19.
Refer to chart at end of section.
Refer to chart at end of section.

6S4A
MEDIUM-MU TRIODE

Miniature type used as vertical-deflection amplifier in color and black-and-white television receivers. Outlines section, 6E; requires miniature 9-contact socket.

Heater Voltage (ac/dc) ........................................ 6.3 volts
Heater Current .................................................. 0.6 ampere
Heater Warm-up Time (Average) ............................... 11 seconds
Heater-Cathode Voltage:
Peak value ....................................................... ±200 max volts
Average value .................................................... 100 max volts
Direct Inter electrode Capacitances (Approx.):
Grid to Plate .................................................. 2.4 pF
Grid to Cathode and Heater .................................. 4.2 pF
Plate to Cathode and Heater .................................. 6.6 pF

Class A. Amplifier

CHARACTERISTICS
Plate Voltage .................................................. 250 volts
Grid Voltage ................................................... --8 volts
Amplification Factor ........................................ 16.5 ohms
Plate Resistance (Approx.) .................................. 3700 Ω
Transconductance ........................................... 4500 μmhos
Plate Current ................................................ 24 mA
Plate Current for grid voltage of --15 volts ............ 4 mA
Grid Voltage (Approx.) for plate current of 50 μA .... --22 volts

Vertical-Deflection Amplifier
For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Maximum Values)
DC Plate Voltage ........................................... 550 volts
Peak Positive-Pulse Plate Voltage# .......................... 2200 volts
Peak Negative-Pulse Grid Voltage ......................... 250 volts
Peak Cathode Current ....................................... 105 mA
Average Cathode Current .................................. 80 mA
Plate Dissipation ............................................ 8.5 watts
MAXIMUM CIRCUIT VALUE
Grid-Circuit Resistance, for cathode-bias operation .......... 2.2 megohms

# Pulse duration must not exceed 15% of a vertical scanning cycle (2.5 milliseconds).

Refer to chart at end of section.

Refer to chart at end of section.

Refer to chart at end of section.

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Refer to chart at end of section.

Refer to chart at end of section.

Refer to chart at end of section.

Refer to chart at end of section.

6S7
6S7G
6S8GT
6SA7
6SA7GT
6SB7Y
6SC7
6SF3
6SF5GT
6SF7
6SG7
6SH7
6SJ7
6SJ7GT
6SK7
6SK7GT

HIGH-MU TWIN TRIODE
8BD

Glass octal type used as phase inverter in radio equipment. Each unit may also be used in resistance-coupled amplifier circuits. Outlines section, 13D; requires octal socket. Except for the common heater, each triode unit is independent of the other. For typical operation as phase inverter or resistance-coupled amplifier, refer to Resistance-Coupled Amplifier section. Type 12SL7GT is identical with type 6SL7GT except for heater ratings.

6SL7GT 12SL7GT
Heater Voltage (ac/dc) ........................................ 6.3 12.6 volts
Heater Current ........................................... 0.3 0.15 amperes
Peak Heater-Cathode Voltage .......................... ±90 max ±90 max volts
Direct Inter-electrode Capacitances (approx.) in:

<table>
<thead>
<tr>
<th>Unit No.1</th>
<th>Unit No.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid to Plate</td>
<td>2.8</td>
</tr>
<tr>
<td>Grid to Cathode and Heater</td>
<td>3.3</td>
</tr>
<tr>
<td>Plate to Cathode and Heater</td>
<td>3.8</td>
</tr>
</tbody>
</table>

With external shield connected to cathode.

Class A, Amplifier

MAXIMUM RATINGS (Design-Center Values)
Plate Voltage .............................................. 300 volts
Grid Voltage, Positive-bias value ......................... 0 volts
Plate Dissipation ........................................ 1 watt

CHARACTERISTICS
Plate Voltage .............................................. 250 volts
Grid Voltage .............................................. 2 volts
Amplification Factor ..................................... 70 ohms
Plate Resistance (approx.) ................................ 44000 ohms
Transconductance ......................................... 1600 μmhos
Plate Current ............................................. 2.3 mA