6SC7—12SC7
TWIN TRIODE
FOR AF VOLTAGE AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6SC7 is a high-mu twin triode designed primarily for use as an AF voltage amplifier. Featuring a special shielding arrangement to reduce hum, the tube is well suited for low-level audio amplifier service.

Except for heater ratings the 12SC7 is identical to the 6SC7.

GENERAL

ELECTRICAL
Cathode—Coated Unipotential
Heater Voltage, AC or DC ........................................ 6.3  12.6 Volts
Heater Current .................................................. 0.3  0.15 Amperes
Direct Interelectrode Capacitances, approximate*
  Grid to plate .................................................. 2.0  μμf
  Input .......................................................... 2.0  μμf
  Output ......................................................... 3.0  μμf

MECHANICAL
Mounting Position—Any
Envelope—MT-8, Metal Shell
Base—B8-21, Small Wafer Octal 8-Pin
* With pin 1 connected to pin 6.

MAXIMUM RATINGS

DESIGN-CENTER VALUES, EACH SECTION
Plate Voltage .................................................. 250 Volts
Heater-Cathode Voltage
  Heater Positive with Respect to Cathode ............ 90 Volts
  Heater Negative with Respect to Cathode .......... 90 Volts

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A1 AMPLIFIER, EACH SECTION
Plate Voltage ............................................... 250 Volts
Grid Voltage ............................................... -2.0 Volts
Amplification Factor ...................................... 70
Plate Resistance, approximate ....................... 53000 Ohms
Transconductance ........................................ 1325 Micromhos
Plate Current ............................................... 2.0 Milliamperes

BASING DIAGRAM

TERMINAL CONNECTIONS
Pin 1—Shell
Pin 2—Plate Number 2
Pin 3—Grid Number 2
Pin 4—Grid Number 1
Pin 5—Plate Number 1
Pin 6—Cathode
Pin 7—Heater
Pin 8—Heater

PHYSICAL DIMENSIONS

Supersedes ET-T331, dated 5-46 and ET-T380, dated 5-46
# CLASS A RESISTANCE-COUPLED AMPLIFIER

## EACH SECTION

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Notes:
1. \(Eo\) is maximum rms voltage output for five percent (5\%) total harmonic distortion.
2. Gain measured at 2.0 volts rms output.
3. For zero-bias data generator impedance is negligible.

*Value of \(Rg1\) is non-critical.*

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## AVERAGE CHARACTERISTICS

Each section

![Graph showing average characteristics with various axes including amplification factor, plate resistance, transconductance, and plate current.]

- \(E_f = \text{RATED VALUE}\)
- \(E_b = 250 \text{ VOLTS}\)
- \(G_m\)
- \(R_p\)