6DK6
PENTODE

DESCRIPTION AND RATING

The 6DK6 is a miniature sharp-cutoff pentode designed for use as a wide-band radio-frequency or intermediate-frequency amplifier in television receivers. Features of the tube include high transconductance and low inter-electrode capacitances.

GENERAL

ELECTRICAL
Cathode—Coated Unipotential
Heater Voltage, AC or DC ........................................ 6.3 Volts
Heater Current ................................................... 0.3 Amperes
Direct Inter-electrode Capacitances*
  Grid-No. 1 to Plate ........................................... 0.020 \( \mu \)F
  Input .................................................................... 6.3 \( \mu \)F
  Output ............................................................... 1.9 \( \mu \)F

MECHANICAL
Mounting Position—Any
Envelope—T-5½, Glass
Base—E7-1, Miniature Button 7-Pin

MAXIMUM RATINGS

DESIGN-CENTER VALUES
Plate Voltage .......................................................... 300 Volts
Screen Voltage ..................................................... 150 Volts
Plate Dissipation ................................................ 2.0 Watts
Screen Dissipation ............................................... 0.5 Watts
Heater-Cathode Voltage
  Heater Positive with Respect to Cathode
    DC Component ............................................. 100 Volts
    Total DC and Peak ..................................... 200 Volts
  Heater Negative with Respect to Cathode
    Total DC and Peak ..................................... 300 Volts

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A1 AMPLIFIER
Plate Voltage ..................................................... 125 Volts
Suppressor, Connected to Cathode at Socket
Screen Voltage ................................................... 125 Volts
Cathode-Bias Resistor ........................................ 56 Ohms
Transconductance ............................................. 9800 Micromhos
Plate Current ..................................................... 12 Milliamperes
Screen Current .................................................. 3.8 Milliamperes
Grid-Number 1 Voltage, approximate
  \( 1 \)b = 20 Microamperes .................................... -6.5 Volts

* Without external shield.

BASE DIAGRAM

EIA 7CM

TERMINAL CONNECTIONS
Pin 1—Grid Number 1
Pin 2—Cathode
Pin 3—Heater
Pin 4—Heater
Pin 5—Plate
Pin 6—Grid Number 2
  (Screen)
Pin 7—Internal Shield and
  Grid-Number 3
  (Suppressor)

PHYSICAL DIMENSIONS

EIA 5-2
**AVERAGE TRANSFER CHARACTERISTICS**

\[ E_f = \text{RATED VALUE} \]
\[ E_b = 125 \text{ VOLTS} \]
\[ E_{c3} = 0 \text{ VOLTS} \]

**SCREEN CURRENT IN MILLIAMPERES**

-7 -6 -5 -4 -3 -2 -1 0

**GRID-NUMBER 1 VOLTAGE IN VOLTS**

JANUARY 28, 1958

**AVERAGE TRANSFER CHARACTERISTICS**

\[ E_f = \text{RATED VALUE} \]
\[ E_b = 125 \text{ VOLTS} \]
\[ E_{c3} = 0 \text{ VOLTS} \]

**TRANSCONDUCTANCE IN MICROMOS**

-7 -6 -5 -4 -3 -2 -1 0

**GRID-NUMBER 1 VOLTAGE IN VOLTS**

JANUARY 28, 1958