The 6JD6 is a miniature, frame-grid, sharp-cutoff pentode designed primarily for use in the intermediate-frequency amplifier stages of television receivers.

### GENERAL

**ELECTRICAL**
- Cathode - Coated Unipotential

**Heater Characteristics and Ratings**
- Heater Voltage, AC or DC\(^*\) ... 6.3±0.6 Volts
- Heater Current\(\#\) ... ... 0.3 Amperes

**Direct Inter-electrode Capacitance\(\$\)**
- Grid-Number 1 to Plate:
  - Input: \(g_1\) to \((h + k + g_2 + g_3 + i.s.)\) ... ... 0.019 pf
  - Output: \(p\) to \((h + k + g_2 + g_3 + i.s.)\) ... ... 3.0 pf

### MECHANICAL

- Operating Position - Any
- Envelope - T-6 1/2, Glass
- Base - E9-1, Small Button 9-Pin
- Outline Drawing - EIA 6-2
  - Maximum Diameter ... ... 0.875 Inches
  - Maximum Over-all Length ... ... 2.186 Inches
  - Maximum Seated Height ... ... 1.938 Inches

### MAXIMUM RATINGS

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

#### PHYSICAL DIMENSIONS

- Pin 1 - Cathode
- Pin 2 - Grid Number 1
- Pin 3 - Cathode
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - No Connection
- Pin 7 - Plate
- Pin 8 - Grid Number 2 (Screen)
- Pin 9 - Grid Number 3 (Suppressor) and Internal Shield

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The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.
MAXIMUM RATINGS (Cont’d)

DESIGN-MAXIMUM VALUES

Plate Voltage ........................................... 330 Volts
Suppressor Voltage ...................................... 0 Volts
Screen-Supply Voltage .................................. 330 Volts
Screen Voltage - See Screen Rating Chart
Positive DC Grid-Number 1 Voltage ................... 0 Volts
Plate Dissipation ....................................... 2.5 Watts
Screen Dissipation ...................................... 0.6 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 ................................. 200 Volts
Grid-Number 1 Circuit Resistance
  With Fixed Bias ..................................... 0.25 Megohms
  With Cathode Bias .................................. 1.0 Megohms

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A1 AMPLIFIER

Plate Voltage .......................................... 125 Volts
Suppressor Voltage ..................................... 0 Volts
Screen Voltage ......................................... 56 Ohms
Cathode-Bias Resistor ................................ 125 Volts
Plate Resistance, approximate ....................... 160000 Ohms
Transconductance ..................................... 14000 Milliamperes
Plate Current ......................................... 15 Milliamperes
Screen Current ........................................ 4.0 Milliamperes
Grid-Number 1 Voltage, approximate
  Gm = 600 Micromhos .................................. -4.5 Volts

NOTES

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

# Heater current of a bogey tube at Ef = 6.3 volts.

$ Without external shield.
AVERAGE TRANSFER CHARACTERISTICS

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

TRANSCONDUCTANCE IN MICROMOS

GRID NUMBER 1 VOLTAGE IN VOLTS

MARCH 18, 1960