Sharp-Cutoff Pentode

FRAME-GRID CONSTRUCTION

9-PIN LARGE-BUTTON NEONOVAL BASE
For Video Output Amplifier Service in Color TV Receivers

Electrical:

Heater Characteristics and Ratings:

- Heater-section arrangement: Series, Parallel
- Voltage (AC or DC): 12.6 ± 1.3\textsuperscript{a} volts
- Current: 0.260\textsuperscript{b} amp, 0.520\textsuperscript{b} amp
- Maximum heater-cathode voltage:
  - heater negative with respect to cathode: 200 volts
  - heater positive with respect to cathode:
    - Peak: 200 volts
    - DC component: 100 volts
- Direct Inter-electrode Capacitances:\textsuperscript{c}
  - Grid No.1 to plate: 0.15 max. pf
  - Input: G1 to (K,G3+1S,G2,H): 14.0 pf
  - Output: P to (K,G3+1S,G2,H): 4.4 pf

Mechanical:

- Operating Position: Any
- Type of Cathode: Coated Unipotential
- Maximum Overall Length: 2.930"
- Maximum Seated Length: 2.620"
- Length, Base Seat to Bulb Top (Excluding tip): 2.070" to 2.310"
- Diameter: 1.062" to 1.188"
- Dimensional Outline: (JEDEC No.9-70)
- Bulb: T9
- Base: Large-Button Neonoval 9-Pin (JEDEC No.E9-68)
- Basing Designation for BOTTOM VIEW: 9BF

Pin 1 - Cathode
Pin 2 - Grid No.1
Pin 3 - Grid No.3,
  - Internal Shield
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Heater Tap
Pin 7 - Plate
Pin 8 - Grid No.2
Pin 9 - Grid No.3,
  - Internal Shield

Characteristics, Class A\textsubscript{1} Amplifier:

- Plate Supply Voltage: 300 volts
- Grid No.3: Connected to cathode at socket
- Grid-No.2 Supply Voltage: 135 volts
- Grid No.1: Connected to negative end of cathode resistor
- Cathode Resistor: 47 ohms
- Plate Resistance (Approx.): 60000 ohms
- Transconductance: 32000 \mu\text{hos}
- Plate Current: 31 ma
Grid-No.2 Current .................. 4.8 ma
Grid-No.1 Voltage (Approx.)
   for plate μa = 100 ................ -4.5 volts

**CLASS A AMPLIFIER**

**Maximum Ratings, Design-Maximum Values:**
- Plate Voltage ..................... 400 volts
- Grid-No.2 (Screen-Grid) Supply Voltage ........... 330 volts
- Grid-No.2 Voltage .................. See Grid-No.2 Input Rating Chart at front of Receiving Tube Section

Grid-No.1 (Control-Grid) Voltage:
- Positive-bias value ................ 0 volts

Grid-No.2 Input:
- For grid-No.2 voltages up to 165 volts .......... 1 watt
- For grid-No.2 voltages between 165 and 330 volts . See Grid-No.2 Input Rating Chart at front of Receiving Tube Section

Plate Dissipation .................. 10 watts

**Maximum Circuit Values:**
- Grid-No.1-Circuit Resistance:
  - For fixed-bias operation .................. 0.1 megohm
  - For cathode-bias operation ............... 0.25 megohm

- At heater amperes = 0.260.
- At heater volts = 6.3.
- Without external shield.
DIMENSIONAL OUTLINE
JEDEC No. 9-70

** Applies in zone starting 0.375" from base seat.
* Measured from base seat to bulb-top line as determined by a ring gauge of 0.600" inside diameter.

DIMENSIONS IN INCHES

92CS—I1115R2
AVerAGE CHARACTERISTICS

E \text{f} = 6.3 \text{ VOLTS}
GRID No.3 CONNECTED TO CATHODE AT SOCKET.
GRID - No.2 VOLTS = 135

GRID-No.2 (I_{C2}) MILLIAMPERES

PLATE (I_b) MILLIAMPERES

PLATE VOLTS

92CM-12746RI
AVERAGE CHARACTERISTICS

$E_t = 6.3$ VOLTS
PLATE VOLTS = 300
GRID No.3 CONNECTED TO CATHODE AT SOCKET.
GRID No.2 VOLTS = 135