# 6KV6

## Beam Power Tube

**NOVAR TYPE** **DARK HEATER**

*For High-Voltage-Pulse Shunt-Regulator Applications in Color-TV Receivers*

### ELECTRICAL CHARACTERISTICS

**Bogey Values**

| | | | |
|---|---|---|---|
| **Heater Voltage** | $E_h$ | 6.3 | V |
| **Heater Current** | $I_h$ | 1.600 | A |
| **Direct Interelectrode Capacitances** | | | |
| Without external shield | | | |
| Grid No.1 to plate | $c_{g1-p}$ | 1.2 | pF |
| Input: G1 to (K,G3,G2,H) | $c_i$ | 22 | pF |
| Output: P to (K,G3,G2,H) | $c_o$ | 9.0 | pF |

*For the following characteristics, see* **Conditions**

| | | | | | |
|---|---|---|---|---|---|
| **Amplification Factor (Triode Connection)**[a] | $\mu$ | - | 4 | - | |
| **Plate Resistance (Approx.)** | $r_p$ | - | - | 6000 | Ω |
| **Transconductance** | $g_m$ | - | - | 9500 | μmho |
| **DC Plate Current** | $I_b$ | 580[b] | - | 80 | mA |
| **DC Grid-No.2 Current** | $I_{c2}$ | 24[b] | - | 2.4 | mA |
| **Cutoff DC Grid-No.1 Voltage.** Plate mA = 1 | $E_{c1(co)}$ | - | - | -42 | V |

**Conditions**

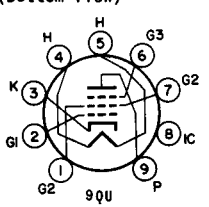
| | | | | |
|---|---|---|---|---|
| **Heater Voltage** | $E_h$ | Bogey Value | | V |
| **DC Plate Voltage** | $E_b$ | 100 | 140 | V |
| **DC Grid-No.3 Voltage** | $E_{c3}$ | 0 | 0 | V |
| **DC Grid-No.2 Voltage** | $E_{c2}$ | 140 | 140 | V |
| **DC Grid-No.1 Voltage** | $E_{c1}$ | 0 | -24.5 | V |

### MECHANICAL CHARACTERISTICS

**Operating Position** . . . . . Any
**Type of Cathode** . . . . . Coated Unipotential
**Dimensional Outline (JEDEC 12-96)** . . . . See *General Section*
**Maximum Overall Length** . . . . . 3.130 in
**Maximum Seated Length** . . . . . 2.750 in
**Maximum Diameter** . . . . . 1.562 in
**Envelope** . . . . . JEDEC Designation T12
**Base**[c] . . . . . Large-Button Novar 9-Pin with Exhaust Tip (JEDEC Designation E9-88)

### TERMINAL DIAGRAM (Bottom View)

Pin 1 – Grid No.2
Pin 2 – Grid No.1
Pin 3 – Cathode
Pin 4 – Heater
Pin 5 – Heater
Pin 6 – Grid No.3
Pin 7 – Grid No.2
Pin 8 – Do Not Use
Pin 9 – Plate



## DESIGN-MAXIMUM RATINGS

*For operation as a High-Voltage-Pulse Shunt-Regulator Tube in Color-Television Receivers in a 525-line, 30-frame system*

| | | | |
|---|---|---|---|
| **DC Plate Supply Voltage** ($I_b$ = 0 mA) | $E_{bb}$ | 770 | V |
| **Peak Positive-Pulse Plate Voltage**[c] | $e_{bm}$ | 6500 | V |
| **Peak Negative-Pulse Plate Voltage.** | $-e_{bm}$ | 1500 | V |
| **DC Grid-No.3 Voltage** | $E_{c3}$ | 75 | V |
| **DC Grid-No.2 (Screen-Grid) Voltage** | $E_{c2}$ | 220 | V |
| **Grid No.1 (Control-Grid) Voltage** | | | |
| Peak negative-pulse value. | $-e_{c1m}$ | 330 | V |
| Negative dc value (bias) | $-E_{c1}$ | 75 | V |
| **Heater-Cathode Voltage** | | | |
| Peak | $e_{hkm}$ | +200<br>-500 | V |
| Average[d] | $E_{hk(av)}$ | 100 | V |
| **Heater Voltage (AC or DC).** | $E_h$ | 5.7 to 6.9 | V |
| **Cathode Current** | | | |
| Peak | $i_{km}$ | 950 | mA |
| Average[d] | $I_{k(av)}$ | 275 | mA |
| **Grid-No.2 Input.** | $P_{g2}$ | 3.5 | W |
| **Plate Dissipation**[e] | $P_b$ | 20[f] | W |
| **Envelope Temperature (at hottest point on envelope surface).** | $T_E$ | 240 | °C |

## MAXIMUM CIRCUIT VALUE

| | | | |
|---|---|---|---|
| **Grid-No.1-Circuit Resistance** For grid-No.1-resistor-bias operation. | $R_{g1(ckt)}$ | | |
| | - | 1 | MΩ |

[a] With grid No.3 and grid No.2 connected, respectively, to cathode and plate at socket.

[b] This value can be measured by a method involving a recurrent waveform such that the Maximum Ratings of the tube will not be exceeded.

[c] This rating is applicable where the duration of the voltage pulse does not exceed 15% of one horizontal scanning cycle. In a 525-line, 30-frame system, 15% of one horizontal scanning cycle is 10 μs.

[d] Measured with a dc meter.

[e] Adequate circuit precautions must be taken to protect the tube in the absence of grid-No.1 bias.

[f] Plate dissipations up to 24 W maximum are permissible for short periods of time (up to 10 s maximum) provided the maximum envelope-temperature rating is not exceeded.



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