

Beam Power Tube

Duodecar Type

For Low B+ Horizontal-Deflection-Amplifier
Circuits of Color-TV Receivers

ELECTRICAL CHARACTERISTICS – Bogey Values

Heater Voltage, ac or dc. . .	E_h	6.3	V
Heater Current	I_h	2.85	A

Direct Interelectrode

Capacitances (approx.):^a

Grid No.1 to plate	c_{g1-p}	0.8	pF
Input: G1 to (K, G3, G2, H). . .	c_i	40	pF
Output: P to (K, G3, G2, H). . .	c_o	16	pF

For the following characteristics, see Conditions below:

Amplification Factor

(Triode Connection)^b . . . μ — — — 4^c

Plate Resistance (approx.) r_p — — — 6000 Ω

Transconductance g_m — — — 14000 μmho

DC Plate Current I_b — 1100^d 780^d 100 mA

DC Grid-No.2 Current. I_{c2} — 110^d 44^d 2 mA

Cutoff DC Grid-No.1 Volt-

age for $I_b = 1 \text{ mA}$ $E_{c1(\text{co})}$ -125 — — -40 V

Conditions:

Heater Voltage E_h $\longleftrightarrow$ 6.3 $\longrightarrow$ V

Peak Positive-Pulse

Plate Voltage^e e_{bm} 5000 — — — V

DC Plate Voltage E_b — 45 60 150 V

DC Grid-No.3 Voltage Connected to cathode at socket

DC Grid-No.2 Voltage . . . E_{c2} 110 160 110 110 V

DC Grid-No.1 Voltage . . . E_{c1} — 0 0 -22.5 V

MECHANICAL CHARACTERISTICS

Maximum Overall Length. 4.625 in (117.47 mm)

Maximum Seated Length 4.250 in (107.95 mm)

Maximum Diameter. 1.563 in (39.7 mm)

Dimensional Outline JEDEC 12-118

Envelope. JEDEC T12

Top Cap^f Small (JEDEC C1-1)

Base Large-Button Duodecar 12-Pin (JEDEC E12-74)

6KD6

Terminal Diagram JEDEC 12GW
 Type of Cathode Coated Unipotential
 Operating Position Any

MAXIMUM RATINGS – Design-Maximum Values^g

*For operation as a Horizontal-Deflection-Amplifier Tube
 in a 525-line, 30-frame system*

DC Plate Supply Voltage	E_{bb}	990	V
Peak Positive-Pulse Plate Voltage ^h . .	e_{bm}	7000 ^k	V
DC Grid-No.3 Voltage ^m	E_{c3}	20	V
DC Grid-No.2 (Screen-Grid) Voltage . .	E_{c2}	200	V
Peak Negative-Pulse Grid-No.1 (Control-Grid) Voltage	$-e_{c1m}$	250	V
Heater-Cathode Voltage:			
Peak	e_{hkm}	±200	V
Average ⁿ	E_{hk}	100	V
Heater Voltage, ac or dc	E_h	5.7 to 6.9	V
Cathode Current:			
Peak	i_{km}	1400	mA
Average ⁿ	$I_{k(av)}$	400	mA
Grid-No.2 Input	P_{g2}	5.0	W
Plate Dissipation ^p	P_b	33	W
Envelope Temperature	T_E	225 ^q	°C

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance	R_{g1}	2.2	MΩ
Grid-No.3-Circuit Resistance	R_{g3}	0.01	MΩ

^a Measured without external shield in accordance with the current issue of EIA Standard RS-191.

^b With grid No.3 and grid No.2 connected, respectively, to cathode and plate at socket.

^c Conditions: $E_b = E_{c2} = 150$ V, $E_{c1} = -22.5$ V.

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

^e Under pulse-duration condition specified in Footnote h.

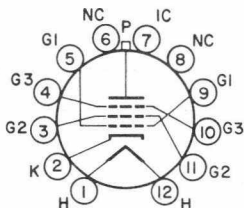
^f Designed to mate with connector of 0.250-in ch cap, generally available from your local RCA distributor.

^g As defined in the current issue of EIA Standard RS-239, unless otherwise specified.

- ^h This rating is applicable when 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 μ s.
- ^k Absolute-Maximum Value.
- ^m In horizontal-deflection-amplifier service, a positive voltage may be applied to grid No.3 to reduce interference from "snivets," which may occur in both vhf and uhf television receivers. A typical value for this voltage is 20 volts.
- ⁿ Measured with a DC meter.
- ^p An adequate bias resistor or other means is required to protect the tube in the absence of excitation.
- ^q This rating is applicable when measurement is made using a thermocouple attached to a 0.1-inch wide phosphor-bronze ring placed at the hottest location on the envelope. A maximum rating of 240°C is applicable to direct thermocouple measurements taken at the hottest point on the envelope surface.

TERMINAL DIAGRAM (Bottom View)

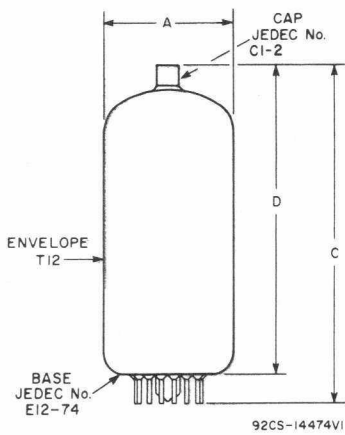
- Pin 1 – Heater
 Pin 2 – Cathode
 Pin 3 – Grid No.2
 Pin 4 – Grid No.3
 Pin 5 – Grid No.1
 Pin 6 – No Connection
 Pin 7 – Do Not Use
 Pin 8 – No Connection
 Pin 9 – Grid No.1
 Pin 10 – Grid No.3
 Pin 11 – Grid No.2
 Pin 12 – Heater
 Cap – Plate



JEDEC 12GW

6KD6

DIMENSIONAL OUTLINE (JEDEC No.12-118)



DIMENSION	INCHES		MILLIMETERS	
	Min.	Max.	Min.	Max.
A	1.437*	1.563	36.5*	39.7
C	—	4.625	—	117.47
D	—	4.250	—	107.95
MILLIMETER DIMENSION DERIVED FROM INCH DIMENSION				
* Applies to the minimum diameter except in the area of the seal.				