

Beam Power Tube

NOVAR TYPE

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

ELECTRICAL CHARACTERISTICS – Bogey Values

Heater Voltage, ac or dc. . . E_h	6.3	V
Heater Current I_h	1.6	A
Direct Interelectrode Capacitances: ^a		
Grid No.1 to plate c_{g1-p}	0.6	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 below.

Amplification Factor (Triode Connection) ^b μ	-	4	-	
Plate Resistance (Approx.) . r_p	-	-	10000	Ω
Transconductance g_m	-	-	6000	μmho
DC Plate Current I_b	440 ^c	-	40	mA
DC Grid-No.2 Current I_{c2}	30 ^c	-	2.4	mA
Cutoff DC Grid-No.1 Voltage for $I_b = 1 \text{ mA}$. . . $E_{c1(co)}$	-	-	-42	V

Conditions:

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

MECHANICAL CHARACTERISTICS

Dimensional Outline	JEDEC No.12-97
Maximum Overall Length	.3.380in. (85.85 mm)
Maximum Seated Length.	.3.000in. (76.2 mm)
Maximum Diameter	.1.562in. (39.6 mm)
Envelope	JEDEC Designation T12
Base ^d	Large-Button Novar 9-Pin with Exhaust Tip (JEDEC Designation E9-88)

6KV6A

Terminal-Connections Designation	JEDEC 9QU
Type of Cathode	Coated Unipotential
Operating Position	Any

MAXIMUM RATINGS - Design-Maximum Values^o

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}	900	V
Peak Positive-Pulse Plate Voltage	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
Peak Positive-Pulse Grid-No.2 Voltage	e_{c2m}	600	V
Grid No.1 (Control-Grid) Voltage:			
Peak negative-pulse value	$-e_{c1m}$	330	V
Negative dc value (bias)	$-E_{c1}$	250	V
Heater-Cathode Voltage:			
Peak	e_{hkm}	$\begin{cases} +200 \\ -500 \end{cases}$	V
Average ^g	$E_{hk(av)}$	100	V
Heater Voltage	E_h	5.7 to 6.9	V
Cathode Current:			
Peak	i_{km}	950	mA
Average ^g	$I_{k(av)}$	275	mA
Grid-No.2 Input	P_{g2}	2.0	W
Plate Dissipation ^h	P_b	28 ^k	W
Envelope Temperature (at hottest point on envelope surface)	T_E	240	°C

MAXIMUM CIRCUIT VALUE

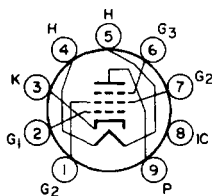
Grid-No.1-Circuit Resistance:	$R_{g1(ckt)}$	
For grid-No.1-resistor-bias operation		1 MΩ



- ^aMeasured without external shield in accordance with the current issue of EIA Standard RS-191.
- ^bWith grid No.3 and grid No.2 connected, respectively, to cathode and plate at socket.
- ^cThis value can be measured by a method involving a recurrent waveform such that the Maximum Ratings of the tube will not be exceeded.
- ^dDesigned to mate with "Novar 9-Contact" Socket generally available from your local RCA Distributor.
- ^eAs defined in the current issue of EIA Standard RS-239.
- ^fThis 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 $10\mu\text{s}$.
- ^gMeasured with a dc meter.
- ^hAdequate circuit precautions must be taken to protect the tube in the absence of grid-No.1 bias.
- ^kPlate dissipations up to 32W maximum are permissible for short periods of time provided the maximum envelope-temperature rating is not exceeded. This condition may exist under high-line voltage, zero picture tube beam current.

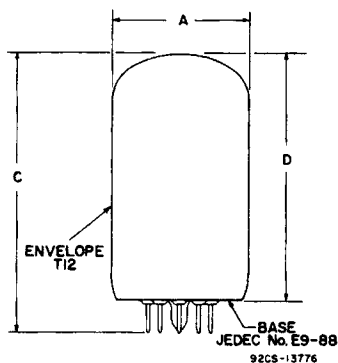
TERMINAL DIAGRAM — Bottom View

- 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



JEDEC 9QU

DIMENSIONAL OUTLINE — JEDEC No. 12-97



DIMENSION	INCHES		MILLIMETERS	
	Min.	Max.	Min.	Max.
A	1.438*	1.562	36.6*	39.6
C	—	3.380	—	85.85
D	2.750	3.000	69.9	76.2

MILLIMETER DIMENSION DERIVED FROM INCH DIMENSION

* Applies to the minimum diameter except in the area of the seal.