

Beam Power Tube

NOVAR TYPE

ELECTRICAL CHARACTERISTICS — Bogey Values

Heater Voltage, ac or dc E_h	6.3	V
Heater Current I_h	2.3	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	11	pF

For the following characteristics, see Conditions below:

Amplification Factor (Triode Connection) ^b	μ	—	—	30	
Plate Resistance (Approx.) r_p	—	—	6000	Ω	
Transconductance g_m	—	—	11000	μmho	
DC Plate Current I_b	—	800 ^d	140	mA	
DC Grid-No. 2 Current . . I_{c2}	—	56 ^d	2.0	mA	
Cutoff DC Grid-No. 1 Voltage for $I_b = 1 \text{ mA}$. . $E_{c1(\text{co})}$	-125	—	-50	V	

Conditions:

Heater Voltage E_h	← Bogey Value →			V	
Peak Positive-Pulse Plate Voltage ^e e_{bm}	5000	—	—	V	
DC Plate Voltage E_b	—	55	175	V	
DC Grid-No. 3 Voltage . . E_{c3}	30	30	30	V	
DC Grid-No. 2 Voltage . . E_{c2}	130	125	125	V	
DC Grid No. 1 Voltage . . E_{c1}		0	-25	V	

MECHANICAL CHARACTERISTICS

Dimensional Outline	JEDEC No. 12-117
Envelope	JEDEC T12
Top Cap	Small (JEDEC C1-1)
Base	Large-Button Novar 9-Pin with Exhaust Tip (JEDEC E9-88)

Terminal Connections

(See <i>TERMINAL DIAGRAM</i>)	JEDEC 9QL
Type of Cathode	Coated Unipotential
Operating Position	Any

MAXIMUM RATINGS — Design-Maximum Values ^f

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 ^g	e_{bm}	7500	V
Peak Negative-Pulse Plate Voltage	$-e_{bm}$	1100	V
DC Grid-No. 3 Voltage ^h	E_{c3}	75	V
DC Grid-No. 2 (Screen-Grid) Voltage ..	E_{c2}	220	V
Peak Negative-Pulse Grid-No. 1 (Control-Grid) Voltage	$-e_{clm}$	330	V
Heater-Cathode Voltage:			
Peak	e_{hkm}	+200	V
Average	E_{hk}	100	V
Heater Voltage:	E_h	5.7 to 6.9	V
Cathode Current:			
Peak	i_{km}	1200	mA
Average	$I_{k(av)}$	350	mA
Grid-No. 2 Input	P_{g2}	5	W
Plate Dissipation ^j	P_b	30	W
Temporary Overload Plate Dissipation ^k : P_b		200	W
Envelope Temperature (at hottest point on envelope surface)	T_E	250	°C

MAXIMUM CIRCUIT VALUES

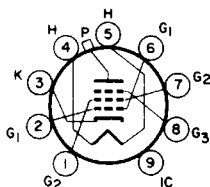
Grid-No. 1-Circuit Resistance:	$R_{g(ckt)}$	
Cathode bias	1.0	megohm
(with min. $R_K = 100 \Omega$)		
Grid-leak bias	10.0	megohms
(with signal peak clamped to zero bias)		
Fixed bias	0.47	megohm
(where positive grid current is not drawn)		

- a** Measured without external shield in accordance with the current issue of EIA Standard RS-191B.
- b** With grid No. 3 and grid No. 2 connected, respectively, to cathode and plate at socket.
- c** Conditions: $E_b = E_{c2} = 125V$, $E_{c1} = -25V$.
- 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 g.
- f** As defined in the current issue of EIA Standard RS-239A.

- g 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 scanning cycle is 10 μ s.
- h In horizontal-deflection-amplifier service, a positive voltage should be applied to grid No. 3 to reduce interference from "snivets", which may occur in both vhf and uhf television receivers, and to increase power output. A typical value is 30V.
- j An adequate bias resistor or other means is required to protect the tube in the absence of excitation.
- k Total continuous or accumulated time not to exceed 40 seconds.

TERMINAL DIAGRAM – JEDEC 9QL (Bottom View)

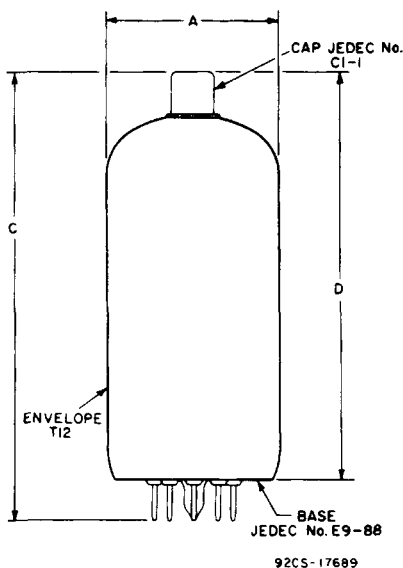
Pin 1 - Grid No. 2
 Pin 2 - Grid No. 1
 Pin 3 - Cathode
 Pin 4 - Heater
 Pin 5 - Heater



Pin 6 - Grid No. 1
 Pin 7 - Grid No. 2
 Pin 8 - Grid No. 3
 Pin 9 - Do Not Use
 Top Cap - Plate

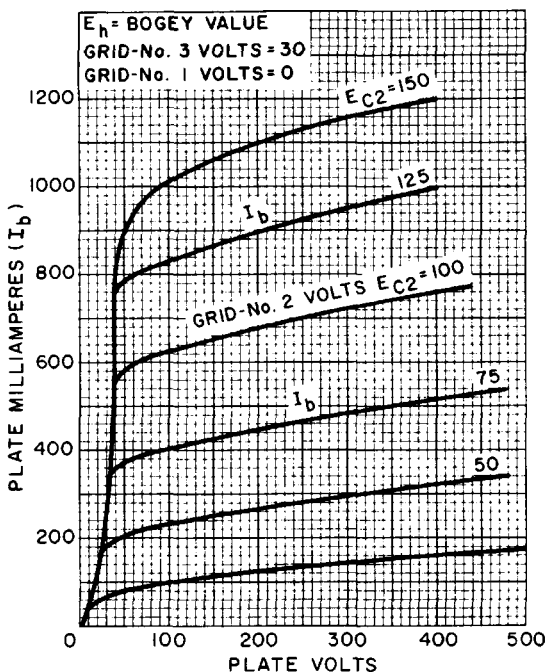
6LZ6

DIMENSIONAL OUTLINE – JEDEC No. 12-117

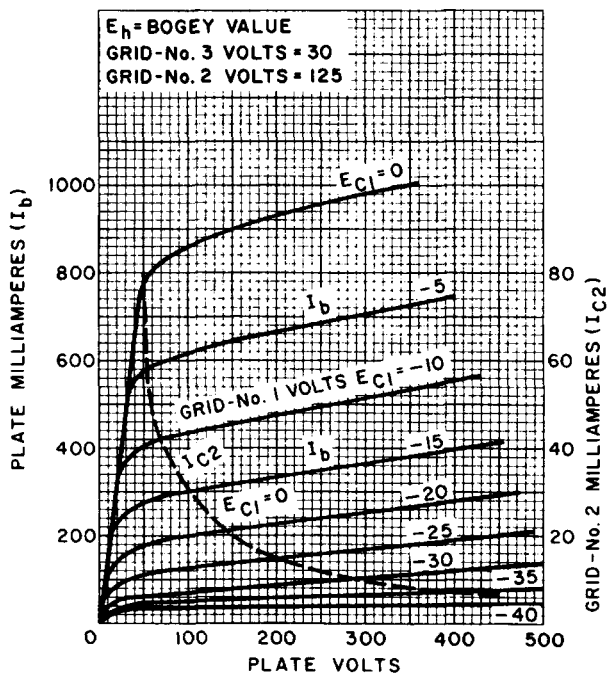


DIMENSION	INCHES		MILLIMETERS	
	Min.	Max.	Min.	Max.
A	1.438*	1.562	36.6*	39.6
C		4.380	95.3	111.25
D	3.750	4.000	95.3	101.6
MILLIMETER DIMENSION DERIVED FROM INCH DIMENSION				
*Applies to the minimum diameter except in the area of the seal.				

TYPICAL CHARACTERISTICS



TYPICAL CHARACTERISTICS



92CS-17682