

Beam Power Tube

T12 Novar Type

High Perveance Beam Power Tube

For Horizontal-Deflection Amplifier

Service in Low B+ Color-TV Receivers

■ Plate Dissipation = 33 W

■ RCA Dark Heater

■ Peak Cathode Current = 1400 mA

ELECTRICAL CHARACTERISTICS — Bogey Values

Heater Voltage, ac or dc	E_h	6.3	V
Heater Current	I_h	2.85	A
Direct Interelectrode Capacitances: ^a			
Grid No. 1 to plate	c_{g1-p}	1.0	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 750^d 125 mADC Grid-No. 2 Current . . I_{c2} — 110^d 42^d 3.3 mA

Cutoff DC Grid-No. 1

Voltage for $I_b = 1$ mA . . $E_{c1(co)}$ -125 — 0 -40 V

Conditions:

Heater Voltage E_h ← Bogey Value → V

Peak Positive-Pulse

Plate Voltage^e e_{bm} 5000 — — — VDC Plate Voltage E_b — 45 60 175 VDC Grid-No. 3 Voltage . . E_{c3} 30 30 30 0 VDC Grid-No. 2 Voltage . . E_{c2} 110 160 110 110 VDC Grid-No. 1 Voltage . . E_{c1} — 0 0 -21 V

MECHANICAL CHARACTERISTICS

Envelope JEDEC T-12

Top Cap Small (JEDEC C1-1)

Base Large-Button Novar 9-Pin with Exhaust Tip
(JEDEC E9-88)

Terminal Connections

(See *TERMINAL DIAGRAM*) JEDEC 9QL

Type of Cathode Coated Unipotential

Operating Position Any



6MC6

MAXIMUM RATINGS – Design-Maximum Values ^f

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

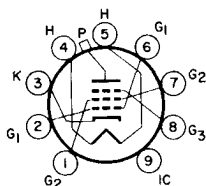
DC Plate Supply Voltage	E_{bb}	990	V
Peak Positive-Pulse Plate Voltage ^a	e_{bm}	7000	V
Peak Negative-Pulse Plate Voltage	$-e_{bm}$	1100	V
DC Grid-No. 3 Voltage ^h	E_{c3}	75	V
DC Grid-No. 2 (Screen-Grid) Voltage	E_{c2}	250	V
Peak Negative-Pulse Grid-No. 1 (Control-Grid) Voltage	$-e_{clm}$	330	V
Heater-Cathode Voltage:			
Peak	e_{hkm}	±200	V
Average	E_{hk}	100	V
Heater Voltage: 6MC6	E_h	5.7 to 6.9	V
Heater Current: 36MC6	I_h	0.42 to 0.48	A
Cathode Current:			
Peak	i_{km}	1400	mA
Average	$i_{k(av)}$	400	mA
Grid-No. 2 Input	P_{g2}	5	W
Plate Dissipation ^j	P_b	33	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-resistor bias		10.0 megohms
(with signal peak clamped to zero bias)		
Fixed bias		0.47 megohm
(where positive grid current is not drawn)		

TERMINAL DIAGRAM – JEDEC 9QL (Bottom View)

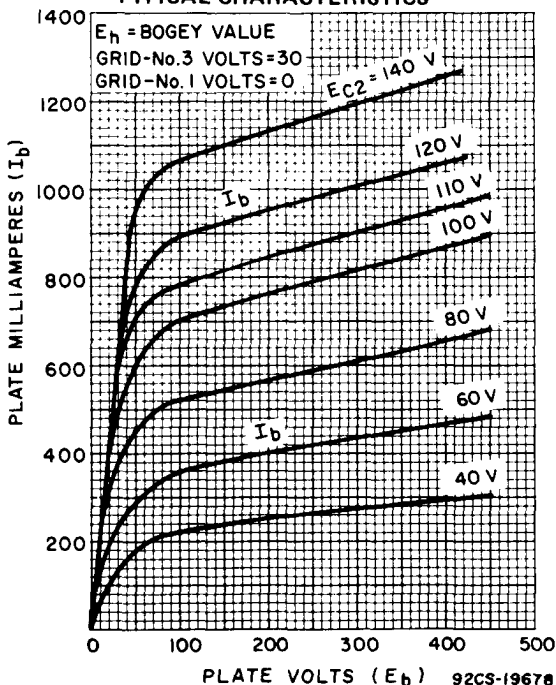
Pin 1 – Grid No. 2
Pin 2 – Grid No. 1
Pin 3 – Cathode
Pin 4 – Heater
Pin 5 – Heater



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

- ^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.

TYPICAL CHARACTERISTICS

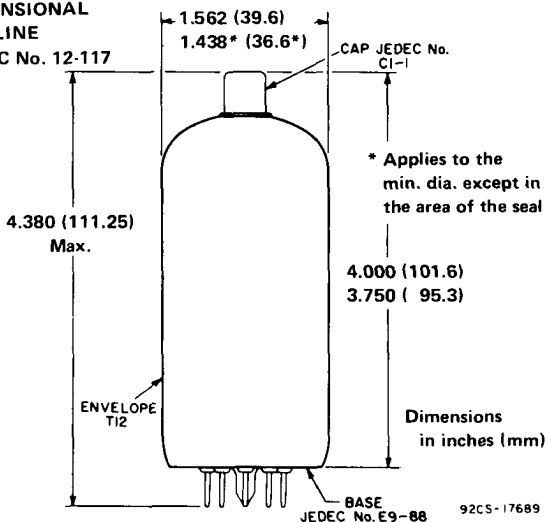


- c Conditions: $E_b = E_{c2} = 175 \text{ V}$, $E_{c1} = -21 \text{ V}$.
- d This value can be measured by a method involving a recurrent waveform such that the Maximum Ratings of the tube will not be exceeded.
- e Under pulse-duration condition specified in *Footnote g*.
- f As defined in the current 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 $10 \mu\text{s}$.
- 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 30 V.
- j An adequate bias resistor or other means is required to protect the tube in the absence of excitation.

6MC6

DIMENSIONAL OUTLINE

JEDEC No. 12-117



TYPICAL PLATE CHARACTERISTICS

