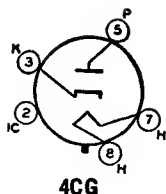


HALF-WAVE VACUUM RECTIFIER

6DE4/6CQ4

17DE4, 22DE4



Glass octal type used as damper tube in horizontal-deflection circuits of television receivers. Outlines section, 13G; requires octal socket. Socket terminals 1, 2, 4, and 6 should not be used as tie points. This tube, like other power-handling tubes, should be adequately ventilated. Types 17DE4 and 22DE4 are identical with type 6DE4/6CQ4 except for heater ratings.

	6DE4/6CQ4	17DE4	22DE4	
Heater Voltage (ac/dc)	6.3	17	22.4	volts
Heater Current	1.6	0.6	0.45	amperes
Heater Warm-up Time (Average)	—	11	11	seconds
Direct Interelectrode Capacitances (Approx.):				
Plate to Cathode and Heater			8.5	pF
Cathode to Plate and Heater			11.5	pF
Heater to Cathode			4	pF

Damper Service

For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Maximum Values)

Peak Inverse Plate Voltage#	5500	volts
Peak Plate Current	1100	mA
Average Plate Current	180	mA
Plate Dissipation	6.5	watts
Heater-Cathode Voltage:		
Peak value	+300	volts
Average value	+100	volts

CHARACTERISTIC Instantaneous Value

Tube Voltage Drop for plate current of 350 mA	34	volts
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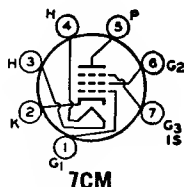
Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

6DE6

4DE6

SHARP-CUTOFF PENTODE

Miniature type used in the gain-controlled picture if stages of television receivers utilizing an intermediate frequency in the order of 40 MHz and as an rf amplifier in vhf television tuners. Outlines section, 5C; requires miniature 7-contact socket. Type 4DE6 is identical with type 6DE6 except for heater ratings.



	4DE6	6DE6	
Heater Voltage (ac/dc)	4.2	6.3	volts
Heater Current	0.45	0.3	ampere
Heater Warm-up Time (Average)	11	—	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances:			
Grid No.1 to Plate	Unshielded	Shielded*	
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	0.025 max	0.015 max	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	6.5	6.5	pF
	2	3	pF

* With external shield connected to cathode.

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	330	volts
Grid-No.3 (Suppressor-Grid) Voltage, Positive value	0	volts
Grid-No.2 (Screen-Grid) Supply Voltage	330	volts
Grid-No.2 Voltage	See curve page 300	
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	volts
Plate Dissipation	2.3	watts

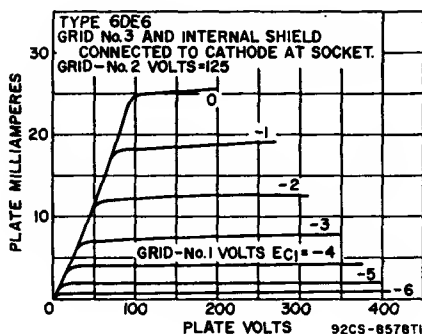
Grid-No.2 Input:

For grid-No.2 voltages up to 165 volts

For grid-No.2 voltages between 165 and 330 volts

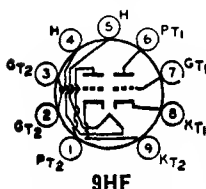
0.55 watt

See curve page 300



CHARACTERISTICS

Plate Supply Voltage	125	volts
Grid No.3	Connected to cathode at socket	
Grid-No.2 Supply Voltage	125	volts
Cathode-Bias Resistor	56	ohms
Plate Resistance (Approx.)	0.25	megohm
Transconductance	8000	μ mhos
Transconductance for grid-No.1 volts of -5.5 and cathode resistor of 0 ohms	700	μ mhos
Plate Current	15.5	mA
Grid-No.2 Current	4.2	mA
Grid-No.1 Voltage (Approx.) for plate current of 20 μ A	-9	volts



9HF

miniature 9-contact socket. For curve of average plate characteristics, Unit No.2, refer to type 6DR7. Types 10DE7 and 13DE7 are identical with type 6DE7 except for heater ratings.

DUAL TRIODE

6DE7

10DE7, 13DE7

Miniature type used as combined vertical oscillator and vertical-deflection amplifier in television receivers. Unit No.1 is used as a blocking oscillator in vertical-deflection circuits, and unit No.2 is used as a vertical-deflection amplifier. Outlines section, 6E; requires mini-

	6DE7	10DE7	13DE7	
Heater Voltage (ac/dc)	6.3	9.7	13	volts
Heater Current	0.9	0.6	0.45	ampere
Heater Warm-up Time (Average)	—	11	11	seconds
Heater-Cathode Voltage:				
Peak value	± 200 max	± 200 max	± 200 max	volts
Average value	100 max	100 max	100 max	volts
Direct Interelectrode Capacitances (Approx.):	Unit No.1	Unit No.2		
Grid to Plate	4	8.5		pF
Grid to Cathode and Heater	2.2	5.5		pF
Plate to Cathode and Heater	0.52	1		pF

Class A₁ Amplifier

CHARACTERISTICS

	Unit No.1	Unit No.2	
Plate Voltage	250	150	volts
Grid Voltage	-11	-17.5	volts
Amplification Factor	17.5	6	
Plate Resistance (Approx.)	8750	925	ohms
Transconductance	2000	6500	μ mhos
Plate Current	5.5	35	mA
Plate Current for grid voltage of -24 volts	—	10	mA
Grid Voltage (Approx.) for plate current of 10 μ A	-20	—	volts
Grid Voltage (Approx.) for plate current of 50 μ A	—	-44	volts