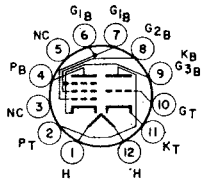
Class A_1 Amplifier

MAXIMUM RATINGS (Design-Maximum Values)	Triode Unit	Pentode Unit	
Plate Supply Voltage	550	550	volts
Plate Voltage	250	250	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	550	volts
Grid-No.2 Voltage	—	250	volts
Peak Cathode Current•	—	50	mA
Cathode Current	10	15	mA
Plate Dissipation	1.4	1.2	watts
Grid-No.2 Input	—	0.8	watts
Input Impedance at 60 Hz	50	300	kohms
CHARACTERISTICS			
Plate Voltage	200	100	volts
Grid-No.2 Voltage	—	100	volts
Grid-No.1 (Control-Grid) Voltage	—2	—1	volts
Mu Factor, Grid-No.1 to Grid-No.2	—	47	
Amplification Factor	70	—	
Input Resistance	0.2	0.4	megohm
Transconductance	3500	5500	μmhos
Plate Current	3.5	6	mA
Grid-No.2 Current	—	1.7	mA
Plate Current:			
For grid-No.1 voltage of 0 volts	—	12.5	mA
For grid current of 10 μA	10	—	mA
Grid-No.2 Current for grid-No.1 voltage of 0 volts	—	3.5	mA
Grid-No.1 Voltage:			
For grid-No.1 current of +0.3 μA	—1.3	—1.3	volts
For plate and grid-No.2 voltage of 200 volts and plate current of 10 μA	—	—16	volts
MAXIMUM CIRCUIT VALUES			
Grid-No.1-Circuit Resistance:			
For fixed-bias operation	—	0.56	megohm
For cathode-bias operation	3	1	megohms

• With a maximum duty factor of 0.30 and maximum pulse duration of 30 microseconds.

Refer to chart at end of section. **6JZ6**



12DZ

MEDIUM-MU TRIODE—POWER PENTODE

6JZ8

13JZ8, 17JZ8, 24JZ8, 25JZ8

Duodecar type used in combined vertical-deflection-oscillator and vertical-deflection-amplifier applications in television receivers. **Outlines section,** 8C; requires duodecar 12-contact socket. Types 13JZ8, 17JZ8, 24JZ8, and 25JZ8 are identical with type 6JZ8 except for heater ratings.

	6JZ8	13JZ8	17JZ8	24JZ8	25JZ8	
Heater Voltage (ac/dc)	6.3	12.7	16.8	24.2	25.2	volts
Heater Current	1.2	0.6	0.45	0.315	0.3	amperes
Heater Warm-up Time	—	11	11	11	—	seconds
Heater-Cathode Voltage:						
Peak value	±200 max	±200 max	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	100 max	100 max	volts

Class A_1 Amplifier

CHARACTERISTICS	Triode Unit	Beam Power Unit		
Plate Voltage	150	45	120	volts
Grid-No.2 (Screen-Grid) Voltage	—	110	110	volts
Grid-No.1 (Control-Grid) Voltage	—5	0	—8	volts
Amplification Factor	20	—	—	
Plate Resistance (Approx.)	8500	—	11700	ohms
Transconductance	2350	—	7100	μmhos
Plate Current	5.5	122•	46	mA
Grid-No.2 Current	—	16.5•	3.5	mA
Grid-No.1 Voltage (Approx.) for plate current of 10 μA	—10	—	—	volts

Grid-No.1 Voltage (Approx.) for plate current of 100 μA	—	—	−25	volts

• This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

Vertical-Deflection Oscillator and Amplifier

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

MAXIMUM RATINGS (Design-Maximum Values)	Triode Unit Oscillator	Beam Power Unit Amplifier	
DC Plate Voltage	250	250	volts
Peak Positive-Pulse Plate Voltage#	—	2000	volts
DC Grid-No.2 Voltage	—	200	volts
Peak Negative-Pulse Grid-No.1 Voltage	400	150	volts
Peak Cathode Current	70	245	mA
Average Cathode Current	20	70	mA
Plate Dissipation•	1	7	watts
Grid-No.2 Input	—	1.8	watts
MAXIMUM CIRCUIT VALUES			
Grid-No.1-Circuit Resistance:			
For fixed-bias operation	1	1	megohm
For cathode-bias operation	2.2	2.2	megohms

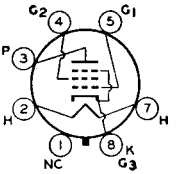
Pulse duration must not exceed 15% of a vertical scanning cycle (2.5 milliseconds).

• A bias resistor or other means is required to protect the tube in absence of excitation.

6K5GT Refer to chart at end of section.

6K6GT POWER PENTODE

Glass octal type used in output stage of radio receivers and, triode-connected, as a vertical-deflection amplifier in television receivers. This type may be supplied with pin No.1 omitted. **Outlines section,** 13D; requires octal socket. This tube, like other power-handling tubes, should be adequately ventilated.



7S

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.4	ampere
Heater-Cathode Voltage:		
Peak value	±200 max	volts
Average value	100 max	volts
Direct Interelectrode Capacitances (Approx.):		
Grid No.1 to Plate	0.5	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3	5.5	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3	6	pF

Class A_1 Amplifier

MAXIMUM RATING (Design-Center Values)		
Plate Voltage	315	volts
Grid-No.2 (Screen-Grid) Voltage	285	volts
Plate Dissipation	8.5	watts
Grid-No.2 Input	2.8	watts

TYPICAL OPERATION				
Plate Voltage	100	250	315	volts
Grid-No.2 Voltage	100	250	250	volts
Grid-No.1 (Control-Grid) Voltage	−7	−18	−21	volts
Peak AF Grid-No.1 Voltage	7	18	21	volts
Zero-Signal Plate Current	9	32	25.5	mA
Maximum-Signal Plate Current	9.5	33	28	mA
Zero-Signal Grid-No.2 Current	1.6	5.5	4.0	mA
Maximum-Signal Grid-No.2 Current	3	10	9	mA
Plate Resistance (Approx.)	104000	90000	110000	ohms
Transconductance	1500	2300	2100	μmhos
Load Resistance	12000	7600	9000	ohms
Total Harmonic Distortion	11	11	15	per cent
Maximum-Signal Power Output	0.35	3.4	4.5	watts