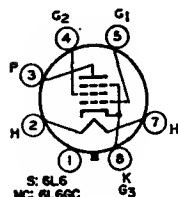


6L6 6L6GC

BEAM POWER TUBE

Metal type 6L6 and glass octal type 6L6GC are used in the output stage of audio amplifying equipment, especially units designed to have ample reserve of power-delivering ability. Outlines section, 4 and 19D, respectively; require octal socket. These tubes, like other power-handling tubes, should be adequately ventilated. Type 6L6GC can be used in place of type 6L6 and may be supplied with pin 1 omitted.



7AC

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.9	ampere
Heater-Cathode Voltage:		
Peak value	6L6 ± 180 max	6L6GC ± 200 max
Average value	—	100 max
Direct Interelectrode Capacitances (Approx.):		
Grid No.1 to Plate	0.4*	0.6
Grid No.1 to Cathode, Heater, Grid No.2, and		
Grid No.3	10*	10
Plate to Cathode, Heater, Grid No.2, and		
Grid No.3	12*	6.5

* With pin 1 connected to pin 8.

Class A₁ Amplifier

	6L6 Design-Center Values	6L6GC Design Maximum Values	
MAXIMUM RATINGS			
Plate Voltage	360	500	volts
Grid-No.2 (Screen-Grid) Voltage	270	450 ^A	volts
Plate Dissipation	19	30	watts
Grid-No.2 Input	2.5	5	watts

TYPICAL OPERATION

Plate Voltage	250	300	350	volts
Grid-No.2 Voltage	250	200	250	volts
Grid-No.1 (Control-Grid) Voltage	-14	-12.5	-18	volts
Peak AF Grid-No.1 Voltage	14	12.5	18	volts
Zero-Signal Plate Current	72	48	54	mA
Maximum-Signal Plate Current	79	55	66	mA
Zero-Signal Grid-No.2 Current	5	2.5	2.5	mA
Maximum-Signal Grid-No.2 Current	7.3	4.7	7	mA
Plate Resistance (Approx.)	22500	35000	33000	ohms
Transconductance	6000	5300	5200	μ mhos
Load Resistance	2500	4500	4200	ohms
Total Harmonic Distortion	10	11	15	per cent
Maximum-Signal Power Output	6.5	6.5	10.8	watts

^A In push-pull circuits where grid No.2 of each tube is connected to a tap on the plate winding of the output transformer, this maximum rating is 500 volts.

Class A₁ Amplifier (Triode Connection)†

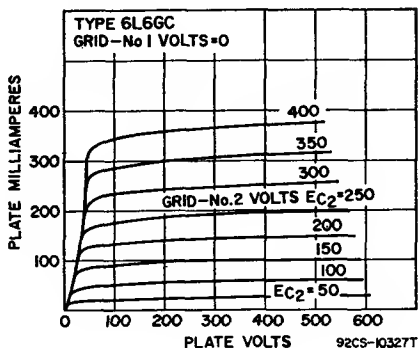
	6L6 Design- Center Values	6L6GC Design- Maximum Values	
MAXIMUM RATINGS			
Plate Voltage	275	450	volts
Plate Dissipation (Total)	19	30	watts
TYPICAL OPERATION			
Plate Voltage		250	volts
Grid-No.1 Voltage		-20	volts
Peak AF Grid-No.1 Voltage		20	volts
Zero-Signal Plate Current		40	mA
Maximum-Signal Plate Current		44	mA
Plate Resistance (Approx.)		1700	ohms
Amplification Factor		8	
Transconductance		4700	μ mhos
Load Resistance		5000	ohms
Total Harmonic Distortion		5	per cent
Maximum-Signal Power Output		1.4	watts

† Grid No.2 connected to plate.

Push-Pull Class A₁ AmplifierMAXIMUM RATINGS (Same as for Class A₁ Amplifier)

TYPICAL OPERATION (Values are for two tubes)

Plate Voltage	250	270	volts
Grid-No.2 Voltage	250	270	volts
Grid-No.1 Voltage	-16	-17.5	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage	32	35	volts
Zero-Signal Plate Current	120	134	mA
Maximum-Signal Plate Current	140	155	mA
Zero-Signal Grid-No.2 Current	10	11	mA
Maximum-Signal Grid-No.2 Current	16	17	mA
Effective Load Resistance (Plate-to-plate)	5000	5000	ohms
Total Harmonic Distortion	2	2	per cent
Maximum-Signal Power Output	14.5	17.5	watts

MAXIMUM RATINGS (Same as for Class A₁ Amplifier)

TYPICAL OPERATION (Values are for two tubes)

	6L6	6L6GC	
Plate Voltage	360	450	volts
Grid-No.2 Voltage	270	400	volts
Grid-No.1 Voltage	-22.5	-37	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage	45	70	volts
Zero-Signal Plate Current	88	116	mA
Maximum-Signal Plate Current	132	210	mA
Zero-Signal Grid-No.2 Current	5	5.6	mA
Maximum-Signal Grid-No.2 Current	15	22	mA
Effective Load Resistance (Plate-to-plate)	6600	5600	ohms
Total Harmonic Distortion	2	1.8	per cent
Maximum-Signal Power Output	26.5	55	watts

Push-Pull Class AB₂ AmplifierMAXIMUM RATINGS (Same as for Class A₁ Amplifier)

TYPICAL OPERATION (Values are for two tubes)

Plate Voltage	360	360	volts
Grid-No.2 Voltage	225	270	volts
Grid-No.1 Voltage	-18	-22.5	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage	52	72	volts
Zero-Signal Plate Current	78	88	mA
Maximum-Signal Plate Current	142	205	mA
Zero-Signal Grid-No.2 Current	3.5	5	mA
Maximum-Signal Grid-No.2 Current	11	16	mA
Effective Load Resistance (Plate-to-plate)	6000	3800	ohms
Total Harmonic Distortion	2	2	per cent
Maximum-Signal Power Output	31	47	watts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:			
For fixed-bias operation		0.1	megohm
For cathode-bias operation		0.5	megohm

Refer to chart at end of section.

6L6G

Refer to chart at end of section.

6L6GB

6L7

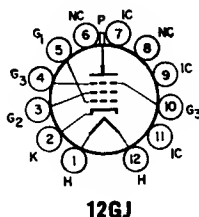
Refer to chart at end of section.

6L7G

Refer to chart at end of section.

6LB6**BEAM POWER TUBE**

Duodecar type used as horizontal-deflection amplifier in color and black-and-white television receivers. Outlines section, 16E; requires duodecar 12-contact socket. Heater: volts (ac/dc), 6.3; amperes, 2.25; maximum heater-cathode volts, ± 200 peak, 100 average.

**12GJ****Class A₁ Amplifier**

CHARACTERISTICS	Triode* Connection		Pentode Connection		
	125	5000	50	150	
Plate Voltage	125	5000	50	150	volts
Grid No.3 (Suppressor Grid)	—	—	Connected to cathode at socket		
Grid-No.2 Voltage	125	110	110	110	volts
Grid-No.1 Voltage	-25	—	—	-20	volts
Plate Resistance (Approx.)	—	—	—	6600	ohms
Transconductance	—	—	—	13400	μ mhos
Plate Current	—	—	560†	105	mA
Grid-No.2 Current	—	—	46†	2	mA
Grid-No.1 Voltage (Approx.) for plate current of 1 mA	—	-125	—	-40	volts
Amplification Factor	4	—	—	—	

* Grid No.2 tied to plate.

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

Horizontal-Deflection Amplifier

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

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Supply Voltage	990	volts
Peak Positive Pulse Plate Voltage* (Absolute Maximum Value)	7000	volts
Peak Negative-Pulse Plate Voltage	100	volts
Grid-No.3 Voltage, Positive-bias value	0	volts
Grid-No.2 Voltage	200	volts
Peak Negative Grid-No.1 Voltage	300	volts
Peak Cathode Current	1100	mA
Average Cathode Current	315	mA
Plate Dissipation* (Absolute Maximum Value)	30	watts
Grid-No.2 Input	5	watts
Bulb Temperature (At hottest point)	250	°C

MAXIMUM CIRCUIT VALUES

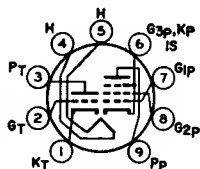
Grid-No.1-Circuit Resistance:		
With feedback-type high voltage regulation	1.2	megohms
With shunt-type high voltage regulation (switching mode)	10	megohms
Grid-No.3-Circuit Resistance	0	ohms

* Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

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

6LB8**10LB8****MEDIUM-MU TRIODE—
SHARP-CUTOFF PENTODE**

Neonovial type with frame-grid pentode used in television receivers. The triode unit is used as a voltage amplifier; the pentode unit is used as a video amplifier. Outlines section, 10A; requires neonovial 9-contact socket. Type 10LB8 is identical with type 6LB8 except for heater ratings.

**9DX**