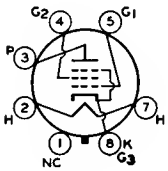
6W6GT

12W6GT, 25W6GT

BEAM POWER TUBE



7AC

Glass octal type used in the audio output stage of radio and color and black-and-white television receivers. Triode-connected, it is used as a vertical-deflection amplifier in television receivers. Outlines section, 13D; requires octal socket. This type may be supplied with pin No.1 omitted. Types 12W6GT and 25W6GT are identical with type 6W6GT except for heater ratings.

	6W6GT	12W6GT	25W6GT	
Heater Voltage (ac/dc)	6.3	12.6	25	volts
Heater Current	1.2	0.6	0.3	ampere
Heater Warm-up Time (Average)	—	11	—	seconds
Heater-Cathode Voltage:				
Peak value	±200 max	+200 max −300 max	±200 max	volts
Average value	100 max	+100 max −200 max	100 max	volts
Direct Interelectrode Capacitances (Approx.):				
Grid No.1 to Plate			0.8	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3			15	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3			9	pF

Class A_1 Amplifier

MAXIMUM RATINGS (Design-Maximum Values)			
Plate Voltage		330	volts
Grid-No.2 (Screen-Grid) Voltage		165	volts
Plate Dissipation		12	watts
Grid-No.2 Input		1.35	watts
TYPICAL OPERATION			
Plate Supply Voltage	110	200	volts
Grid-No.2 Supply Voltage	110	125	volts
Grid-No.1 (Control-Grid) Voltage	−7.5	—	volts
Cathode-Bias Resistor	—	180	ohms
Peak AF Grid-No.1 Voltage	7.5	8.5	volts
Zero-Signal Plate Current	49	46	mA
Maximum-Signal Plate Current	50	47	mA
Zero-Signal Grid-No.2 Current	4	2.2	mA
Maximum-Signal Grid-No.2 Current	10	8.5	mA
Plate Resistance (Approx.)	13000	28000	ohms
Transconductance	8000	8000	μmhos
Load Resistance	2000	4000	ohms
Total Harmonic Distortion (Approx.)	10	10	per cent
Maximum-Signal Power Output	2.1	3.8	watts
CHARACTERISTICS (Triode Connection)*			
Plate Voltage		225	volts
Grid-No.1 Voltage		−30	volts
Amplification Factor		6.2	
Plate Resistance (Approx.)		1600	ohms
Transconductance		3800	μmhos
Plate Current		22	mA
Grid No.1 Voltage (Approx.) for plate current of 0.5 mA		−42	volts
MAXIMUM CIRCUIT VALUES			
Grid-No.1 Circuit Resistance:			
For fixed-bias operation		0.1	megohm
For cathode-bias operation		0.5	megohm

* Grid No.2 connected to plate.

Vertical Deflection Amplifier

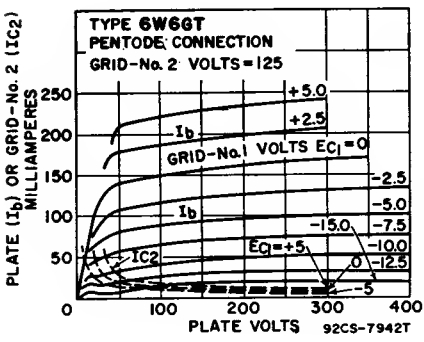
For operation in a 525-line, 30-frame system

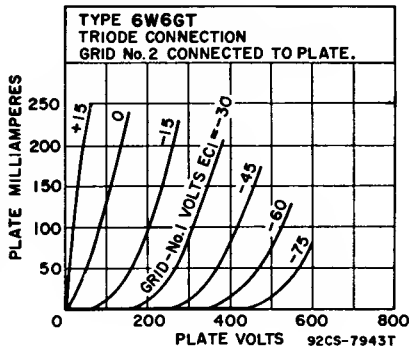
MAXIMUM RATINGS (Design-Maximum Values)	Triode Connection*	Pentode Connection	
DC Plate Voltage	330	330	volts
Peak Positive-Pulse Plate Voltage#	1200	1500	volts
DC Grid No.2 (Screen-Grid) Voltage	—	165	volts
Peak Negative-Pulse Grid-No.1 Voltage	275	275	volts
Peak Cathode Current	195	195	mA
Average Cathode Current	65	65	mA
Plate Dissipation	8.5	8	watts
Grid-No.2 Input	—	1.2	watts

MAXIMUM CIRCUIT VALUE			
Grid-No.1-Circuit Resistance, for cathode-bias operation	2.2	2.2	megohms

* Grid No.2 connected to plate.

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

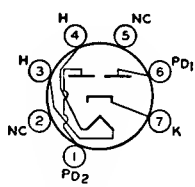




6W7G Refer to chart at end of section.

6X4
12X4

FULL-WAVE VACUUM RECTIFIER



5BS

Miniature type used in power supply of automobile and ac-operated radio receivers. Equivalent in performance to larger type 6X5GT. **Outlines section,** 5D; requires miniature 7-contact socket. This tube, like other power-handling tubes, should be adequately ventilated. For discussion of Rating Chart and Operation Characteristics, refer to **Interpretation of Tube Data.** Type 12X4 is identical with type 6X4 except for heater ratings.

	6X4	12X4	
Heater Voltage (ac/dc)	6.3▲	12.6	volts
Heater Current	0.6	0.3	ampere
Heater-Cathode Voltage:			
Peak value	+200, —450 max		volts
Average value	100 max		volts

▲ When the heater is operated from a 3-cell (nominal-6-volt) storage-battery source, the permissible heater-voltage range is from 5 to 8 volts.

Full-Wave Rectifier

MAXIMUM RATINGS (Design-Maximum Values)		
Peak Inverse Plate Voltage	1250	volts
Steady-State Peak Plate Current (Per Plate)	245	mA
AC Plate Supply Voltage (Per Plate, rms)	See Rating Chart	
DC Output Voltage (At filter input)†	350	volts
Average Output Current (Each plate)†	45	mA
Hot-Switching Transient Plate Current	#	

† This rating applies when the 6X4 is used in vibrator operation with a minimum duty cycle of 75 per cent.

If hot-switching is regularly required in operation, the use of choke-input circuits is recommended. Such circuits limit the hot-switching current to a value no higher than that of the peak plate current. When capacitor-input circuits are used, a maximum peak current value per plate of 1.1 amperes during the initial cycles of the hot-switching transient should not he exceeded.