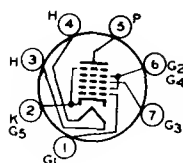


6CS6

PENTAGRID AMPLIFIER

3CS6, 4CS6, 12CS6



7CH

Miniature type used as a gated amplifier in color and black-and-white television receivers. In such service, it may be used as a combined sync separator and sync clipper. Outlines section, 5C; requires miniature 7-contact socket. Types 3CS6, 4CS6, and 12CS6 are identical with type 6CS6 except for heater ratings.

	3CS6	4CS6	6CS6	12CS6	
Heater Voltage (ac/dc)	3.15	4.2	6.3	12.6	volts
Heater Current	0.6	0.45	0.3	0.15	ampere
Heater Warm-up Time (Average)	11	11	11	—	seconds
Heater-Cathode Voltage:					
Peak value	±200 max	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	100 max	volts
Direct Interelectrode Capacitances (Approx.)					
Grid No.1 to Plate				0.07 max	pF
Grid No.3 to Plate				0.36 max	pF
Grid No.1 to Grid No.3				0.22 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, Grid No.4, and Grid No.5				5.5	pF
Grid No.3 to Cathode, Heater, Grid No.1, Grid No.2, Grid No.4, and Grid No.5				7	pF
Plate to Cathode, Heater, Grid No.1, Grid No.2, Grid No.3, Grid No.4, and Grid No.5				7.5	pF

Class A₁ Amplifier

CHARACTERISTICS

Plate Voltage	100	100	volts
Grids-No.2-and-No.4 Voltage	30	30	volts
Grid-No.3 Voltage	—1	0	volt
Grid-No.1 Voltage	0	—1	volt
Plate Resistance (Approx.)	0.7	1	megohm
Grid-No.3-to-Plate Transconductance	1500	—	μmhos
Grid-No.1-to-Plate Transconductance	—	1100	μmhos
Plate Current	0.8	1	mA
Grids-No.2-and-No.4 Current	5.5	1.3	mA
Grid-No.3 Voltage (Approx.) for plate current of 50 μA	—2.2	—	volts
Grid-No.1 Voltage (Approx.) for plate current of 50 μA	—	—2.5	volts

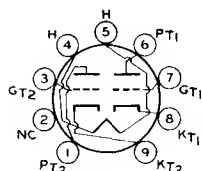
Gated Amplifier Service

MAXIMUM RATINGS (Design-Center Values)

Plate Voltage	300	volts
Grids-No.2-and-No.4 Supply Voltage	300	volts
Grids-No.2-and-No.4 Voltage	See curve page 300	
Cathode Current	14	mA
Plate Dissipation	1	watt
Grids-No.2-and-No.4 Input:		
For grids-No.2-and-No.4 voltages up to 150 volts	1	watt
For grids-No.2-and-No.4 voltages between 150 and 300 volts	See curve page 300	

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance	0.47	megohm
Grid-No.3-Circuit Resistance	2.2	megohms



9EF

MEDIUM-MU DUAL TRIODE

6CS7

8CS7

Miniature type used as combined vertical-deflection oscillator and vertical-deflection amplifier in television receivers. Unit No.1 is used as a conventional blocking oscillator in vertical-deflection circuits, and unit

No.2 as a vertical-deflection amplifier. Outline section, 6E; requires miniature 9-contact socket. Type 8CS7 is identical with type 6CS7 except for heater ratings.

	6CS7	8CS7	
Heater Voltage (ac/dc)	6.3	8.4	volts
Heater Current	0.6	0.45	ampere
Heater Warm-up Time (Average)	11	11	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances (Approx.):	Unit No.1	Unit No.2	
Grid to Plate	2.6	2.6	pF
Grid to Cathode and Heater	1.8	3	pF
Plate to Cathode and Heater	0.5	0.5	pF

Class A₁ Amplifier

CHARACTERISTICS

	Unit No.1 Oscillator	Unit No.2 Amplifier	
Plate Voltage	250	250	volts
Grid Voltage	-8.5	-10.5	volts
Amplification Factor	17	15.5	
Plate Resistance (Approx.)	7700	3450	ohms
Transconductance	2200	4500	μmhos
Plate Current	10.5	19	mA
Plate Current for grid voltage of -16 volts	—	3	mA
Grid Voltage (Approx.) for plate current of 10 μA	-24	—	volts
Grid Voltage (Approx.) for plate current of 50 μA	—	-22	volts

Vertical-Deflection Oscillator and Amplifier

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

MAXIMUM RATINGS (Design-Center Values)

	Unit No.1 Oscillator	Unit No.2 Amplifier	
DC Plate Voltage	500	500	volts
Peak Positive-Pulse Plate Voltage [#] (Absolute Maximum)	—	2200 ^Δ	volts
Peak Negative-Pulse Grid Voltage	400	250	volts
Peak Cathode Current	70	105	mA
Average Cathode Current	20	30	mA
Plate Dissipation	1.25	5.5	watts

MAXIMUM CIRCUIT VALUES

Grid-Circuit Resistance	2.2	2.2	megohms
-------------------------	-----	-----	---------

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

^Δ Under no circumstances should this absolute value be exceeded.

6CT3

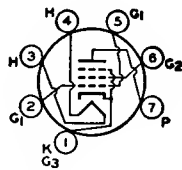
Refer to chart at end of section.

6CU5

12CU5/12C5,
17CU5/17C5

BEAM POWER TUBE

Miniature type used in the audio output stage of television receivers. Outlines section, 5D; requires miniature 7-contact socket. Types 12CU5/12C5, and 17CU5/17C5 are identical with type 6CU5 except for heater ratings.



7CV

	6CU5	12CU5/12C5	17CU5/ 17C5	
Heater Voltage (ac/dc)	6.3	12.6	16.8	volts
Heater Current	1.2	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.):				
Grid No.1 to Plate			0.6	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3			13	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3			8.5	pF