

Heater Voltage (ac/dc)	6.3	volts
Heater Current	1.25	amperes
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	11.3	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3	7	pF

Class A₁ Amplifier

CHARACTERISTICS

	Pentode Connection	Triode† Connection	
Plate Voltage	115	110	volts
Grid-No.2 (Screen-Grid) Voltage	175	100	volts
Grid-No.1 (Control-Grid) Voltage	-20	-4.5	volts
Plate Resistance	6000	—	ohms
Transconductance	5600	—	μmhos
Plate Current	60	—	mA
Grid No.2 Current	6.8	—	mA

† Grid No.2 connected to plate.

Horizontal-Deflection Amplifier

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

MAXIMUM RATINGS (Design-Center Values)

DC Plate Voltage	550	volts
Peak Positive-Pulse Plate Voltage* (Absolute Maximum)	5500°	volts
Peak Negative-Pulse Plate Voltage	1250	volts
DC Grid-No.2 (Screen-Grid) Voltage*	200	volts
Peak Negative-Pulse Grid-No.1 (Control-Grid) Voltage	300	volts
Peak Cathode Current	400	mA
Average Cathode Current	110	mA
Grid-No.2 Input	2.5	watts
Plate Dissipation††	10	watts
Bulb Temperature (At hottest point)	210	°C

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	0.47	megohm
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* Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

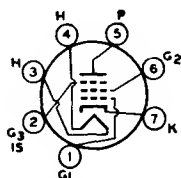
° Under no circumstances should this absolute value be exceeded.

* Obtained through a series dropping resistor of sufficient magnitude to limit the grid-No.2 input to the rated maximum value.

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

Refer to chart at end of section.

6AU6



7BK

SHARP-CUTOFF PENTODE

3AU6, 4AU6, 12AU6

6AU6A

Miniature type used in compact radio equipment as rf amplifier especially in high-frequency, wide-band applications; also used as limiter tube in FM equipment. Outlines section, 5C; requires miniature 7-contact socket. For a discussion of limiters, refer to Electron Tube Applications section. For typical operation as resistance-coupled amplifier, refer to Resistance-Coupled Amplifier section. Types 3AU6, 4AU6, and 12AU6 are identical with type 6AU6A except for heater ratings.

	3AU6	4AU6	6AU6A	12AU6	
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:

Pentode Connection:

Grid No.1 to Plate	0.0035 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	5.5	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	5	pF

Triode Connection:†

Grid No.1 to Plate, Grid No.2, Grid No.3, and Internal Shield	2.6	pF
Grid No.1 to Cathode and Heater	3.2	pF
Plate, Grid No.2, Grid No.3, and Internal Shield to Cathode and Heater	1.2*	pF

† Grid No.2, grid No.3, and internal shield connected to plate.

* Value is 8.5 pF with external shield connected to cathode.

Class A₁ Amplifier

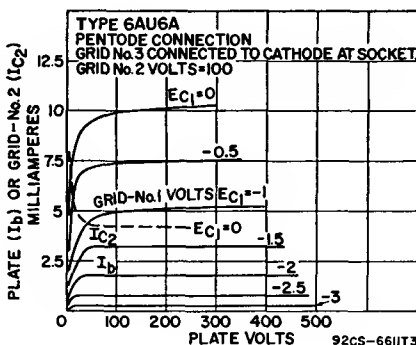
MAXIMUM RATINGS (Design-Maximum Values)

	Triode† Connection	Pentode Connection	
Plate Voltage	275	330	volts
Grid-No.3 (Suppressor-Grid) Voltage, Positive value	—	0	volts
Grid-No.2 (Screen-Grid) Voltage	See curve	page 300	
Grid-No.2 Supply Voltage	—	330	volts
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	volts
Plate Dissipation	3.5	3.5	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 165 volts	—	0.75	watt
For grid-No.2 voltages between 165 and 330 volts	See curve	page 300	

CHARACTERISTICS

	Triode† Connection	Pentode Connection	
Plate Supply Voltage	250	100 250 150	volts
Grid No.3	—	Connected to cathode	at socket
Grid-No.2 Supply Voltage	—	100 125 150	volts
Cathode-Bias Resistor	330	150 100 68	ohms
Amplification Factor	36	—	
Plate Resistance (Approx.)	—	0.5 1.5 1	megohms
Transconductance	4800	3900 4500 5200	μmhos
Plate Current	12.2	5 7.6 10.6	mA
Grid-No.2 Current	—	2.1 3 4.3	mA
Grid-No.1 Voltage for plate current of 10 μA	—	-4.2 -5.5 -6.5	volts

† Grid No.2, grid No.3, and internal shield connected to plate.



6AU7

Refer to chart at end of section.

6AU8

Refer to chart at end of section.