

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

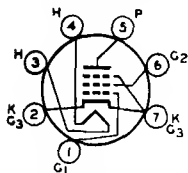
	Triode Unit No.1	Triode Unit No.2	Pentode Unit	
Plate Voltage	330	330	330	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	—	330	volts
Grid-No.2 Voltage	—	—	See curve page 300	
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	0	volts
Plate Dissipation	1.1	2	5	watts
Grid-No.2 Input:				
For grid-No.2 voltages up to 165 volts	—	—	1.25	watts
For grid-No.2 voltages between 165 and 330 volts	—	—	See curve page 300	

CHARACTERISTICS

Plate Supply Voltage	200	200	250	volts
Grid-No.2 Supply Voltage	—	—	150	volts
Grid-No.1 Voltage	—2	—	—	volts
Cathode-Bias Resistor	—	220	100	ohms
Amplification Factor	68	41	—	
Plate Resistance (Approx.)	12400	9400	68000	ohms
Transconductance	5500	4400	11000	μmhos
Plate Current	7	9.2	24	mA
Grid-No.2 Current	—	—	4.8	mA
Grid-No.1 Voltage (Approx.) for plate current of 100 μA	—	—6.5	—10	volts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:				
For fixed-bias operation	0.5	0.5	0.25	megohm
For cathode-bias operation	1	1	1	megohm



7BD

SHARP-CUTOFF PENTODE

6AG5

Miniature type used in compact radio equipment as an rf or if amplifier up to 400 MHz. Outlines section, 5C; requires miniature 7-contact socket. For typical operation as a resistance-coupled amplifier, refer to Resistance-Coupled Amplifier section.

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.3	ampere
Direct Interelectrode Capacitances:		
Pentode Unit:		
Grid No.1 to Plate	0.030 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	6.5	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	1.8	pF
Triode Unit:		
Grid No.1 to Plate and Grid No.2	2.5	pF
Grid No.1 to Cathode, Heater, Grid No.3, and Internal Shield	3.6	pF
Grid No.2 to Cathode, Heater, Grid No.3, and Internal Shield	3	pF
Plate to Cathode, Heater, Grid No.3, and Internal Shield	3	pF

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MAXIMUM RATINGS (Design-Center Values)

	Triode Connection*	Pentode Connection	
Plate Voltage	300	300	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	300	volts
Grid-No.2 Voltage	—	See curve page 300	
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	volts
Plate Dissipation	2.5	2	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 150 volts	—	0.5	watt
For grid No.2 voltages between 150 and 300 volts	—	See curve page 300	

CHARACTERISTICS

Plate Supply Voltage	180	250	100	125	250	volts
Grid-No.2 Supply Voltage	—	—	100	125	150	volts
Cathode-Bias Resistor	330	820	180	100	180	ohms
Amplification Factor	45	42	—	—	—	
Plate Resistance (Approx.)	0.008	0.01	0.6	0.5	0.8	megohm
Transconductance	5700	3800	4500	5100	5000	μmhos
Plate Current	7	5.5	4.5	7.2	6.5	mA

	Triode Connection*	Pentode Connection	
Grid-No.2 Current	— —	1.4 2.1 2	mA
Grid-No.1 Voltage (Approx.) for plate current of 10 μ A	— —	—5 —6 —8	volts

* Grid No.2 connected to plate.

6AG7

POWER PENTODE

Metal type used in output stage of video amplifier of color and black-and-white television receivers. Outlines section, 2B; requires octal socket.

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.65	ampere
Peak Heater-Cathode Voltage	$\pm$ 90 max	volts
Direct Interelectrode Capacitances:*		
Grid No.1 to Plate	0.06 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, Shell, and Internal Shield	13	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, Shell, and Internal Shield	7.5	pF

* Pins 1 and 3 connected to Pin No.5.

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MAXIMUM RATINGS (Design-Center Values)

Plate Voltage	300	volts
Grid-No.2 Voltage	300	volts
Grid-No.1 Voltage, Positive-bias value	0	volts
Plate Dissipation	9	watts
Grid-No.2 Input	1.5	watts

CHARACTERISTICS

Plate Voltage	300	volts
Grid No.3 (Suppressor Grid)	Connected to cathode at socket	
Grid-No.2 (Screen-Grid) Voltage	150	volts
Grid-No.1 (Control-Grid) Voltage	—3	volts
Peak AF Grid-No.1 Voltage	3	volts
Zero-Signal Grid-No.2 Current	30	mA
Maximum-Signal Grid-No.2 Current	30.5	mA
Zero-Signal Grid-No.2 Current	7	mA
Maximum-Signal Grid-No.2 Current	9	mA
Plate Resistance	0.13	megohm
Transconductance	11000	μ mhos
Load Resistance	10000	ohms
Total Harmonic Distortion	7	per cent
Maximum-Signal Power Output	8	watts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.25	megohm
For cathode-bias operation	1	megohm

6AG7Y

Refer to chart at end of section.

6AG9

MEDIUM-MU TRIODE—
SHARP-CUTOFF PENTODE

Duodecar type with frame grid pentode unit used in color and black-and-white television receiver applications. The pentode unit is used as a video amplifier; the triode unit is used as an age amplifier. Outlines section, 8C; requires duodecar 12-contact socket. Heater: volts (ac/dc), 6.3; amperes, 0.82; maximum heater-cathode volts, $\pm$ 200 peak, 100 average.

