

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

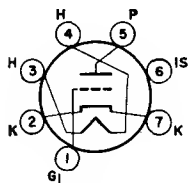
	Triode Unit	Pentode Unit	
Plate Voltage	330	330	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	330	volts
Grid-No.2 Voltage	See curve page 98		
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	volts
Plate Dissipation	2.5	2.5	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 165 volts	—	0.55	watt
For grid-No.2 voltages between 165 and 330 volts	—	See curve page 98	

CHARACTERISTICS

Plate Voltage	125	125	volts
Grid-No.2 Voltage	—	125	volts
Grid-No.1 Voltage	—1	—1	volt
Amplification Factor	40	—	
Plate Resistance (Approx.)	5000	150000	ohms
Transconductance	7000	10000	μmhos
Plate Current	12.5	12	mA
Grid-No.2 Current	—	4.5	mA
Grid-No.1 Voltage (Approx.) for plate current of 20 μA	—	—7	volts

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	1	—	megohm
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7GM

HIGH-MU TRIODE

**6HM5/
6HA5**

3HM5/3HA5

Miniature type used as rf-amplifier tube in vhf color and black-and-white television tuners. Outlines section, 5C; requires miniature 7-contact socket. Type 3HM5/3HA5 is identical with type 6HM5/6HA5 except for heater ratings.

	3HM5/3HA5	6HM5/6HA5	
Heater Voltage (ac/dc)	2.7	6.3	volts
Heater Current	0.45	0.18	ampere
Peak Heater-Cathode Voltage	±110 max	±110 max	volts
Direct Interelectrode Capacitances:			
Grid to Plate		0.36	pF
Grid to Cathode, Heater, Internal Shield, and External Shield		4.3	pF
Plate to Cathode, Heater, Internal Shield, and External Shield		0.080	pF
Cathode to Plate		2.9	pF
Cathode to Heater, Grid, Internal Shield, and External Shield		3.1	pF
Heater to Cathode		2.3	pF
Heater to Grid		0.070 max	pF

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DC Plate Voltage	220	volts
DC Plate Supply Voltage	600	volts
Grid Voltage	—50	volts
Cathode Current	22	mA
Plate Dissipation	2.6	watts

CHARACTERISTICS AND TYPICAL OPERATION

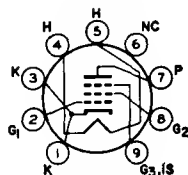
	Fixed Bias		Cathode Bias		
DC Plate Supply Voltage	135	135	135	135	volts
Plate-Load Resistor	—	—	1000	5600	ohms
Internal-Shield Voltage	0	0	0	0	volts
DC Grid Voltage	—1	—2.7	—	—	volts
Cathode-Bias Resistor	—	—	0	87	ohms
Amplification Factor	72	—	80	72	
Transconductance	14500	1500	20000	14500	μmhos
Plate Current	11.5	—	19	11.5	mA
DC Grid Current	—	—	10	—	μA
Grid-No.1 Voltage for one-per-cent transconductance	—	—	—5.3	—8.1	volts

6HM6

4HM6

SHARP-CUTOFF PENTODE

Miniature type with frame grid used in the if-amplifier stages of television receivers. Outlines section, 6B; requires miniature 9-contact socket. Type 4HM6 is identical with type 6HM6 except for heater ratings.

**9PM**

	4HM6	6HM6	
Heater Voltage (ac/dc)	4.2	6.3	volts
Heater Current	0.45	0.3	ampere
Heater Warm-up Time (Average)	11	—	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances:	Unshielded	Shielded	
Grid No.1 to Plate	0.031	0.024	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	8.7	8.7	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	2.15	3	pF

Class A₁ Amplifier**MAXIMUM RATINGS (Design-Maximum Values)**

Plate Voltage	250	volts
Grid-No.2 (Screen-Grid) Supply Voltage	250	volts
Grid-No.2 Supply Voltage	See curve page 98	
Grid-No.1 (Control-Grid) Voltage, Negative-bias value	50	volts
Cathode Current	25	mA
Plate Dissipation	2.5	watts
Grid-No.2 Input:		
For grid-No.2 voltages up to 125 volts	2.5	watts
For grid-No.2 voltages between 125 and 250 volts	See curve page 98	

CHARACTERISTICS

Plate Supply Voltage	125	volts
Grid No.3 (Suppressor Grid)	Connected to cathode at socket	
Grid-No.2 Supply Voltage	125	volts
Cathode-Bias Resistor	56	ohms
Plate Resistance (Approx.)	0.156	megohm
Transconductance	15000	μmhos
Plate Current	13	mA
Grid-No.2 Current	3.2	mA
Grid-No.1 Voltage (Approx.) for transconductance of 160 μmhos	—3	volts

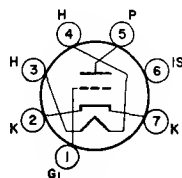
MAXIMUM CIRCUIT VALUES

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

6HQ5**HIGH-MU TRIODE**

2HQ5, 3HQ5, 4HQ5

Miniature type used as grounded-cathode rf-amplifier tube in vhf tuners of television receivers. Outlines section, 5C; requires miniature 7-contact socket. Types 2HQ5, 3HQ5, and 4HQ5 are identical with type 6HQ5 except for heater ratings.

**7GM**

	2HQ5	3HQ5	4HQ5	6HQ5	
Heater Voltage (ac/dc)	2.4	3	4.2	6.3	volts
Heater Current	0.6	0.45	0.3	0.2	ampere
Heater Warm-up Time (Average)	11	11	11	—	seconds
Peak Heater-Cathode Voltage	±100 max	±100 max	±100 max	±100 max	volts
Direct Interelectrode Capacitances (Approx.):*					
Grid to Plate				0.52	pF
Grid to Cathode, Heater, and Internal Shield				5	pF
Plate to Cathode, Heater, and Internal Shield				3.5	pF
Heater to Cathode				2.5	pF
With external shield connected to cathode.					