	2HM5/ 2HA5	3HM5/ 3HA5	4HM5/ 4HA5	6HM5/ 6HA5	
Heater Voltage (ac/dc)	2.0	2.7	4.0	6.3	volts
Heater Current	0.6	0.45	0.3	0.18	ampere
Peak Heater-Cathode Voltage	±110 max	±110 max	±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

Class A_1 Amplifier

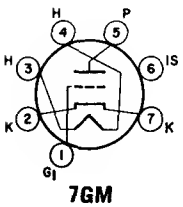
MAXIMUM RATINGS (Design-Maximum Values)

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

Refer to chart at end of section. **6HM6**



7GM

HIGH-MU TRIODE

6HQ5

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.

	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.

Class A_1 Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	200	volts
Grid Voltage, Negative-bias Value	50	volts
Cathode Current	22	mA
Plate Dissipation	2.5	watts

CHARACTERISTICS

Plate Voltage	135	volts
Grid Voltage	—1	volt
Amplification Factor	78	
Plate Resistance	5400	ohms
Transconductance	15000	μmhos
Plate Current	11.5	mA
Input Resistance**	275	ohms
Input Capacitance**	11.2	pF
Noise Figure#	4.7	dB
Grid Voltage (Approx.) for transconductance of 150 μmhos	—4.2	volts
Grid Voltage (Approx.) for transconductance of 1500 μmhos	—2.5	volts

MAXIMUM CIRCUIT VALUE

Grid-Circuit Resistance, for cathode-bias operation	1	megohm

** Measured at 200 MHz with heater volts = 6.3 volts and plate effectively grounded for rf voltages.

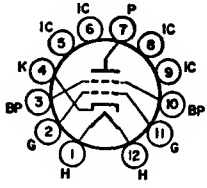
For a neutralized triode amplifier at a frequency of 200 MHz with signal source impedance adjusted for minimum noise output.

6HR5 Refer to chart at end of section.

6HR6 Refer to chart at end of section.

6HS5

BEAM TRIODE



12GY

Duodecar type used as a pulse-type regulator in the high-voltage power supply of color television receivers. Outlines section, 15F; requires duodecar 12-contact socket. Heater: volts (ac/dc), 6.3; amperes, 1.5.

Class A_1 Amplifier

CHARACTERISTICS

Pulse Plate Voltage*	3500	volts
Grid No.2 (Beam Plate)	Connected to cathode at socket	
Grid-Voltage, Negative-bias value	4.4	volts
Peak Plate Current	300	mA
Amplification Factor	300	
Transconductance	65000	μmhos
Plate Resistance (Approx.)	4600	ohms
Grid Voltage (Approx.) for plate current of 1 mA	—13	volts

* Duty cycle of the pulse must be less than 2.5%.

High-Voltage Regulator Service

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

MAXIMUM RATINGS (Design-Maximum Values)

Peak Plate Voltage#		5500	volts
Plate Dissipation		30	watts
Peak Plate Current		325	mA
Heater-Cathode Voltage:			
Peak value	+200	—450	volts
Average value		100	volts
Bulb Temperature (At hottest point)		220	°C

MAXIMUM CIRCUIT VALUE

Grid-Circuit Resistance▲	0.1 megohm

Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).
▲ Larger values of grid-circuit resistance may be used if provisions are made to protect the tube.