

Triode Amplification Factor	—	—	—	4.2	
Plate Resistance (Approx.)	—	—	—	5000	ohms
Transconductance	—	—	—	10000	μmhos
Plate Current	240*	400*	540*	80	mA
Grid-No.2 Current	160*	42*	48*	5.5	mA
Grid-No.1 Voltage (Approx.) for plate current of 1 mA	—	—	—	—70	volts

* This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

Horizontal-Deflection Amplifier

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

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Supply Voltage	770	volts
Peak Positive-Pulse Plate Voltage#	7000	volts
Peak Negative-Pulse Plate Voltage	1500	volts
DC Grid-No.3 Voltage	70	volts
DC Grid-No.2 Voltage	220	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
Peak Cathode Current	1000	mA
Average Cathode Current	280	mA
Plate Dissipation†	24	watts
Grid-No.2 Input	6	watts
Grid-No.2 Input (Warm-up Surge)*	12	watts
Bulb Temperature (At hottest point)	240	°C

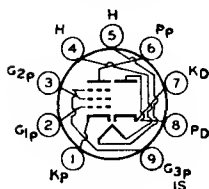
MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	1	megohm
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Pulse duration must not exceed 16% of a horizontal scanning cycle (10 microseconds).

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

* Surge not to exceed 16-second duration.



9CY

DIODE— SHARP-CUTOFF PENTODE

6HJ8

Miniature type used as combined video-detector and if-amplifier tube in television receivers. Outlines section, 6B; requires miniature 9-contact socket.

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.45	ampere
Heater Warm-up Time (Average)	11	seconds
Peak Heater-Cathode Voltage	±200 max	volts
Direct Interelectrode Capacitances:		
Diode Unit:		
Plate to Cathode and Heater	2.4	pF
Cathode to Plate and Heater	3	pF
Pentode Unit:		
Grid No.1 to Plate	0.015 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	7	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	3.2	pF
Diode Plate to Pentode Grid No.1	0.005 max	pF
Diode Cathode to Pentode Plate	0.15 max	pF
Diode Plate to Pentode Plate	0.035 max	pF

Pentode Unit as Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	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	volts
Plate Dissipation	3.2	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 Dissipation		
Plate Supply Voltage	125	volts
Grid No.3	Connected to cathode at socket	
Grid-No.2 Supply Voltage	125	volts

Cathode-Bias Resistor	56	ohms
Plate Resistance (Approx.)	0.2	megohm
Transconductance	9300	μ mhos
Plate Current	11.5	mA
Grid-No.2 Current	3.6	mA
Grid-No.1 Voltage (Approx.) for plate current of 20 μ A	-6	volts
Grid-No.1 Voltage (Approx.) for plate current of 2 mA	-3	volts

Diode Unit**MAXIMUM RATINGS (Design-Maximum Values)**

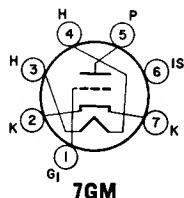
DC Plate Current	5	mA
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CHARACTERISTICS, Instantaneous Value

Tube Voltage Drop for plate current of 50 mA	10	volts
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6HK5**HIGH-MU TRIODE**

Miniature type with frame grid used in vhf tuners of television receivers. Outlines section, 5C; requires miniature 7-contact socket.

**7GM**

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.19	ampere
Peak Heater-Cathode Voltage	± 100 max	volts
Direct Interelectrode Capacitances:*		
Grid to Plate	0.29	pF
Grid to Cathode, Heater, and Internal Shield	4.4	pF
Plate to Cathode, Heater, and Internal Shield	2.6	pF
Heater to Cathode	2.5	pF

* With external shield.

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

Plate Voltage	200	volts
Grid Voltage, Negative-bias value	50	volts
Cathode Current	22	mA
Plate Dissipation	2.3	watts

CHARACTERISTICS

Plate Voltage	135	volts
Grid Voltage	-1	volt
Amplification Factor	75	
Plate Resistance (Approx.)	5000	ohms
Transconductance	15000	μ mhos
Plate Current	12.5	mA
Input Resistance**	600	ohms
Input Capacitance**	9	pF
Noise Figure#	4.2	dB
Grid Voltage (Approx.) for transconductance of 150 μ mhos	-5	volts
Grid Voltage (Approx.) for transconductance of 1500 μ mhos	-2.6	volts

MAXIMUM CIRCUIT VALUE

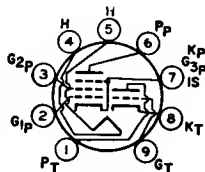
Grid-Circuit Resistance, for cathode-bias operation	1	megohm
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** Measured at 200 MHz with plate effectively grounded for rf voltages.

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

6HL8**MEDIUM-MU TRIODE—
SHARP-CUTOFF PENTODE**

Miniature type used in color and black-and-white television receiver applications. The triode unit is used as a sync-separator or voltage-amplifier tube, and the pentode unit is used as a video if-amplifier, agc-amplifier, or reactance tube. Outlines section, 6B; requires miniature 9-contact socket. Heater: volts (ac/dc), 6.3; amperes, 0.6; warm-up time (average), 11 seconds; maximum heater-cathode volts, ± 200 peak, 100 average.

**9AE**