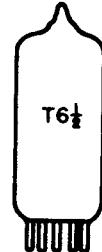
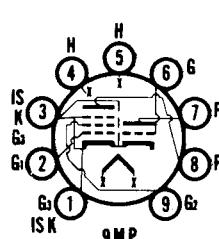


Color Television Type

**VHF OSCILLATOR and MIXER****6HG8/ECF86**4HG8, 5HG8/LCF86,  
7HG8/PCF86, 8HG8**Medium Mu Triode and  
Sharp Cutoff Pentode**

Construction ..... Miniature T-6½  
 Base ..... Button 9 Pin, E9-1  
 Basing ..... 9MP  
 Outline ..... 6-2  
 Maximum Diameter ..... 0.875 In.  
 Maximum Seated Height ..... 1.937 In.  
 Maximum Overall Height ..... 2.187 In.

**ELECTRICAL DATA  
HEATER OPERATION**

	<b>8HG8</b>	<b>7HG8/ PCF86</b>	<b>5HG8/LCF86</b>	<b>4HG8</b>	<b>6HG8/ ECF86</b>
Heater Voltage.....	8.0	7.2	5.3	4.5	6.3 Volts
Heater Current .....	300	300	450	600	340 Ma
Heater Warm-up Time .....	—	—	11	11	— Seconds
Maximum Heater-Cathode Voltage					
Heater Negative with Respect to Cathode					
Total DC and Peak.....					200 Volts
Heater Positive with Respect to Cathode					
DC .....					100 Volts
Total DC and Peak.....					200 Volts

**DIRECT INTERELECTRODE CAPACITANCES (Unshielded)****Triode Section**

Grid to Plate .....	2.0 Pf
Input: g to (h + k, PK, Pg3, IS) .....	2.4 Pf
Output: p to (h + k, PK, Pg3, IS) .....	1.1 Pf

**Pentode Section**

Grid No. 1 to Plate (Max.).....	0.020 Pf
Input: g1 to (h + k, Tk, g3, IS + g2) .....	6.0 Pf
Output: p to (h + k, PK, Pg3, IS + g2) .....	3.5 Pf
Grid No. 1 to Grid No. 2 .....	1.7 Pf

**Coupling**

Triode Grid to Pentode Plate (Max.) .....	0.014 Pf
Pentode Grid No. 1 to Triode Plate (Max.) .....	0.01 Pf
Pentode Plate to Triode Plate (Max.) .....	0.14 Pf
Pentode Grid No. 1 to Triode Grid (Max.) .....	0.01 Pf

**RATINGS (Design Maximum Rating System)**

	<b>Triode Section</b>	<b>Pentode Section</b>
Plate Voltage (Max.) .....	125	250 Volts
Grid No. 2 Supply Voltage (Max.) .....	—	250 Volts
Grid No. 2 Voltage .....	See Rating Chart (Gen. Info. Sec.)	
Positive Grid No. 1 Voltage (Max.) .....	0	0 Volt
Plate Dissipation (Max.) .....	1.9	2.2 Watts
Grid No. 2 Dissipation (Max.) .....	—	0.55 Watts
Cathode Current (Max.).....	16.5	20 Ma
Grid No. 1 Circuit Resistance (Max.) .....	0.5	— Megohm
Fixed Bias (Max.) .....	—	0.25 Megohm
Cathode Bias (Max.) .....	—	0.5 Megohm

The spacing between the control grids and cathodes are of such a low order of magnitude as to preclude the use of excessive voltages between these elements in commercial tube checkers and shorts indicating devices, particularly where the tube is mechanically excited. The DC or peak AC voltage applied between each sections control grid and cathode must not exceed 30 volts for the pentode or 50 volts for the triode.

**RATINGS (Design Maximum Rating System)****Horizontal Deflection Amplifier<sup>(1)</sup>**

Plate Voltage (boost + DC power supply) (Max.) .....	770 Volts
Grid No. 2 Voltage (Max.) .....	220 Volts
Plate Dissipation (Max.) .....	24 Watts
Grid No. 2 Dissipation (Max.) .....	6.0 Watts
Grid No. 2 Dissipation (warm up surge) (Max.) <sup>(2)</sup> .....	12 Watts
Average Cathode Current (Max.) .....	280 Ma
Peak Cathode Current (Max.) .....	1000 Ma
Peak Positive Plate Voltage (Max.) .....	7000 Volts
Peak Negative Plate Voltage (Max.) .....	1500 Volts
Peak Negative Grid No. 1 Voltage (Max.) .....	330 Volts
Grid No. 1 Circuit Resistance (Max.) .....	1.0 Megohm
Bulb Temperature (at Hottest Point) (Max.) .....	240 °C
DC Grid No. 3 Voltage (Max.) .....	70 Volts

**CHARACTERISTICS AND TYPICAL OPERATION**

Plate Voltage .....	20	40	60	135 Volts
Grid No. 2 Voltage .....	110	110	135	135 Volts
Grid No. 1 Voltage .....	0	0	0	-22 Volts
Grid No. 3 Voltage .....	—	—	—	0 Volt
Plate Current .....	240 <sup>(3)</sup>	400 <sup>(3)</sup>	540 <sup>(3)</sup>	80 Ma
Grid No. 2 Current .....	160 <sup>(3)</sup>	42 <sup>(3)</sup>	48 <sup>(3)</sup>	5.5 Ma
Triode Amplification Factor.....	—	—	—	4.2
Transconductance .....	—	—	—	10,000 $\mu$ mhos
Plate Resistance.....	—	—	—	5000 Ohms
Grid No. 1 Voltage (Approx.) for $I_b = 1$ Ma ( $E_p = 4.5$ KV) .....	—	—	—	-70 Volts

**NOTES:**

- (1) For operating in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations, Federal Communications Commission," the duty cycle of the voltage pulse must not exceed 15% of one horizontal scanning cycle.
- (2) Surge not to exceed 15 seconds duration.
- (3) Instantaneous Values.