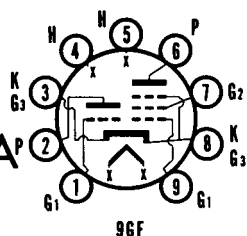




**SYLVANIA TYPE 6CG8**  
**6CG8A<sup>P</sup>**  
**5CG8**



**MEDIUM MU TRIODE**  
**SHARP CUTOFF PENTODE**

### MECHANICAL DATA

Bulb .....	T-6½
Base .....	E9-1, Small Button 9-Pin
Outline .....	6-2
Basing .....	9GF
Cathode .....	Coated Unipotential
Mounting Position .....	Any

### ELECTRICAL DATA

#### HEATER CHARACTERISTICS

	5CG8	6CG8	6CG8A
Heater Voltage .....	4.7	6.3	6.3 Volts
Heater Current .....	600	450	450 Ma
Heater Warm-up Time <sup>1</sup> .....	11		11 Seconds
Heater-Cathode Voltage (Design Center Values)			
Heater Negative with Respect to Cathode			200 Volts Max.
Heater Positive with Respect to Cathode			100 Volts Max.
D C .....			200 Volts Max.
Total D C and Peak .....			

#### DIRECT INTERELECTRODE CAPACITANCES

	Shielded <sup>2</sup>	Unshielded
<b>Triode Section</b>		
Grid to Plate .....	1.5	1.5 μmf
Grid to (k + h) .....	3	2.6 μmf
Plate to (k + h) .....	1	0.05 μmf
<b>Pentode Section</b>		
Grid No. 1 to Plate .....	0.016	0.03 μmf Max.
Grid No. 1 to (k+g3+g2+h) .....	5	4.8 μmf
Plate to (k+g3+g2+h) .....	1.6	0.9 μmf
<b>Coupling</b>		
Pentode Grid No. 1 to Triode Plate .....	0.04	0.05 μmf Max.
Pentode Plate to Triode Plate .....	0.007	0.05 μmf Max.
Heater to Cathode .....	5.5 <sup>3</sup>	5.5 μmf

**SYLVANIA ELECTRONIC TUBES**

# 6CG8, 6CG8A, 5CG8 (Cont'd)

## MAXIMUM RATINGS (Design Center Values)

Converter Service	Triode Section	Pentode Section
Plate Voltage.....	250	250 Volts
Grid No. 2 Supply Voltage.....		250 Volts
Grid No. 2 Voltage.....	See 6AM8 Rating Chart	
Plate Dissipation.....	1.5	2 Watts
Negative Grid No. 1 Voltage.....	40	40 Volts
Positive Grid No. 1 Voltage.....	0	0 Volt
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 6AM8 Rating Chart	
Grid No. 1 Input.....	0.5	Watt
Grid No. 1 Circuit Resistance		
Fixed Bias.....		0.1 Megohm
Self Bias.....		0.5 Megohm

## AVERAGE CHARACTERISTICS

	Triode Section	Pentode Section
Plate Voltage.....	100	250 Volts
Grid No. 2 Voltage.....		150 Volts
Plate Current.....	8.5	7.7 Ma
Grid No. 2 Current.....		1.6 Ma
Cathode Bias Resistor.....	100	200 Ohms
Amplification Factor.....	40	
Plate Resistance (approx.).....	6900	750,000 Ohms
Transconductance.....	5800	4600 $\mu$ mhos
Grid No. 1 Voltage for $I_b = 10 \mu A$ (approx.)....	-10	-10 Volts

## TYPICAL OPERATION

	Triode Section as 250 Mc Osc.	Pentode Section as Mixer <sup>4</sup>
Plate Voltage.....	150	150 Volts
Grid No. 2 Voltage.....		150 Volts
Mixer Grid No. 1 Supply Voltage.....		-3.5 Volts
Oscillator Voltage at Mixer Grid No. 1 (RMS)...		2.6 Volts
Plate Current.....	13	6.2 Ma
Grid No. 2 Current.....		1.8 Ma
Grid No. 1 Current.....	3.6	Ma
Grid No. 1 Current.....		2 $\mu a$
Mixer Grid No. 1 Circuit Resistance.....		120,000 Ohms
Oscillator Grid Resistor.....	2700	Ohms
Conversion Transconductance.....		2100 $\mu$ mhos
Oscillator Power Output (approx.).....	0.5	Watt

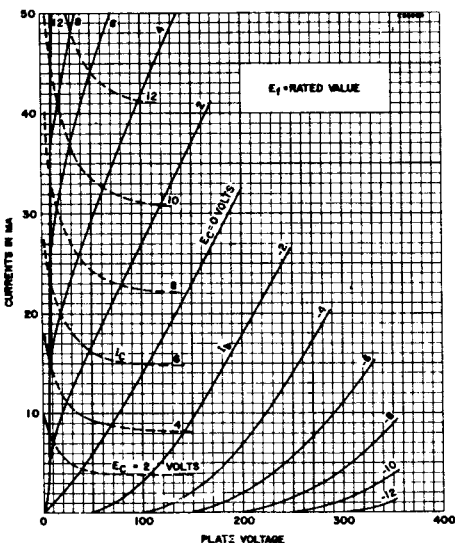
## NOTES:

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of the rated heater voltage after applying four (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times the rated heater voltage divided by the rated heater current.
2. Shield No. 315 connected to cathode.
3. Shield No. 315 connected to ground.
4. With separate excitation and triode section grounded.

## APPLICATION

The Sylvania Types 6CG8, 6CG8A and 5CG8 have medium mu triode and sharp cutoff pentode contained in a T-6½ envelope. They are designed primarily for service as a VHF oscillator and mixer in TV receivers utilizing an IF in the order of 40 mc. Types 5CG8 and 6CG8A have controlled heater warm-up time for series string operation.

## AVERAGE PLATE CHARACTERISTICS (TRIODE SECTION)



# 6CG8, 6CG8A (Cont'd)

## AVERAGE PLATE CHARACTERISTICS (PENTODE SECTION)

