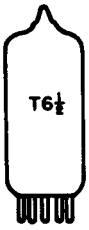
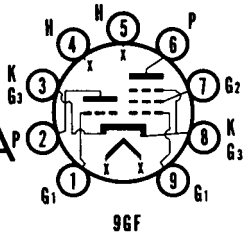


SYLVANIA TYPE 6CG8 6CG8A[P] 5CG8



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[1]	11		11 Seconds
Heater-Cathode Voltage (Design Center Values)			
Heater Negative with Respect to Cathode			
Total D C and Peak			200 Volts Max.
Heater Positive with Respect to Cathode			
D C			100 Volts Max.
Total D C and Peak			200 Volts Max.

DIRECT INTERELECTRODE CAPACITANCES

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

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 μmhos
Grid No. 1 Voltage for Ib = 10 μA (approx.)	-10	-10 Volts

TYPICAL OPERATION	Triode Section as 250 Mc Osc.	Pentode Section as Mixer[4]
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 μa
Mixer Grid No. 1 Circuit Resistance		120,000 Ohms
Oscillator Grid Resistor	2700	*Ohms*
Conversion Transconductance		2100 μmhos
Oscillator Power Output (approx.)	0.5	Watt

NOTES:

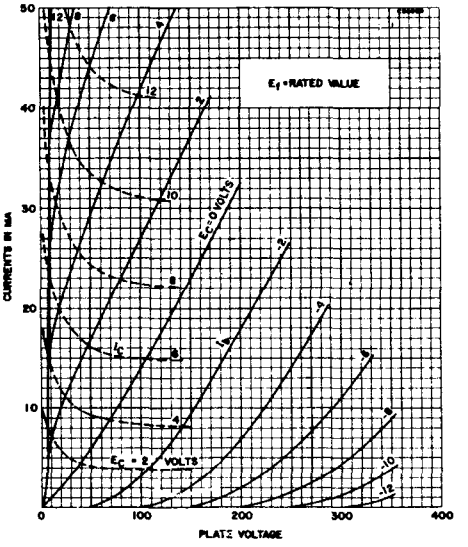
1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of the rated heater voltage after applying four (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times the rated heater voltage 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.

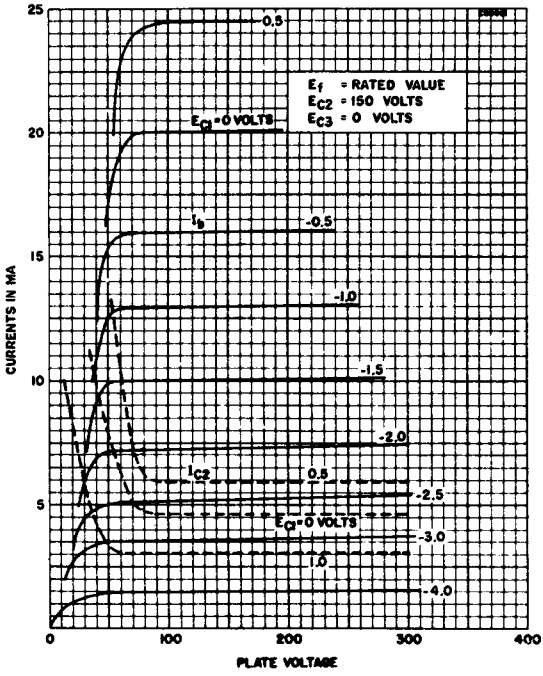
APPLICATION

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)