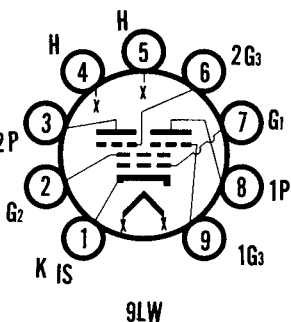


**SYLVANIA TYPES 6GS8<sub>2P</sub>**  
**4GS8**  
**3GS8**

**DUAL CONTROL PENTODE**



**9LW**

### MECHANICAL DATA

Bulb.....	T-6 1/2
Base.....	E9-1, Small Button 9-Pin
Outline.....	6-3
Basing.....	9LW
Cathode.....	Coated Unipotential
Mounting Position.....	Any

### ELECTRICAL DATA

#### HEATER CHARACTERISTICS

	<b>3GS8</b>	<b>4GS8</b>	<b>6GS8</b>
Heater Voltage.....	3.15	4.2	6.3 Volts
Heater Current.....	600	450	300 Ma
Heater Warm-up Time <sup>1</sup> .....	11	11	... Seconds
Maximum Heater Current Range <sup>2</sup> ..	560-640	420-480	... Ma
Maximum Heater Voltage Range <sup>2</sup> ..	...	...	5.7-6.3 Volts
Heater-Cathode Voltage (Design Max. Values) <sup>2</sup>			
Heater Negative with Respect to Cathode			
Total D C and Peak.....	200	200	200 Volts Max.
Heater Positive with Respect to Cathode			
D C.....	100	100	100 Volts Max.
Total D C and Peak.....	200	200	200 Volts Max.

#### DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Grid No. 3 to Plate (Each Section).....	2.0 $\mu\text{mf}$
Grid No. 1 to All.....	6.0 $\mu\text{mf}$
Grid No. 3 (Each Section) to All.....	3.8 $\mu\text{mf}$
Plate (Each Section) to All.....	3.2 $\mu\text{mf}$
Grid No. 3 (Section 1) to Grid No. 3 (Section 2).....	0.015 $\mu\text{mf}$ Max.

#### RATINGS (Design Maximum Values)<sup>2</sup>

Plate Voltage (Each Section).....	300 Volts Max.
Grid No. 2 Voltage.....	150 Volts Max.
Positive D C Grid No. 3 Voltage (Each Section).....	3.0 Volts Max.
Negative D C Grid No. 3 Voltage (Each Section).....	50 Volts Max.
Peak Positive Grid No. 3 Voltage (Each Section).....	50 Volts Max.
Negative D C Grid No. 1 Voltage.....	50 Volts Max.
Plate Dissipation (Each Section).....	1.1 Watts Max.
Grid No. 2 Dissipation.....	0.75 Watts Max.
D C Cathode Current.....	12 Ma Max.
Grid No. 1 Circuit Resistance.....	0.5 Megohm Max.
Grid No. 3 Circuit Resistance (Each Section).....	0.5 Megohm Max.

#### CHARACTERISTICS AND TYPICAL OPERATION

<b>Both Sections Operating</b>			
Plate Voltage (Each Section).....	100	100	Volts
Grid No. 2 Voltage.....	67.5	67.5	Volts
Grid No. 3 Voltage (Each Section).....	-10	0	Volts
Grid No. 1 Voltage.....	Note 3	Note 3	
Plate Current (Each Section).....		2.0	Ma
Grid No. 2 Current.....	6.0	3.6	Ma
Cathode Current.....	6.1	7.7	Ma
<b>Each Section Operating Separately with Plate and Grid No. 3 of Opposite Section Grounded</b>			
Plate Voltage.....	100	100	Volts
Grid No. 2 Voltage.....	67.5	67.5	Volts
Grid No. 3 Voltage.....	0	0	Volts
Grid No. 1 Voltage.....	0	Note 3	
Plate Current.....		2.0	Ma
Grid No. 3 Transconductance.....		270	$\mu\text{mhos}$
Grid No. 1 Transconductance.....	1200		$\mu\text{mhos}$
Ec3 for Ib = 100 $\mu\text{a}$ (approx.).....		-3.7	Volts
Ec1 for Ib = 100 $\mu\text{a}$ (approx.).....		-2.0	Volts

# SYLVANIA TYPES 6GS8 (Cont'd)

## 4GS8

## 3GS8

### 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. Design-Maximum Ratings are limiting values of operating and environmental conditions applicable to a bogey electron device of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.  
The device manufacturer chooses these values to provide acceptable serviceability of the device, taking responsibility for the effects of changes in operating conditions due to variations in device characteristics.  
The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey device under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.
3. Grid Current adjusted for 100  $\mu$ a d c.

### APPLICATION

The Sylvania Types 3GS8, 4GS8 and 6GS8 have dual pentodes with separate plates and separate No. 3 Grids contained in one envelope. They are primarily intended for service as a combined sync separator-clipper and AGC tube in television receivers. The 3GS8 and 4GS8 are controlled for heater warm-up time for series string operation.