

### ADVANCE DATA

#### MECHANICAL DATA

Bulb	T-6 $\frac{1}{2}$
Base	E10-73, 10-Pin, Center Pin Added to E9-1 Base
Outline	6-13
Basing	10H
Cathode	Coated Unipotential
Mounting Position	Any

#### ELECTRICAL DATA

##### HEATER CHARACTERISTICS

Heater Voltage	18.9 Volts
Heater Current	150 Ma
Heater Warm-up Time <sup>1</sup>	17 Seconds
Heater-Cathode Voltage (Design Maximum Values)	
Heater Negative with Respect to Cathode	
Total DC and Peak	200 Volts Max.
Heater Positive with Respect to Cathode	
DC	100 Volts Max.
Total DC and Peak	200 Volts Max.

##### DIRECT INTERELECTRODE CAPACITANCES

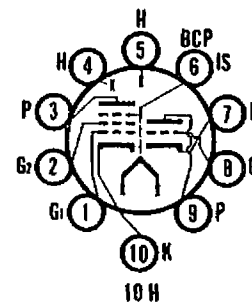
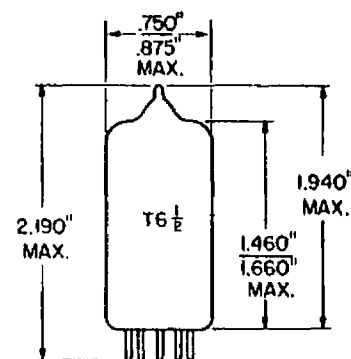
Triode Section	Shielded <sup>2</sup>	Unshielded		
Grid to Plate	1.7	1.7	$\mu\text{f}$	
Input: g to (h+k+Pk+I.S.)	3.2	3.2	$\mu\text{f}$	
Output: p to (h+k+Pk+I.S.)	1.9	1.1	$\mu\text{f}$	
Heater to Cathode	3.0 <sup>3</sup>	3.0	$\mu\text{f}$	
<b>Pentode Section</b>				
Grid No. 1 to Plate	.035	.050	$\mu\text{f}$	Max.
Input: g1 to (h+k+g2+Pk+I.S.)	5.0	5.0	$\mu\text{f}$	
Output: p to (h+k+g2+Pk+I.S.)	3.3	2.4	$\mu\text{f}$	
Heater to Cathode	3.0 <sup>3</sup>	3.0	$\mu\text{f}$	
<b>Coupling</b>				
Pentode g1 to Triode Plate	.030	.035	$\mu\text{f}$	Max.
Pent. Plate to Triode Plate	.030	0.13	$\mu\text{f}$	Max.
Triode Grid to Pent. Plate	.002	.009	$\mu\text{f}$	Max.

##### RATINGS (Design Maximum Values)

	Triode Section	Pentode Section		
Plate Voltage	330	330	Volts	Max.
Grid No. 2 Supply Voltage		330	Volts	Max.
Grid No. 2 Voltage	See Rating Chart			
Plate Dissipation	2.5	3.0	Watts	Max.
Grid No. 2 Dissipation		0.55	Watts	Max.
Positive Grid No. 1 Voltage	0	0	Volts	Max.
Grid No. 1 Circuit Resistance				
Fixed Bias	0.5	0.25	Megohm	
Self Bias	1.0	1.0	Megohm	

### QUICK REFERENCE DATA

The Sylvania Type 19Q9 has a medium mu triode and a semi-remote cutoff pentode contained in a T-6 $\frac{1}{2}$  10-pin bulb. It is intended primarily for use as an FM RF amp. and autodyne mixer.



### SYLVANIA ELECTRONIC TUBES

A Division of  
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RECEIVING TUBE  
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## RATINGS (Cont'd)

Control grid to cathode spacing in the triode section of this tube type is of such order of magnitude as to preclude the use of voltage between these elements of more than 100 volts dc or peak ac in commercial tube checkers and shorts indicating devices, particularly where mechanical excitation of the tube is employed.

## CHARACTERISTICS AND TYPICAL OPERATION

Class A1 Amplifier	Triode Section	Pentode Section	
Plate Voltage	125	125	Volts
Grid No. 2 Voltage		125	Volts
Grid No. 1 Voltage	-1.0	-1.0	Volts
Plate Current	14	12	Ma
Grid No. 2 Current		4.0	Ma
Transconductance	8000	6500	$\mu$ mhos
Amplification Factor	40		
Plate Resistance	5000	200K	Ohms
Grid No. 1 Voltage for Ib = 20 $\mu$ a (Approx.)	-9	-9	Volts
Gm with E <sub>c1</sub> = 0V, E <sub>b</sub> = 100V and E <sub>c2</sub> = 70V		7000	$\mu$ mhos

## NOTES:

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of its rated value 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 rated heater voltage divided by rated heater current.
2. Shield No. 315 connected to pin Number 4.
3. Shield No. 315 connected to pin Number 3.