



ADVANCE DATA

MECHANICAL DATA

Bulb	T-9
Base	E9-68
Outline	9-69
Basing	9DX
Cathode	Coated Unipotential
Mounting Position	Any

ELECTRICAL DATA

HEATER CHARACTERISTICS AND RATINGS

Average Characteristics

Heater Operation	10LB8 Series	6LB8 Parallel
Heater Voltage	10.2 ₁	6.3 ¹ Volts
Heater Current	450 ₁	725 Ma
Heater Warm-up Time ²	11	- Seconds

Ratings (Design Maximum Values)⁴

	Min-Max	Min-Max
Heater Voltage ³	- -	5.7-6.9 Volts
Heater Current ³	420-480	- - Ma
Maximum Heater-Cathode Voltage		
Heater Negative with Respect to Cathode		
Total DC and Peak	200	200 Volts
Heater Positive with Respect to Cathode		
DC	100	100 Volts
Total DC and Peak	200	200 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Triode Section

Grid to Plate	2.8 pf
Input: g to (h+Tk+Pk, g3, I.S.)	1.9 pf
Output: p to (h+Tk+Pk, g3, I.S.)	1.8 pf

Pentode Section

Grid No. 1 to Plate	.10 pf Max.
Input: g1 to (h+Pk, g3, I.S. +g2)	12 pf
Output: p to (h+Pk, g3, I.S. +g2)	3.0 pf

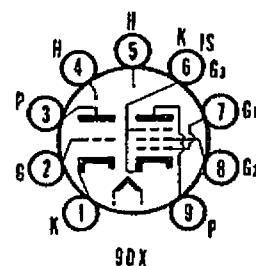
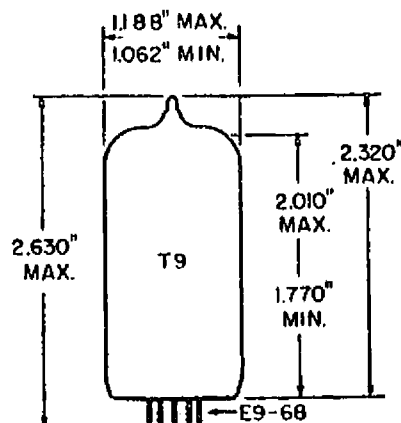
Coupling

Triode Grid to Pentode Plate	.02 pf Max.
Pentode Grid No. 1 to Triode Plate	.004 pf Max.
Pentode Plate to Triode Plate	.13 pf Max.

QUICK REFERENCE DATA

The Sylvania Types 6LB8 and 10LB8 feature a strap frame grid sharp cutoff pentode in combination with a medium mu triode in a 9-T9 envelope. The pentode section has a gm of 20,000 and is designed for video amplifier service. The triode section is designed to be used as a voltage amplifier.

The 10LB8 has controlled heater warm-up time and is designed for series string circuits.

SYLVANIA
ELECTRONIC TUBES

A Division of
Sylvania Electric Products Inc.

RECEIVING TUBE
OPERATIONS
EMPORIUM, PA.

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6LB8
10LB8

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RATINGS (Design-Maximum System)⁴

	Triode Section	Pentode Section		
Plate Voltage	330	330	Volts	Max.
Grid No. 2 Supply Voltage		330	Volts	Max.
Grid No. 2 Voltage	See J5/C4-2 Rating Chart			
Positive Grid No. 1 Voltage	0	0	Volts	Max.
Plate Dissipation ⁶	2.0	4.0	Watts	Max.
Grid No. 2 Dissipation		1.1	Watts	Max.
Grid No. 1 Circuit Resistance				
Fixed Bias	0.5	0.25	Megohm	Max.
Cathode Bias	1.0	1.0	Megohm	Max.

Control grid to cathode spacing of the pentode section of this type is of such low order of magnitude as to preclude the use of voltage between these elements of more than 50 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

	Triode Section	Pentode Section	
Plate Voltage	125	200	Volts
Grid No. 2 Voltage		100	Volts
Grid No. 1 Voltage	0	0	Volts
Cathode Bias Resistor	68	82	Ohms
Plate Current	13	17	Ma
Grid No. 2 Current		3.5	Ma
Transconductance	5,000	20,000	μmhos
Amplification Factor	30		
Plate Resistance (Approx.)	6,000	50,000	Ohms
E _{c1} for I _b = 100 μa (Approx.)	-	-5	Volts
E _c for I _b = 20 μa (Approx.)	-10	-	Volts

INSTANTANEOUS PLATE KNEE CHARACTERISTICS⁵ (Pentode Section)

E_b = 50 Volts, E_c² = 100 Volts and E_{c1} = 0 Volts
I_b = 55 Ma and I_c² = 18 Ma

NOTES:

1. For series/parallel operation of heaters, equipment should be designed that at normal supply voltage bogey tubes will operate at this value of heater current/voltage.
2. 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.

NOTES: (Cont'd)

3. Heater voltage supply variations shall be restricted to maintain heater voltage/current within the specified values.
4. Design Maximum Ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

5. Applied for short interval (2 Sec. Max.) so as not to damage tube.
6. Maximum total plate dissipation, both plates, should not exceed 5.0 watts.