ADVANCE DATA

MECHANICAL DATA

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

HEATER CHARACTERISTICS AND RATINGS

Average Characteristics

Heater Operation	10KU8 Series	6KU8 Parallel	
Heater Voltage	10.2	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	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 (Approximate)

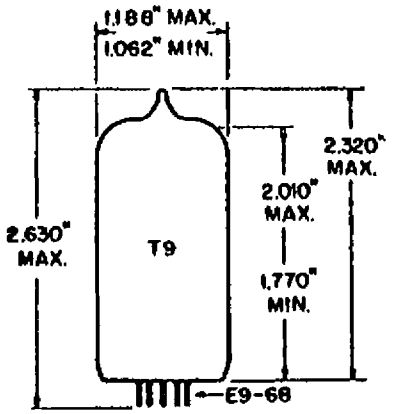
Pentode	Without Shield	
Grid No. 1 to Plate: pg1 to pp (Max.)	0.10	pf
Input: pg1 to (h+pk, g3, is+g2+di k, is)	12.0	pf
Output: pp to (h+pk, g3, is+g2+di k, is)	3.0	pf

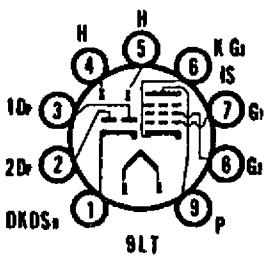
Diodes

No. 1 Plate to all: #1 di p to (h+di k, is+pk, g3, is)	1.1	pf
No. 2 Plate to all: #2 di p to (h+di k, is+pk, g3, is)	1.1	pf

QUICK REFERENCE DATA

The Sylvania Types 6KU8 and 10KU8 feature a strap frame grid sharp cutoff pentode in combination with a double diode in a T9 envelope. The pentode section has a gm of 20,000 and is designed for video amplifier service. The diode sections are designed to be used as horizontal phase detectors.





SYLVANIA
ELECTRONIC TUBES
A Division of
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RECEIVING TUBE
OPERATIONS
EMPORIUM, PA.

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DIRECT INTERELECTRODE CAPACITANCES (Approx.)

Diodes (Cont.)	Without Shield
Cathode to No. 1 Plate: di k, is to (h+#1 di p+pk, g3, is)	5.5 ~~0.8~~ pf
Cathode to No. 2 Plate: di k, is to (h+#2 di p+pk, g3, is)	5.5 ~~0.9~~ pf

Coupling	Without Shield
Pentode Grid No. 1 to No. 1 Diode Plate (Max.)	0.003 pf
Pentode Grid No. 1 to No. 2 Diode Plate (Max.)	0.003 pf
Pentode Plate to No. 1 Diode Plate (Max.)	0.008 pf
Pentode Plate to No. 2 Diode Plate (Max.)	0.008 pf

RATINGS (Design-Maximum System)[4]

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

	Pentode Section
Plate Voltage	200 Volts
Grid No. 2 Voltage	100 Volts
Grid No. 1 Voltage	0 Volts
Cathode Bias Resistor	82 Ohms
Plate Current	17 Ma
Grid No. 2 Current	3.5 Ma
Transconductance	20,000 µmhos
Amplification Factor	
Plate Resistance (Approx.)	50,000 Ohms
Ecl for Ib = 100 µa (Approx.)	-5 Volts

INSTANTANEOUS PLATE KNEE CHARACTERISTICS[5] (Pentode Section)

Eb = 50 Volts, Ec^2 = 100 Volts and Ecl = 0 Volts
Ib = 55 Ma and Ic^2 = 18 Ma

DIODE CHARACTERISTICS (Each Diode)

Average Current with 10 Vdc Applied	2.0 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.

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.

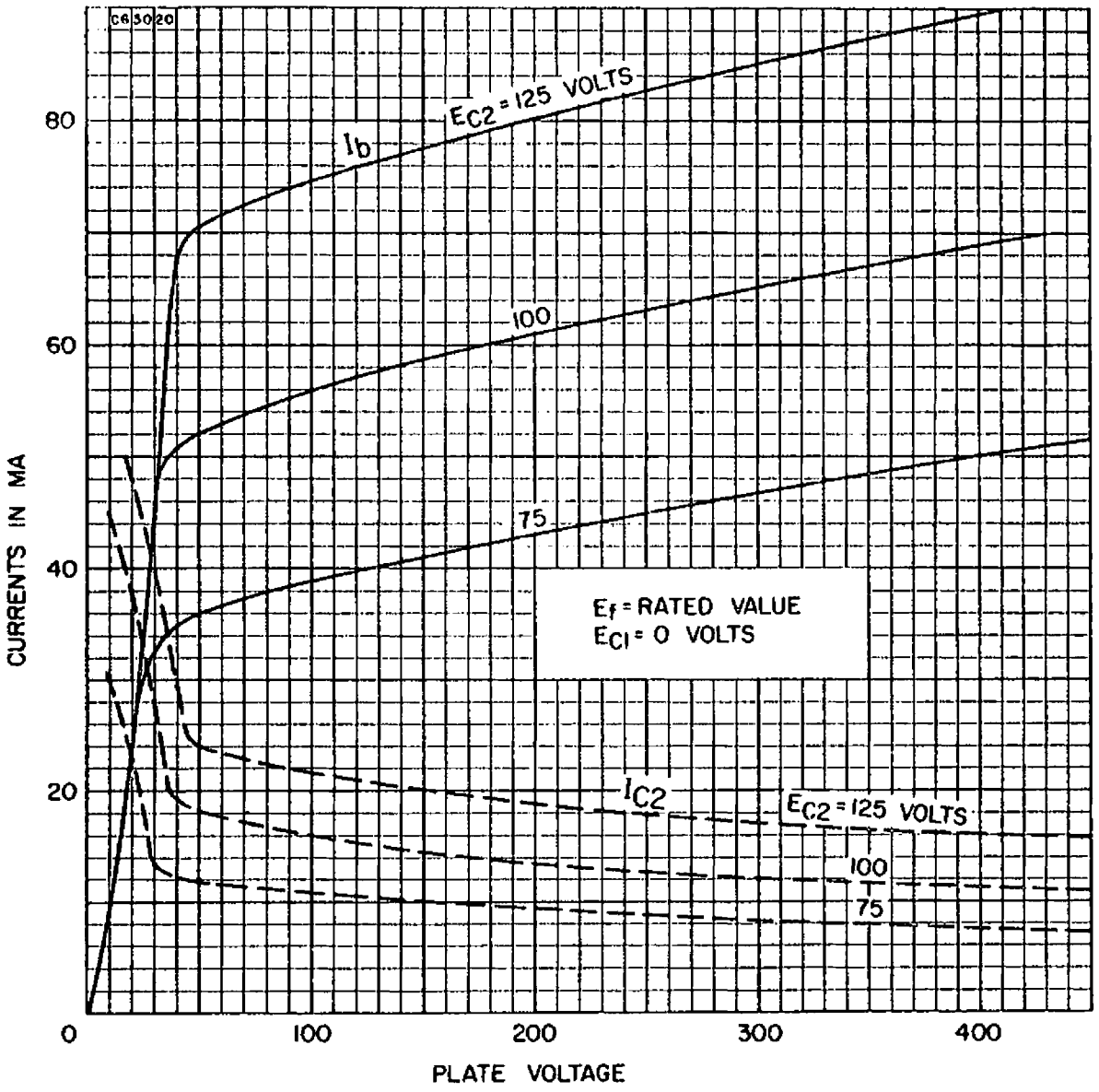
   The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

   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.

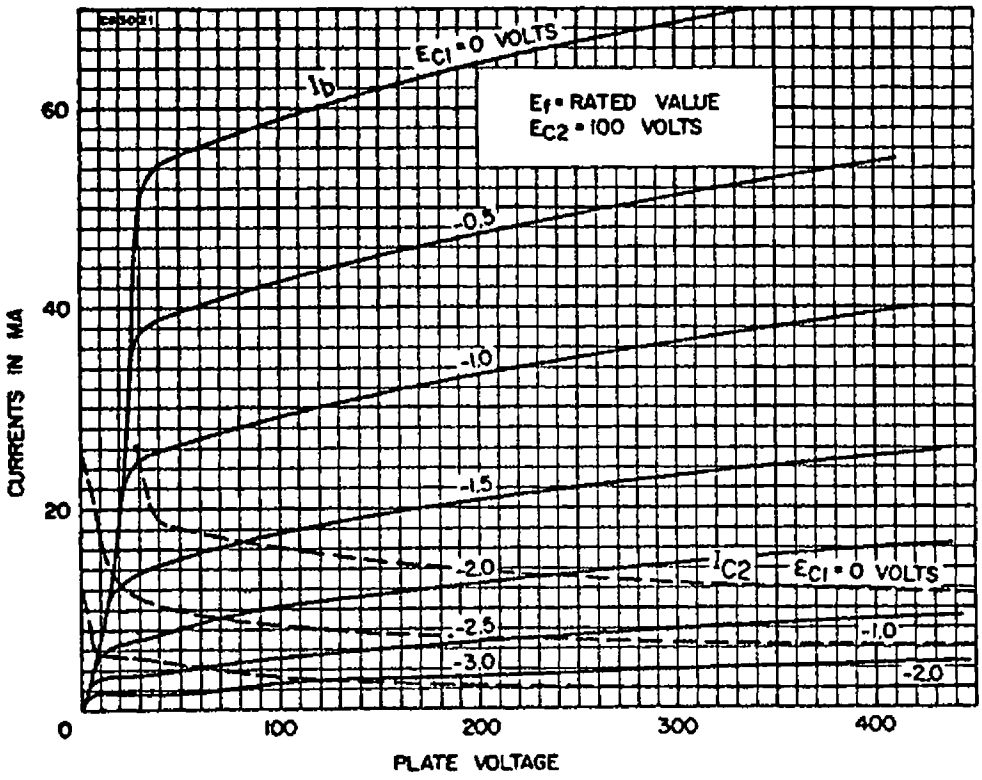
AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION



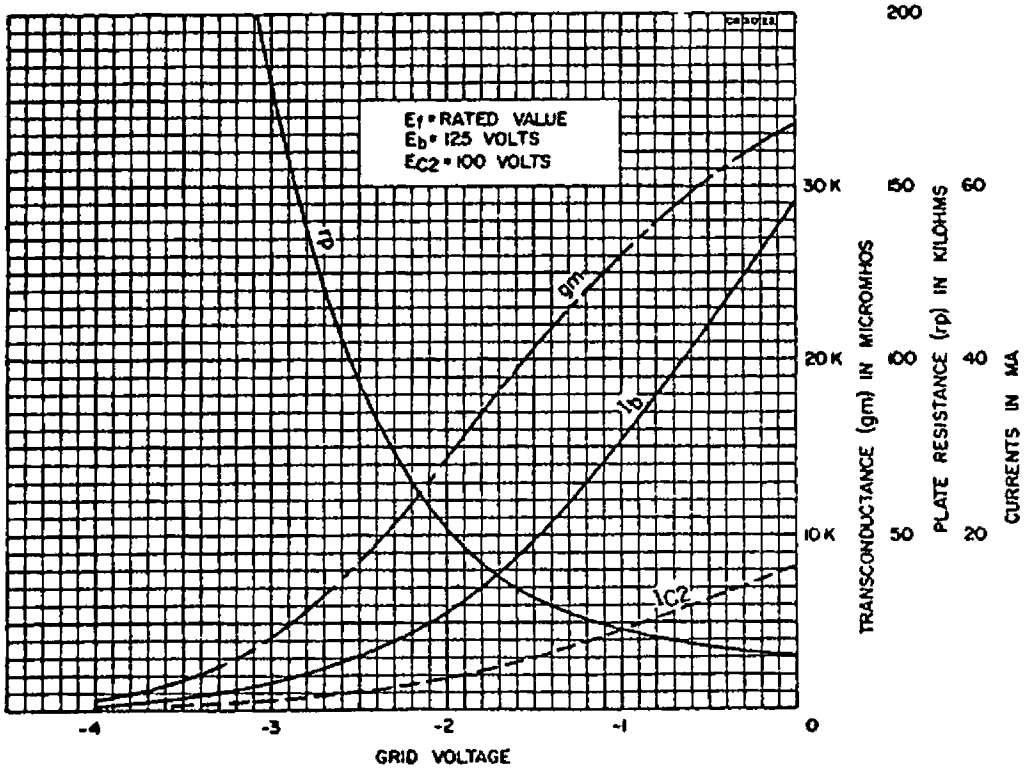
AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION



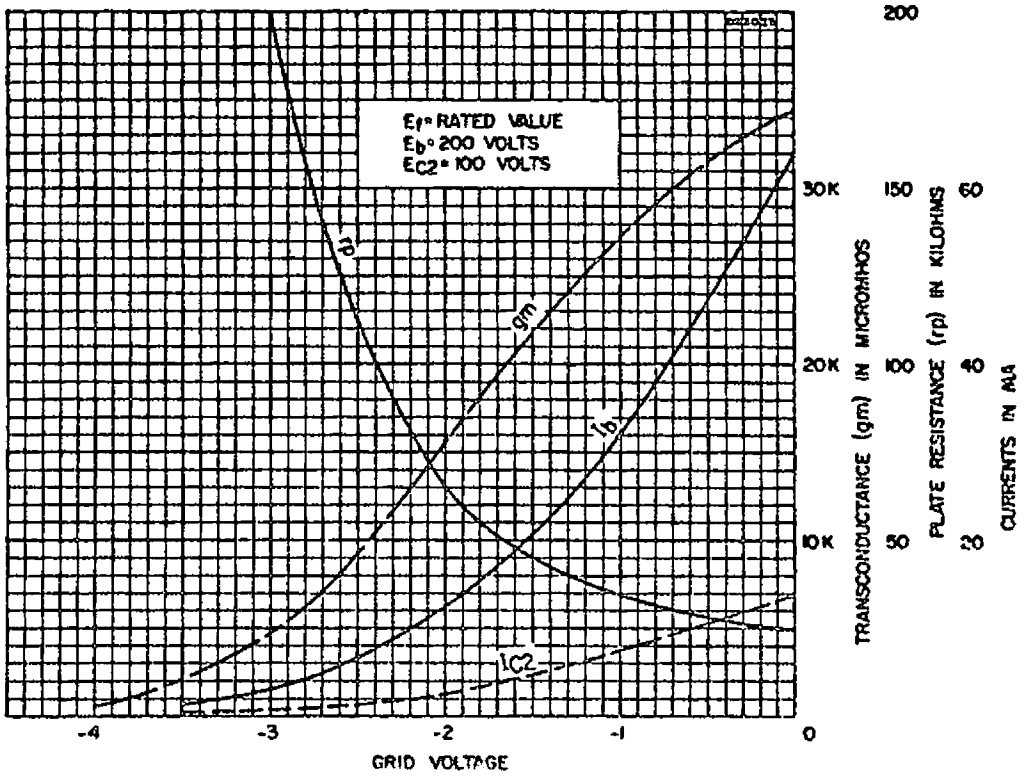
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



J5/CL-2 RATING CHART