MECHANICAL DATA

Bulb	T 6½
Base	E9-1, Miniature Button 9-Pin
Outline	6-3
Basing	9AE
Cathode	Coated Unipotential
Mounting Position	Any

ELECTRICAL DATA

HEATER CHARACTERISTICS

Heater Voltage[1]	6.3 Volts	
Heater Current	500 Ma	
Maximum Heater Voltage Range	5.7-6.9 Volts	
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 (Unshielded)

Triode Section		
Grid to Plate	2.4 μμf	
Input: g to (h+Tk+Pk, G3, I.S.)	2.2 μμf	
Output: p to (h+Tk+Pk, G3, I.S.)	0.3 μμf	
Pentode Section		
Grid No. 1 to Plate	0.15 μμf	Max.
Input: g1 to (h+k+g2+g3+I.S.)	7.0 μμf	
Output: p to (h+k+g2+g3+I.S.)	2.8 μμf	

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			
Positive Grid No. 1 Voltage	0	0	Volts	Max.
Plate Dissipation	2.4	3.0	Watts	Max.
Grid No. 2 Dissipation	—	0.6	Watt	Max.
Grid Circuit Resistance				
Fixed Bias	0.5	0.25	Megohm	Max.
Cathode Bias	1.0	1.0	Megohm	Max.

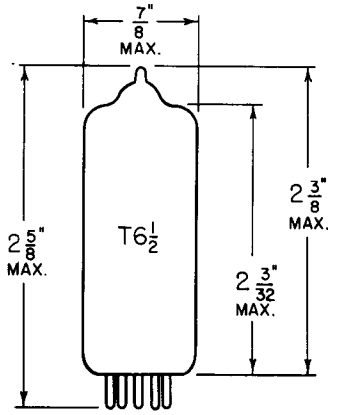
CHARACTERISTICS AND TYPICAL OPERATION

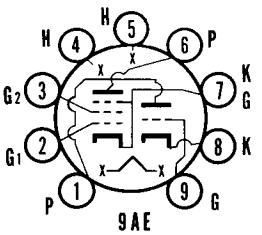
Plate Voltage	215	220	Volts
Grid No. 2 Voltage	—	130	Volts
Grid No. 1 Voltage	-8.5	—	Volts
Cathode Bias Resistor	—	62	Ohms
Plate Current	7.5	10	Ma
Grid No. 2 Current	—	3.4	Ma
Transconductance	2500	5800	μmhos
Amplification Factor	18	—	
Plate Resistance	.0072	0.5	Megohms
Ec1 for Ib = 10 μa (Approx.)	-21	—	Volts

QUICK REFERENCE DATA

The Sylvania Type 7687 is a triode-pentode designed primarily for High Fidelity audio applications. The pentode section is particularly suited to preamplifier service while the triode section is intended for use as a phase splitter.

Type 7687 features exceptionally low hum and noise output. Although basings differ, Type 7687 is similar to Type 7199. Type 7687 is an improved low noise version of Type 7199.





SYLVANIA
ELECTRONIC TUBES
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File Under
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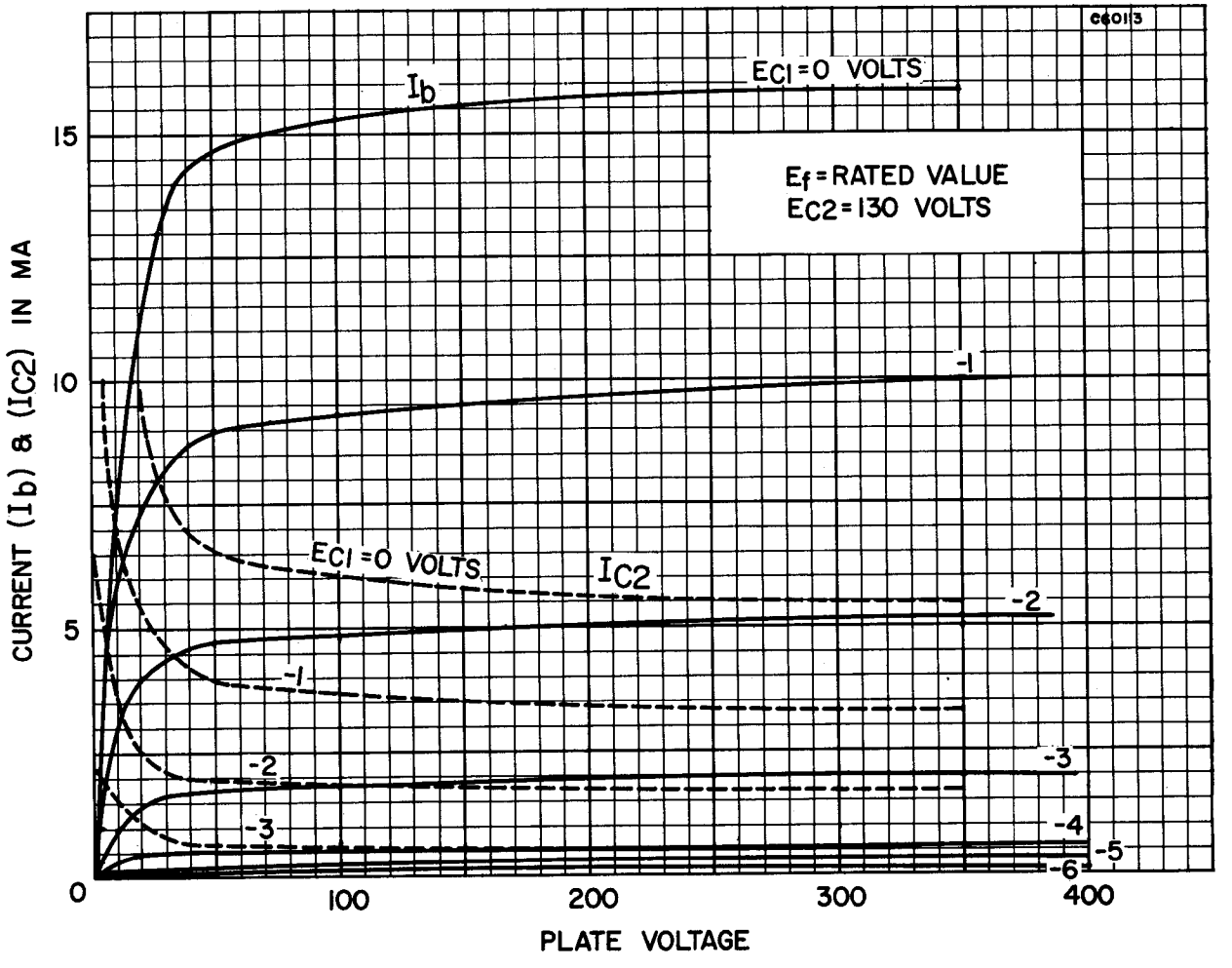
EQUIVALENT NOISE AND HUM VOLTAGE
(Referenced to Grid — Average Values)

	Triode Section	Pentode Section	
Cathode Resistor (Bypassed 50 μ fd)	7.5[2]	10.5[3]	μ volts rms
Cathode Resistor (Unbypassed)	8[2]	20[3]	μ volts rms

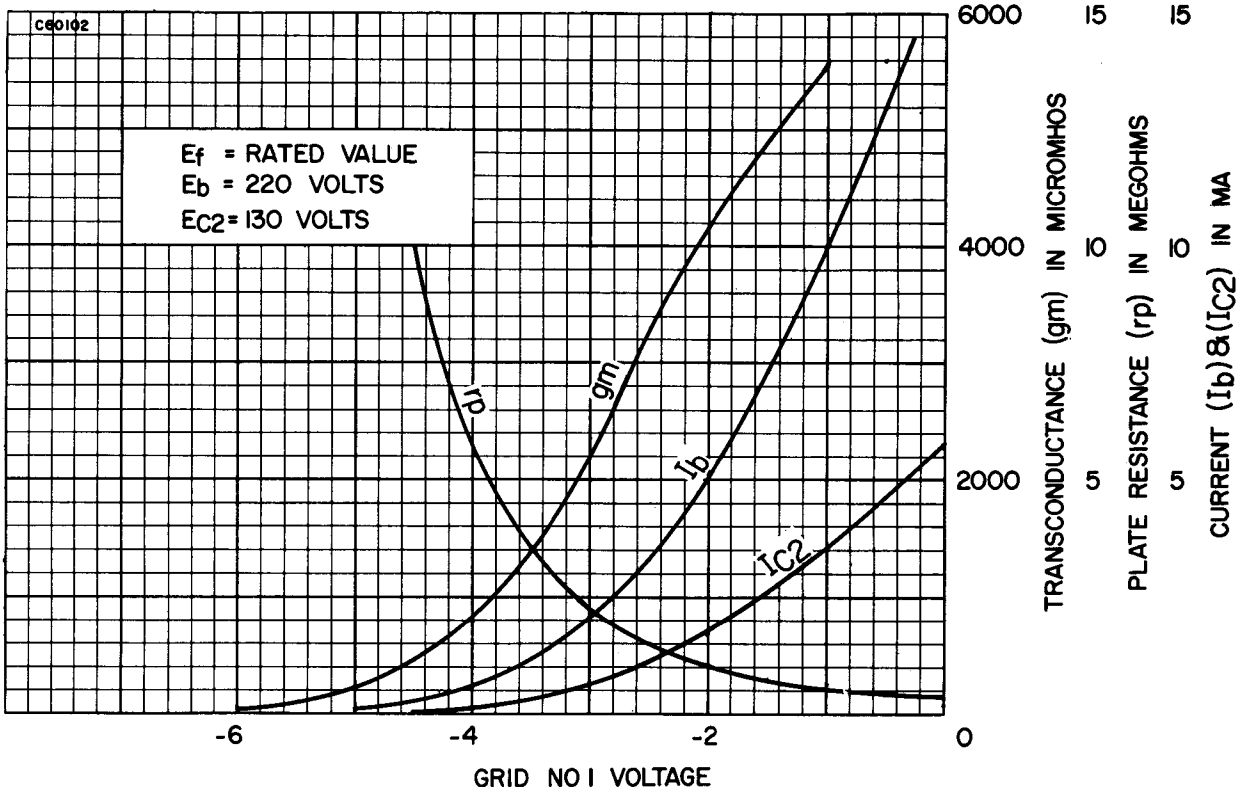
NOTES:

1. *For parallel heater operation, equipment should be designed so that at normal supply voltage tubes will operate at this value of heater voltage.*
2. *Measured under the following conditions: Ef = 6.3 Vac; center-tap of heater transformer grounded; Ebb = 250 Vdc; R1 = 0.1 Megohm; Rk = 1500 ohms; Rg = 47,000 ohms; F = 25 to 10,000 cps.*
3. *Measured under the following conditions: Ef = 6.3 Vac; Center-tap of heater transformer grounded. Ebb = 250 Vdc; R1 = 0.22 Megohm; Ecc2 = 250 Vdc; Rg2 = 1.0 megohms; Cg2 = 0.1 μf; Rk = 1000 ohms; Rg1 = 100,000 ohms; F = 25 to 10,000 cps.*

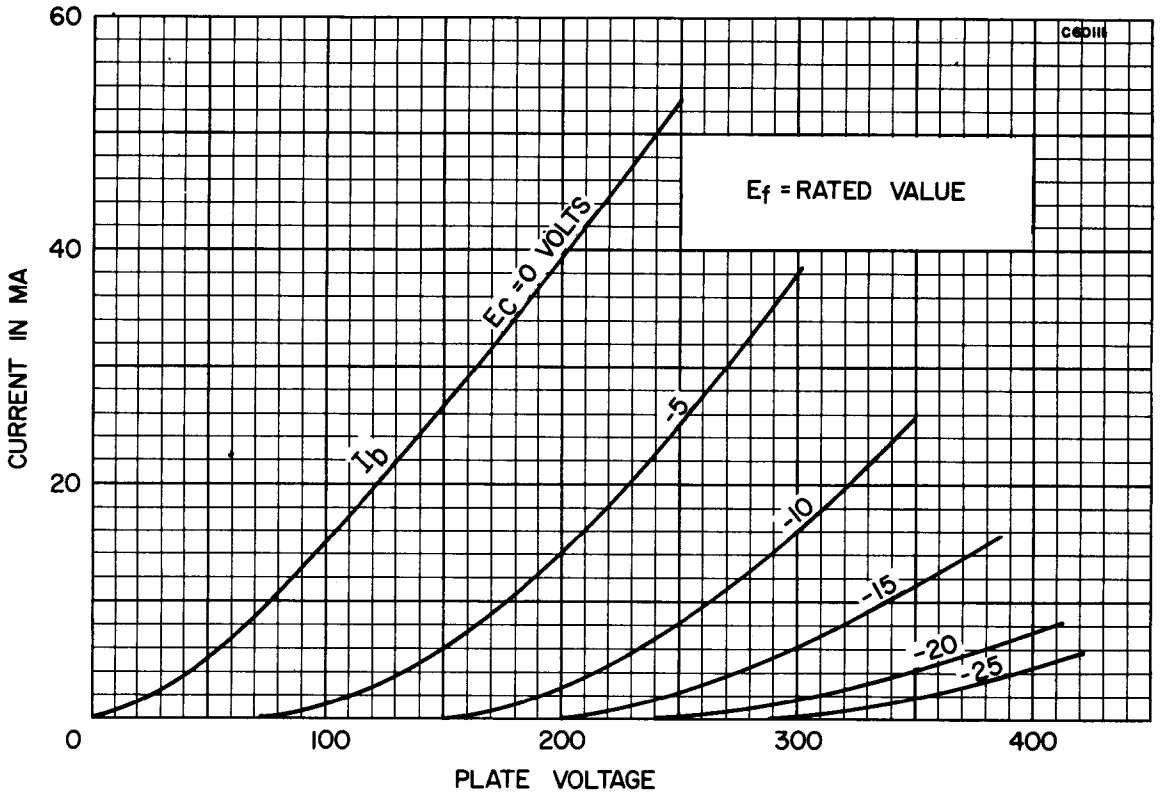
AVERAGE PLATE CHARACTERISTICS
(Pentode Section)



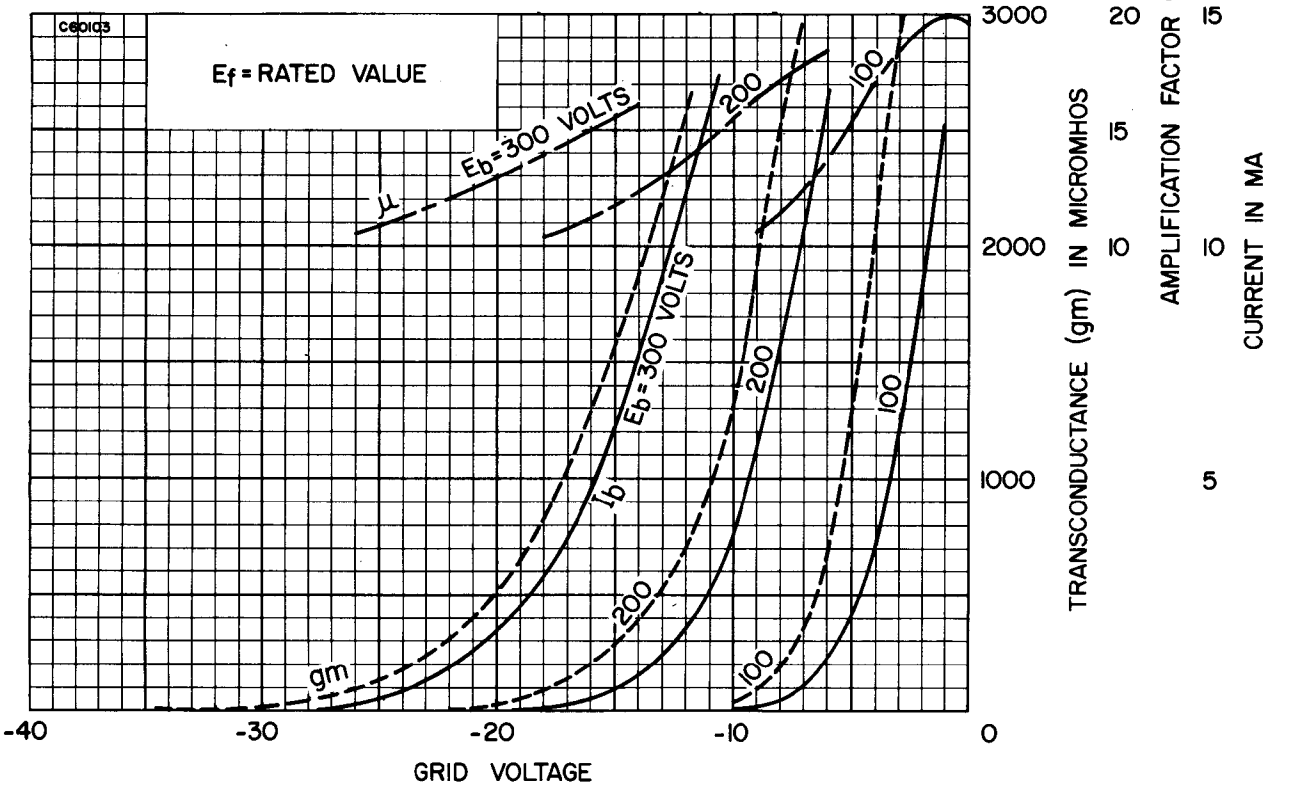
AVERAGE TRANSFER CHARACTERISTICS
(Pentode Section)



AVERAGE PLATE CHARACTERISTICS
(Triode Section)



AVERAGE TRANSFER CHARACTERISTICS
(Triode Section)



RATING CHART