

Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

For Audio-Amplifier Applications Critical
as to Microphonism, Leakage Noise, and Hum

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage (AC or DC) $6.3 \pm 10\%$ volts

Current at 6.3 volts. 0.15 amp

Direct Interelectrode Capacitances:^a

Pentode Connection:

Grid No.1 to plate. 0.11 max. μf

Grid No.1 to cathode, grid No.3,
grid No.2, heater, and pins 2 and 6. 2.7 μf

Plate to cathode, grid No.3,
grid No.2, heater, and pins 2 and 6. 2.4 μf

Triode Connection:^b

Grid No.1 to plate. 1.4 μf

Grid No.1 to cathode. 1.4 μf

Plate to cathode. 0.85 μf

Characteristics, Class A₁ Amplifier:

	Triode Connection ^b		Pentode Connection	
Plate Voltage	100	250	250	volts
Grid No.3	—	—	Connected to cathode at socket	
Grid-No.2 Voltage	—	—	100	volts
Grid-No.1 Voltage	-3	-8	-3	volts
Amplification Factor.	21	21	—	
Plate Resistance (Approx.)	0.017	0.0137	2	megohms
Transconductance.	1240	1530	1000	μmhos
Plate Current	2.2	5.5	1.8	ma
Grid-No.2 Current	—	—	0.4	ma
Grid-No.1 Voltage (Approx.) for plate . . .				
$\mu_a = 10$	—	—	-8	volts

Mechanical:

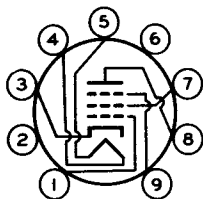
Operating Position.	Any
Maximum Overall Length.	2-3/16"
Maximum Seated Length	1-15/16"
Length, Base Seat to Bulb Top (Excluding tip)	1-9/16" $\pm$ 3/32"
Diameter.	0.750" to 0.875" ←
Dimensional Outline	See General Section
Bulb.	T6-1/2
Base.	Small-Button Noval 9-Pin (JEDEC No.E9-1)

← Indicates a change.



Basing Designation for BOTTOM VIEW. 9AD

Pin 1—Grid No.1
Pin 2—No Connection
Pin 3—Cathode
Pin 4—Heater
Pin 5—Heater



Pin 6—No Connection
Pin 7—Grid No.2
Pin 8—Plate
Pin 9—Grid No.3

AMPLIFIER — Class A₁

→ Maximum Ratings, Design-Maximum Values:

	Triode Connection ^b	Pentode Connection	
PLATE VOLTAGE.	275 max.	330 max.	volts
GRID No.3 (SUPPRESSOR GRID).	—	Connect to cathode at socket	
GRID-No.2 (SCREEN-GRID)			
SUPPLY VOLTAGE.	—	330 max.	volts
GRID-No.2 VOLTAGE.	—	See Grid-No.2 Input Rating Chart at front of Receiving Tube Section	
GRID-No.1 (CONTROL-GRID)			
VOLTAGE:			
Negative-bias value.	55 max.	55 max.	volts
Positive-bias value.	0 max.	0 max.	volts
GRID-No.2 INPUT:			
For grid-No.2 voltages up to 165 volts	—	0.25 max.	watt
For grid-No.2 voltages between 165 and 330 volts.	—	See Grid-No.2 Input Rating Chart at front of Receiving Tube Section	
PLATE DISSIPATION.	1.7 max.	1.25 max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	100 max.	100 max.	volts
Heater positive with respect to cathode	100 max.	100 max.	volts

Typical Operation as Resistance-Coupled Amplifier:

See RESISTANCE-COUPLED-AMPLIFIER CHARTS No.26 & No.27
at front of this Section

Maximum Circuit Values:

	Triode Connection ^b	Pentode Connection	
Grid-No.1—Circuit Resistance	2.2 max.	2.2 max.	megohms

^a Without external shield.

^b Grid No.3 and grid No.2 connected to plate.

→ Indicates a change.



OPERATING CONSIDERATIONS

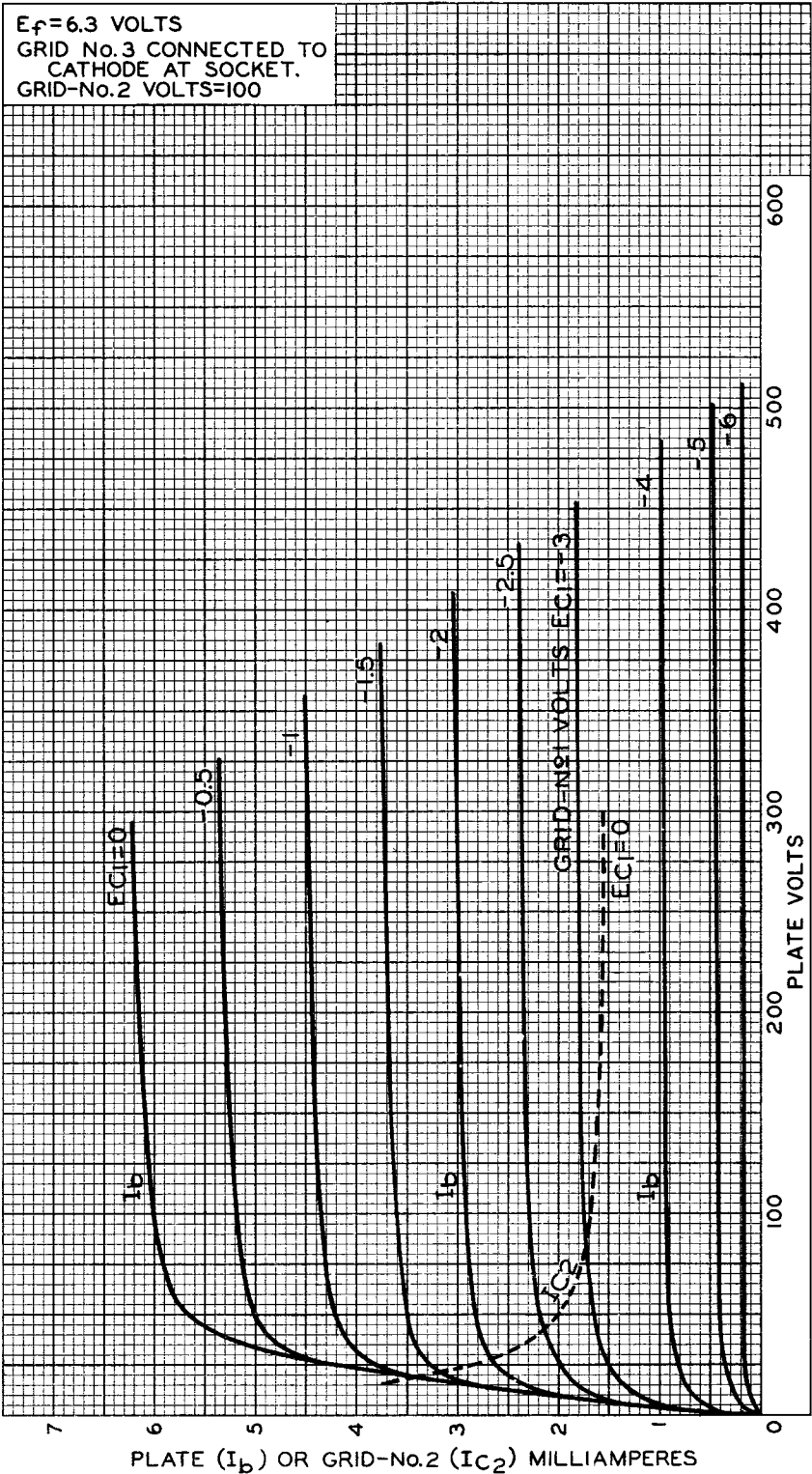


It is recommended that pins 2 and 6 be grounded in all applications. Grounding of these pins will effectively shield grid No.1 and plate from heater and help to reduce hum level when an ac heater supply is used.

← Indicates a change.



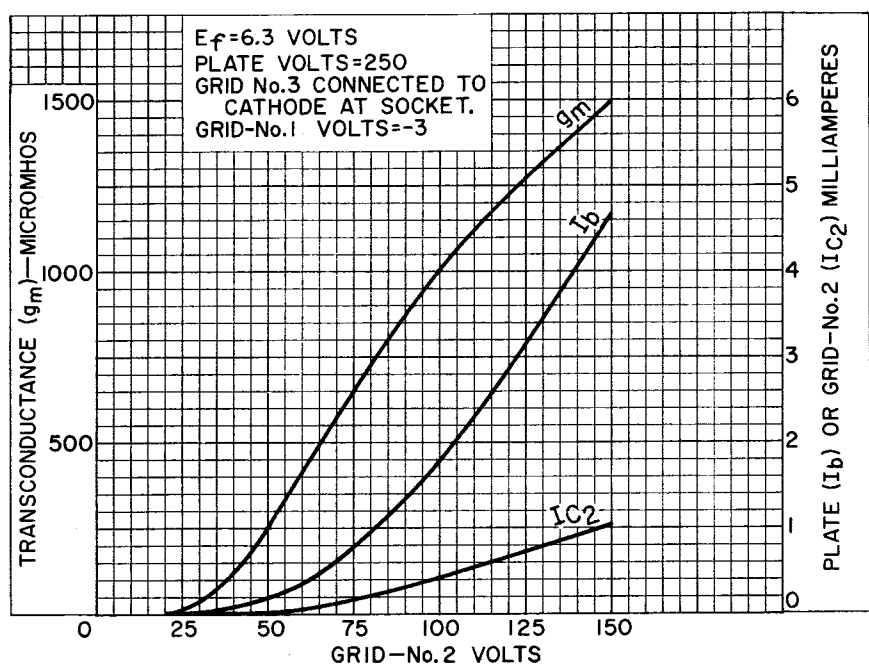
AVERAGE CHARACTERISTICS Pentode Connection



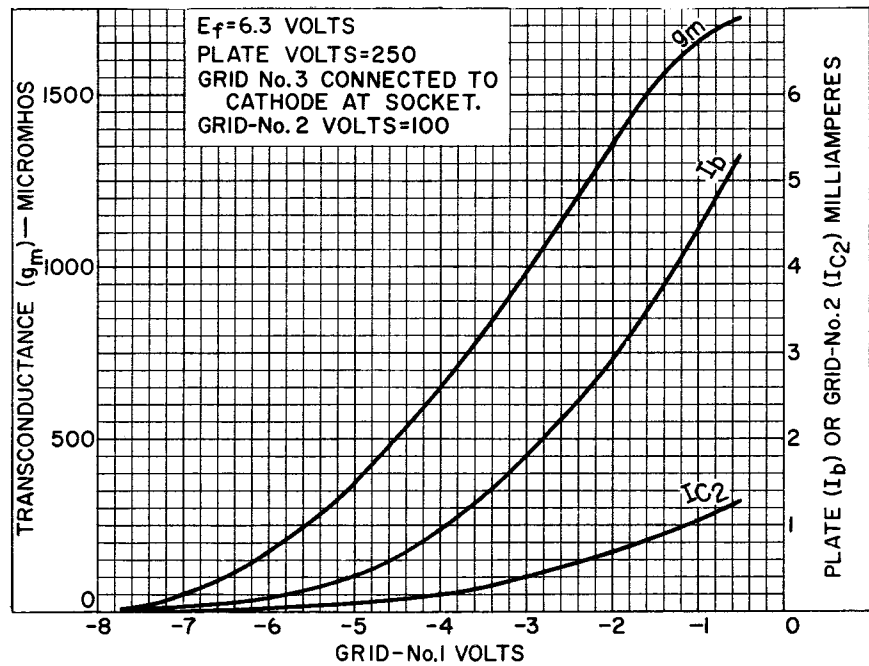
92CM - 7439RI



AVERAGE CHARACTERISTICS Pentode Connection



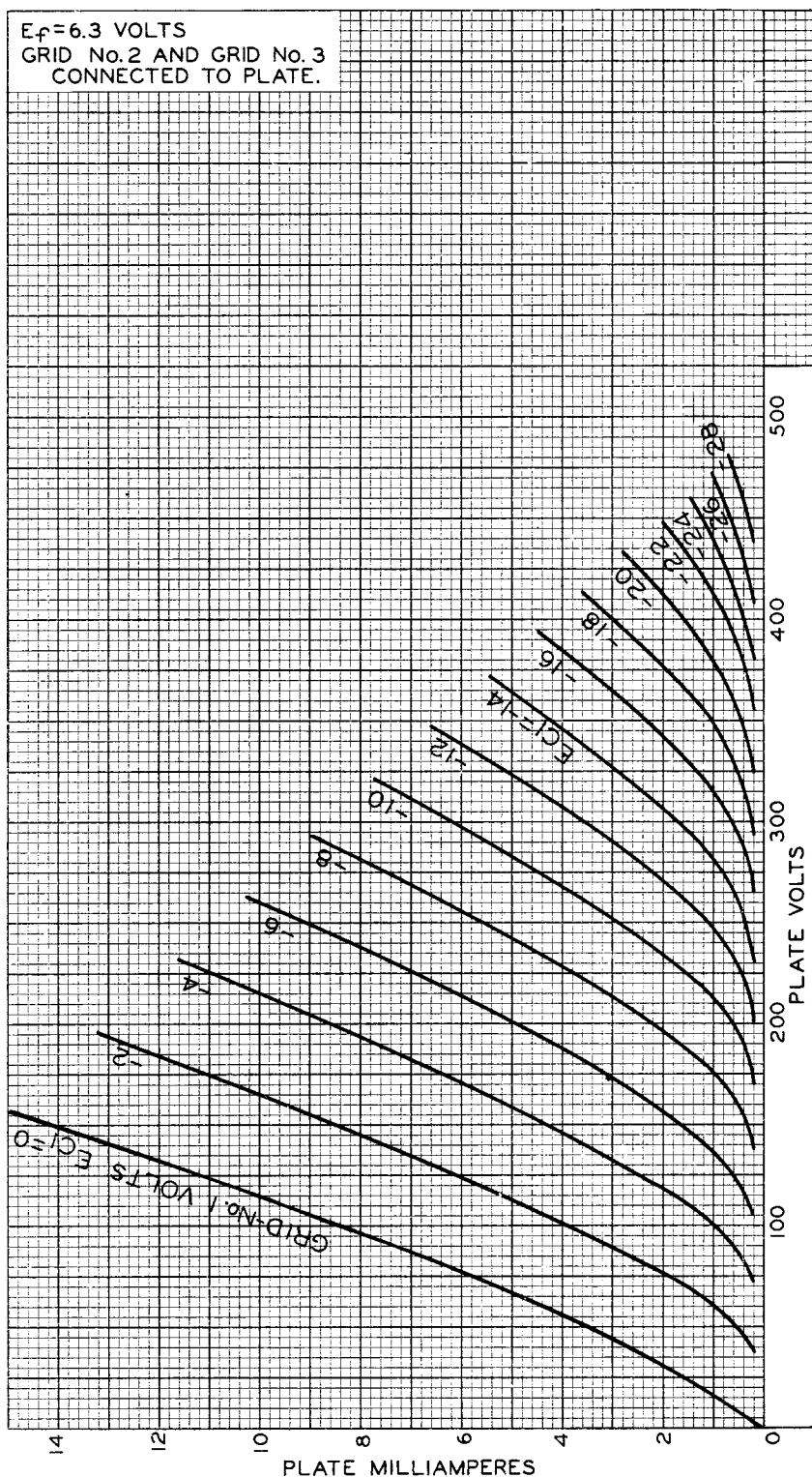
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92CS-11052



AVERAGE PLATE CHARACTERISTICS Triode Connection



92CM-7446

