

Sharp-Cutoff Pentode

7-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

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

Current at 6.3 volts. 0.3 amp

Direct Interelectrode Capacitances:

	<i>Without External Shield</i>	<i>With External Shield[▲]</i>	
Pentode Connection:			
Grid No.1 to plate. . . .	0.0035 max.	0.0035 max.	μmf
Grid No.1 to cathode, grid No.3 & internal shield, grid No.2, and heater.	5.5	5.5	μmf
Plate to cathode, grid No.3 & internal shield, grid No.2, and heater .	5	5	μmf

Triode Connection: ●

Grid No.1 to plate, grid No.3 & internal shield, and grid No.2 .	2.6	2.6	μmf
Grid No.1 to cathode and heater.	3.2	3.2	μmf
Plate, grid No.3 & internal shield, and grid No.2 to cathode and heater.	1.2	8.5	μmf

Characteristics, Class A₁ Amplifier:*Pentode Connection*

Plate Supply Voltage.	100	250	250	volts
Grid No.3 & Internal Shield . . .	Connected to cathode at socket			
Grid-No.2 Supply Voltage. . . .	100	125	150	volts
Cathode Resistor.	150	100	68	ohms
Plate Resistance (Approx.). . . .	0.5	1.5	1	megohms
Transconductance.	3900	4500	5200	μmhos
Plate Current	5	7.6	10.6	ma
Grid-No.2 Current	2.1	3	4.3	ma
Grid-No.1 Voltage (Approx.) for plate $\mu\text{a} = 10$	-4.2	-5.5	-6.5	volts

Triode Connection

Plate Supply Voltage.	250	volts
Cathode Resistor.	330	ohms
Amplification Factor.	36	
Plate Resistance (Approx.).	7500	ohms
Transconductance.	4800	μmhos
Plate Current	12.2	ma

← Indicates a change.

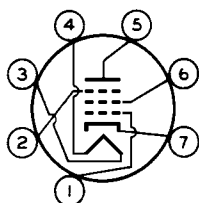


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Mechanical:

Operating Position	Any
Maximum Overall Length	2-1/8"
Maximum Seated Length	1-7/8"
Length, Base Seat to Bulb Top (Excluding tip)	1-1/2" $\pm$ 3/32"
→ Diameter	0.650" to 0.750"
Dimensional Outline	See <i>General Section</i>
Bulb	T5-1/2
Base	Small-Button Miniature 7-Pin (JEDEC No.E7-1)
Basing Designation for BOTTOM VIEW	7BK

Pin 1-Grid No.1
Pin 2-Grid No.3,
Internal
Shield
Pin 3-Heater



Pin 4-Heater
Pin 5-Plate
Pin 6-Grid No.2
Pin 7-Cathode

AMPLIFIER — Class A₁

→ Maximum Ratings, Design-Maximum Values:

	Triode Connection ●	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
<i>Rating Chart at front of Receiving Tube Section</i>		
GRID-No.1 (CONTROL-GRID)		
VOLTAGE:		
Positive-bias value	0 max.	0 max. volts
GRID-No.2 INPUT:		
For grid-No.2 voltages up to 165 volts	—	0.75 max. watt
For grid-No.2 voltages between 165 and 330 volts	—	See Grid-No.2 Input
<i>Rating Chart at front of Receiving Tube Section</i>		
PLATE DISSIPATION	3.5 max.	3.5 max. watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	200 max.	200 max. volts
Heater positive with respect to cathode	200★ max.	200★ max. volts

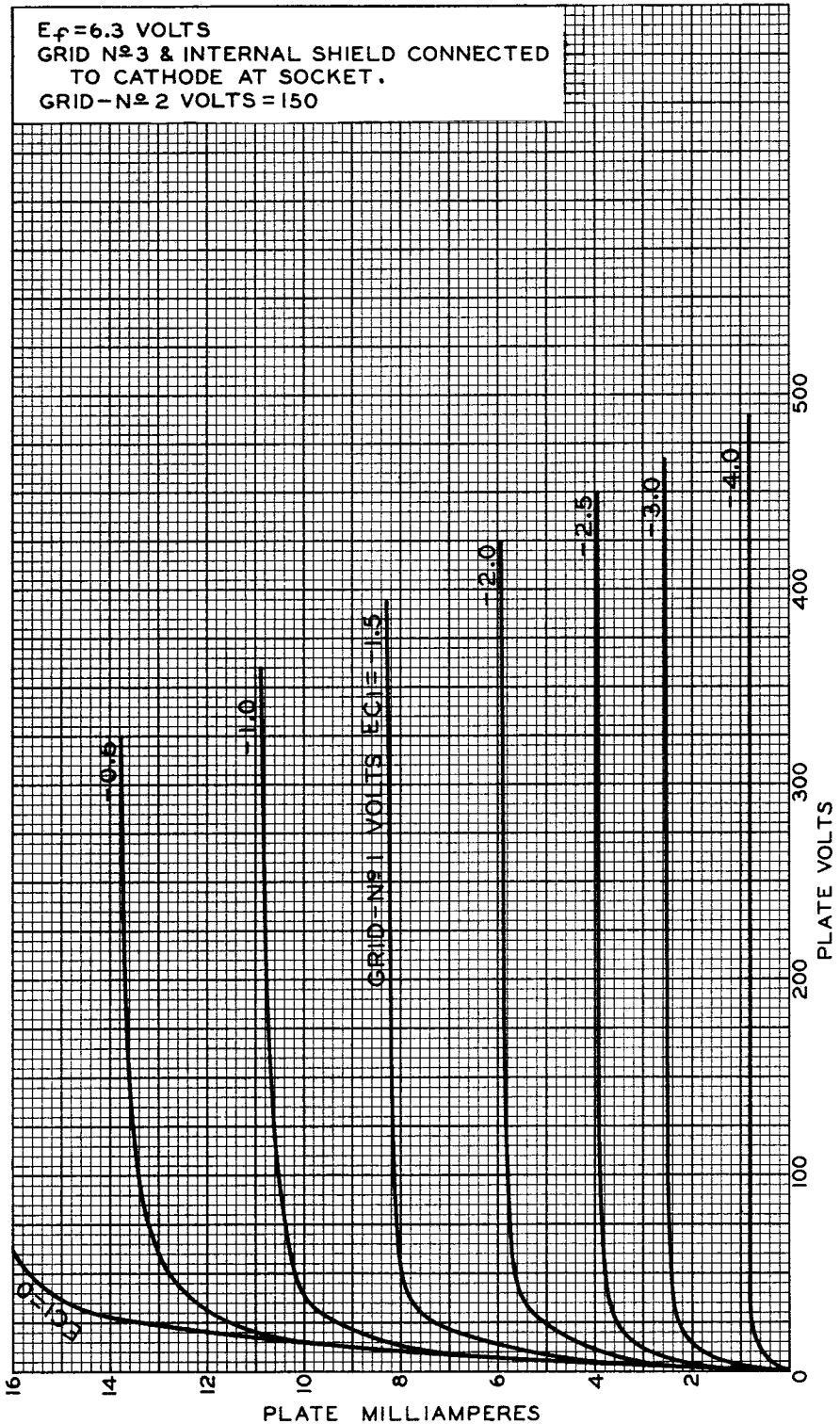
Typical Operation as Resistance-Coupled Amplifier:

See *RESISTANCE-COUPLED-AMPLIFIER CHART No.8*
at front of this Section

- ▲ With external shield JEDEC No.316 connected to cathode.
- Grid No.3 & internal shield and grid No.2 connected to plate.
- ★ The dc component must not exceed 100 volts.

→ Indicates a change.

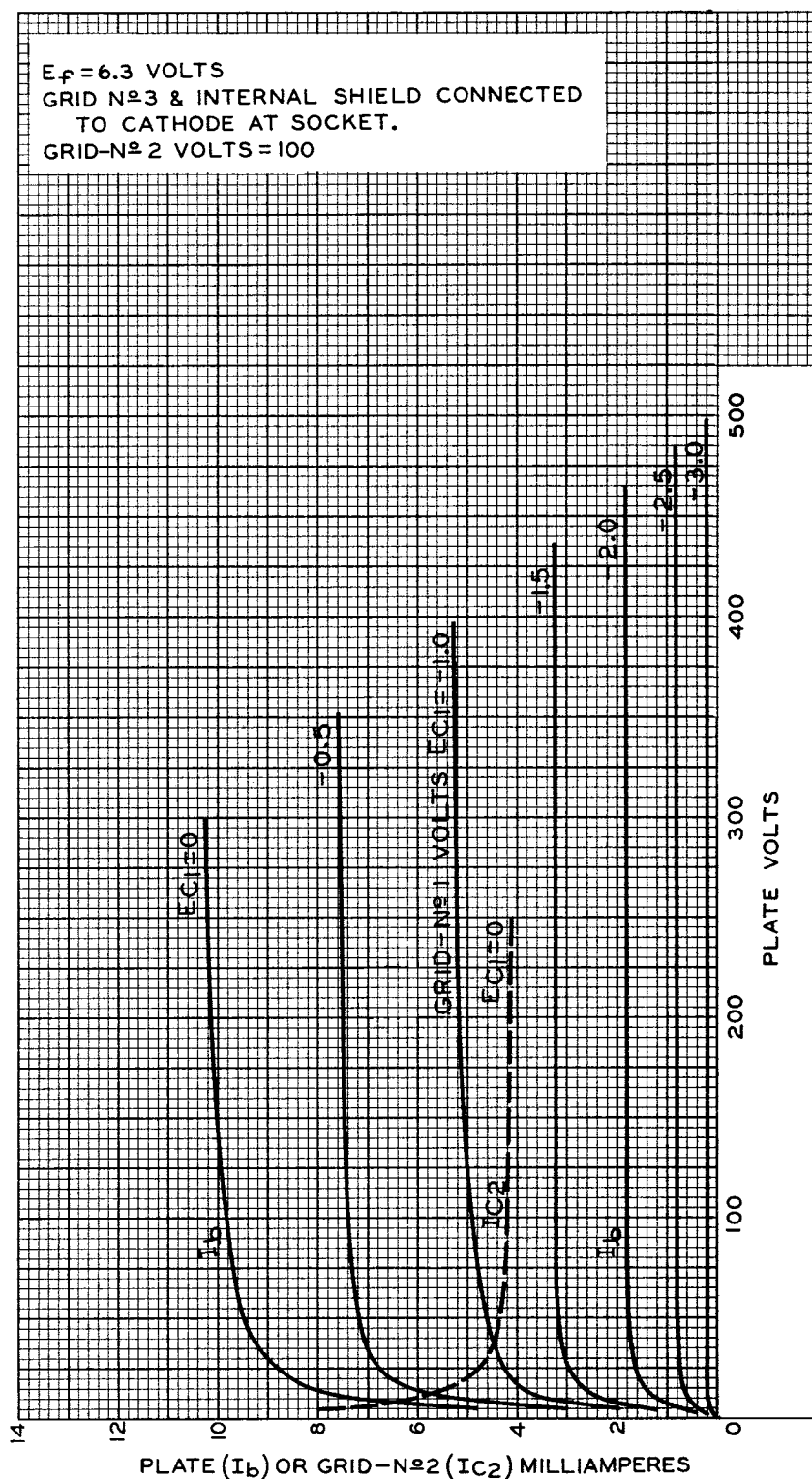
AVERAGE PLATE CHARACTERISTICS Pentode Connection



92CM-6613R2



AVERAGE CHARACTERISTICS Pentode Connection

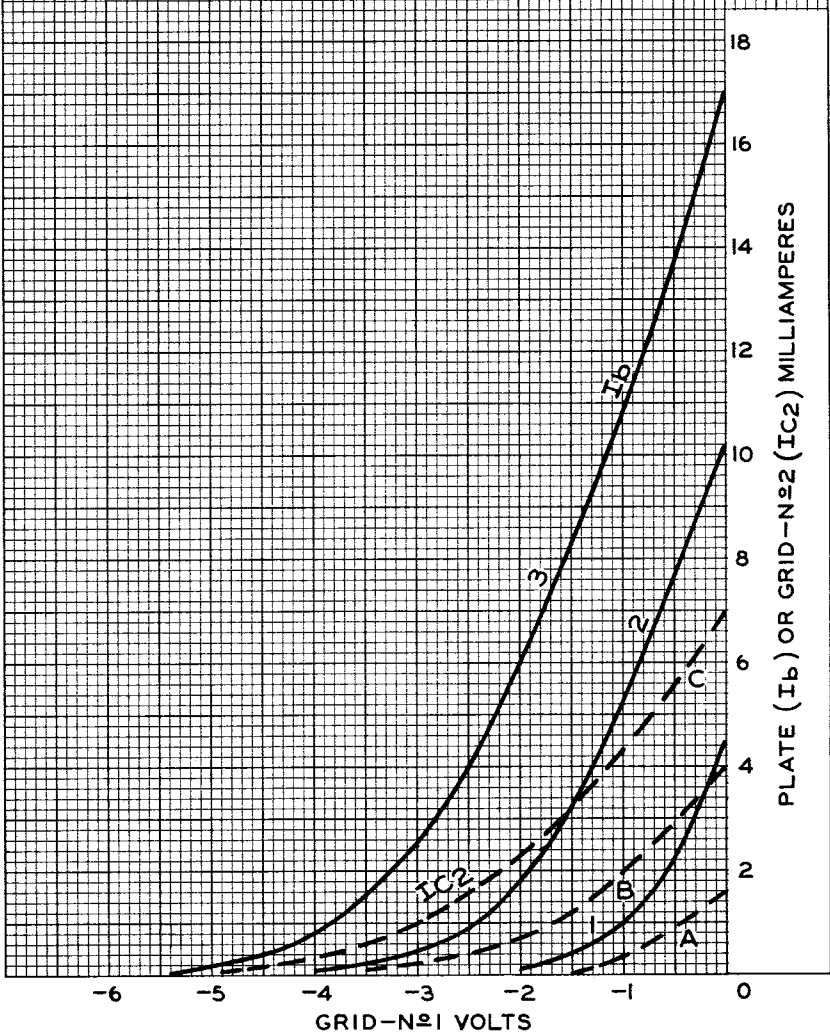


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AVERAGE CHARACTERISTICS Pentode Connection

$E_f = 6.3$ VOLTS
 PLATE VOLTS = 250
 GRID N^o3 & INTERNAL SHIELD CONNECTED
 TO CATHODE AT SOCKET.

CURVES		GRID-N ^o 2 VOLTS
I_b —	I_{c2} --	
1	A	50
2	B	100
3	C	150

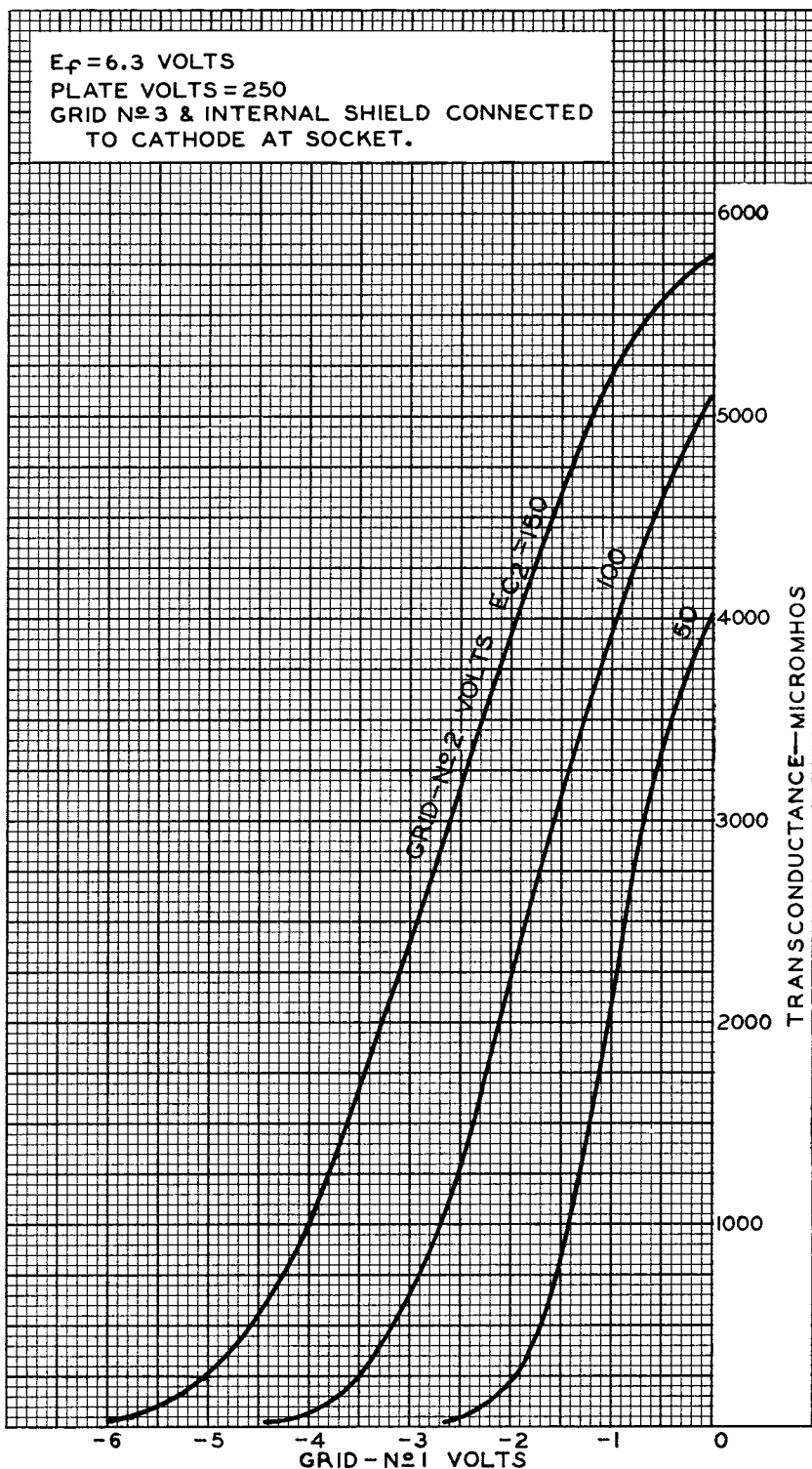


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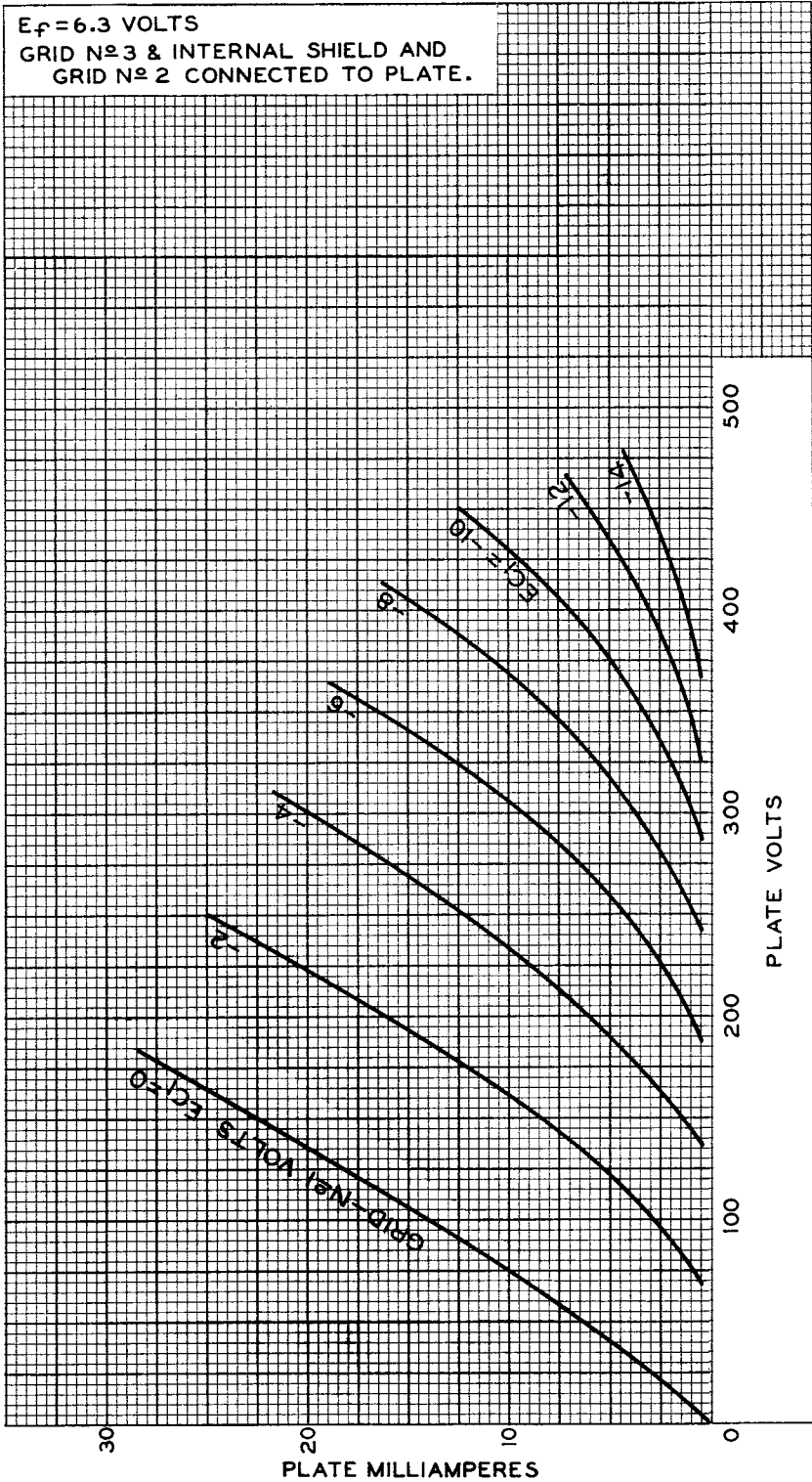
AVERAGE CHARACTERISTICS Pentode Connection



92CM-6614R2



AVERAGE PLATE CHARACTERISTICS Triode Connection



92CM-6854

