

# 6AU6

## Sharp-Cutoff Pentode

### 7-PIN MINIATURE TYPE

#### GENERAL DATA

#### Electrical:

Heater, for Unipotential Cathode:

Voltage (AC or DC) . . . . .	6.3 ± 10%	volts	←
Current at 6.3 volts . . . . .	0.3	amp	

Direct Interelectrode Capacitances:

	<i>Without External Shield</i>	<i>With External Shield<sup>▲</sup></i>	
<i>Pentode Connection:</i>			
Grid No.1 to plate . . . . .	0.0035 max.	0.0035 max.	μf
Grid No.1 to cathode, grid No.3 & internal shield, grid No.2, and heater . . . . .	5.5	5.5	μf
Plate to cathode, grid No.3 & internal shield, grid No.2, and heater . . . . .	5	5	μf
<i>Triode Connection: ●</i>			
Grid No.1 to plate, grid No.3 & internal shield, and grid No.2 . . . . .	2.6	2.6	μf
Grid No.1 to cathode and heater . . . . .	3.2	3.2	μf
Plate, grid No.3 & internal shield, and grid No.2 to cathode and heater . . . . .	1.2	8.5	μf

#### Characteristics, Class A<sub>1</sub> Amplifier:

##### *Pentode Connection*

Plate Supply Voltage . . . . .	100	250	250	volts
Grid No.3 & Internal Shield . . . . .	<i>Connected to cathode at socket</i>			
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 μ <sub>a</sub> = 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.

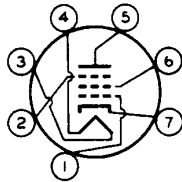


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## Mechanical:

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" ± 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 A<sub>1</sub>

### → Maximum Ratings, Design-Maximum Values:

	Triode Connection <sup>●</sup>	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

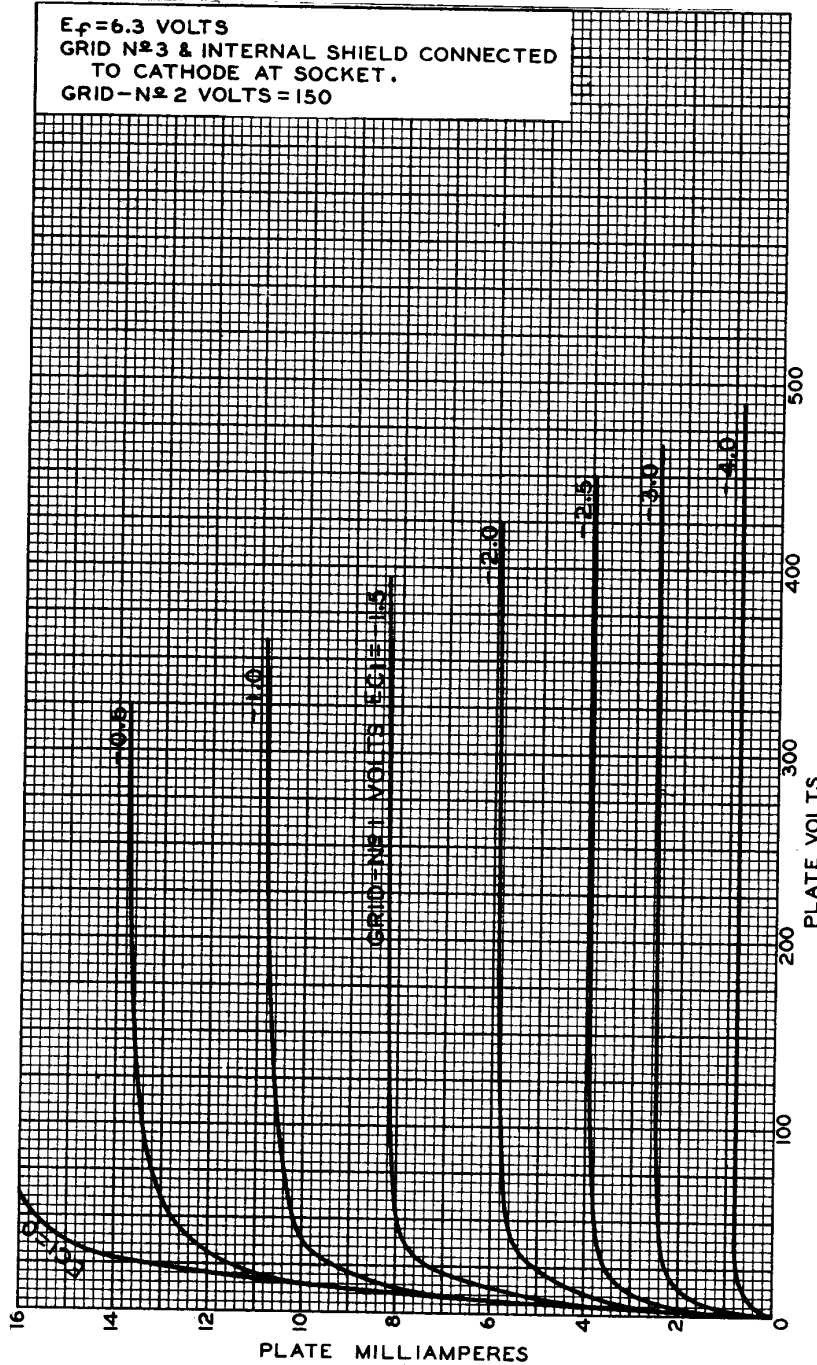
- ▲ With external shield JEDEC No.316 connected to cathode.
- Grid No.3 & internal shield and grid No.2 connected to plate.
- \* The dc component must not exceed 100 volts.

→ Indicates a change.



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## AVERAGE PLATE CHARACTERISTICS Pentode Connection



92CM-6613R2

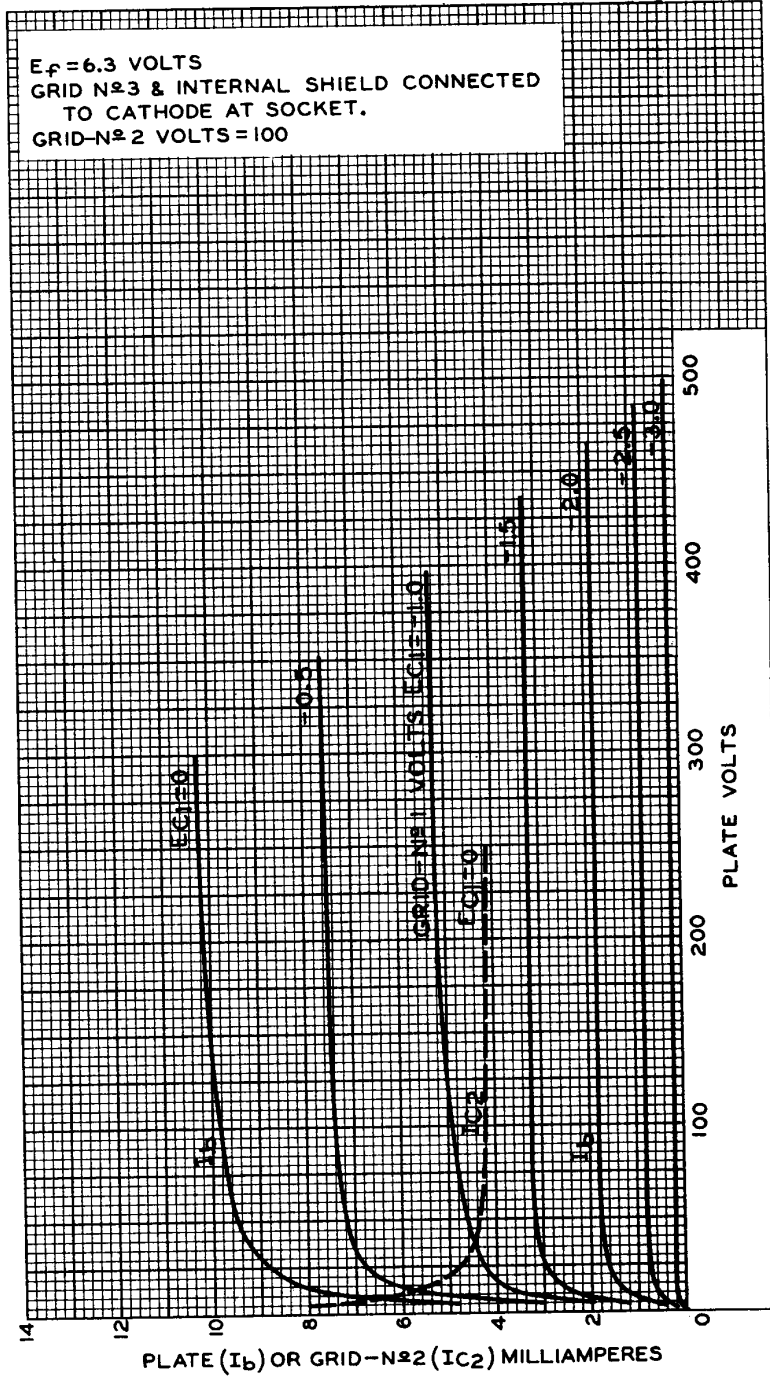


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DATA 2  
8-60

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## AVERAGE CHARACTERISTICS Pentode Connection



92CM-6611R2

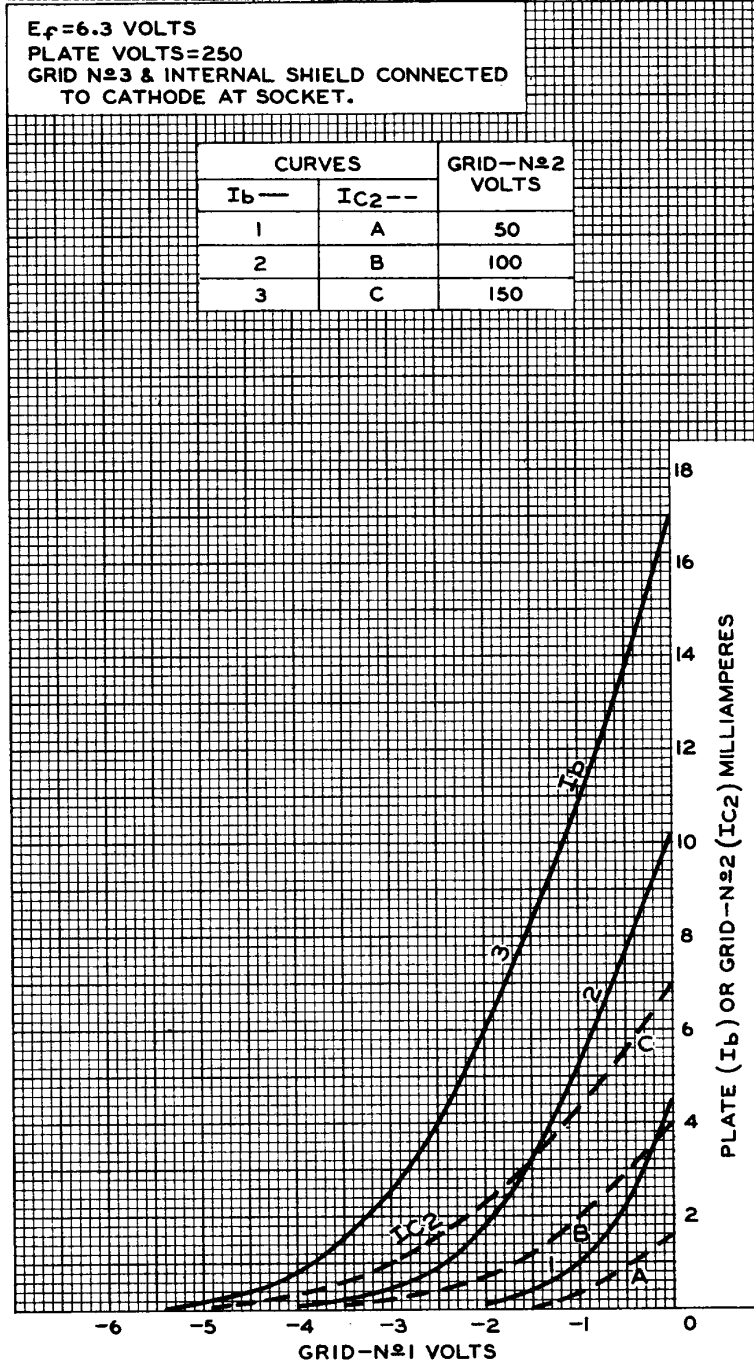
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## AVERAGE CHARACTERISTICS Pentode Connection



92CM-6623R2

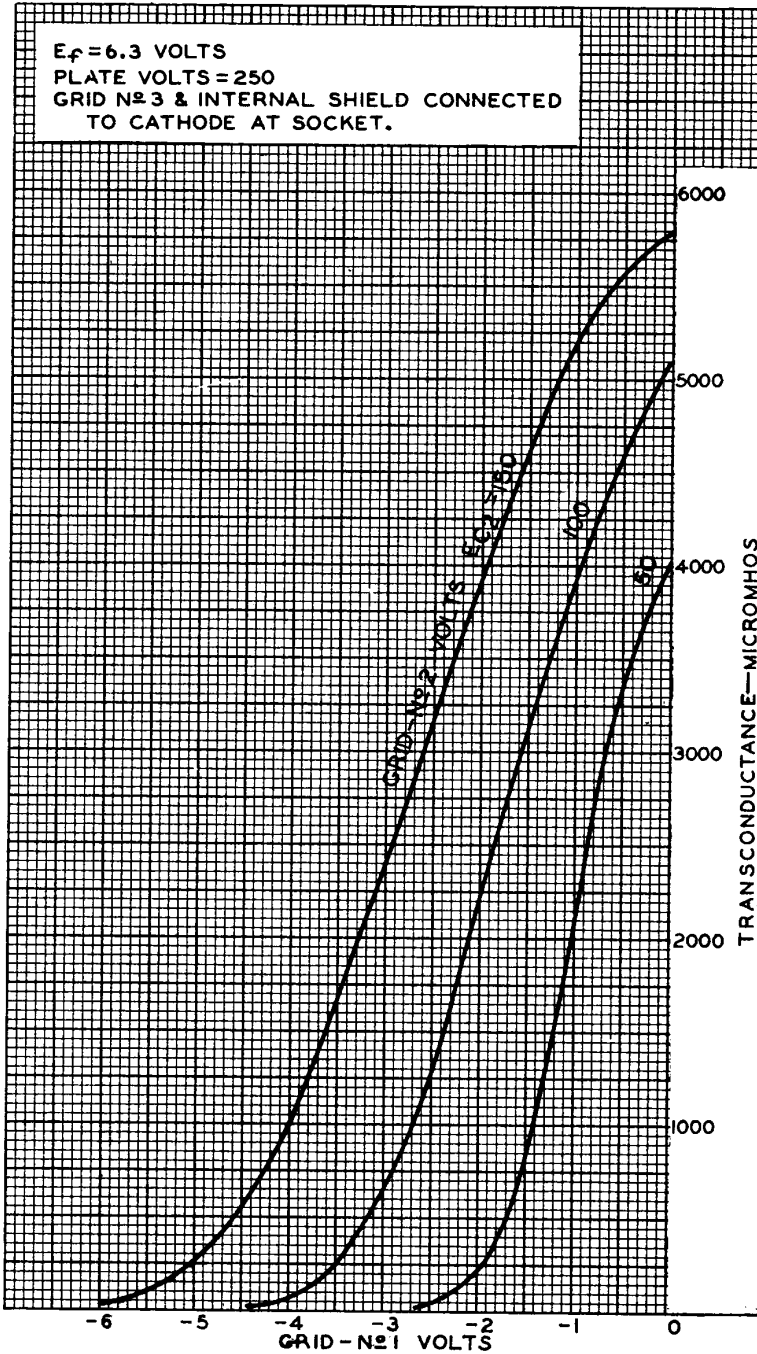


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DATA 3  
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## AVERAGE CHARACTERISTICS Pentode Connection



92CM-6614R2

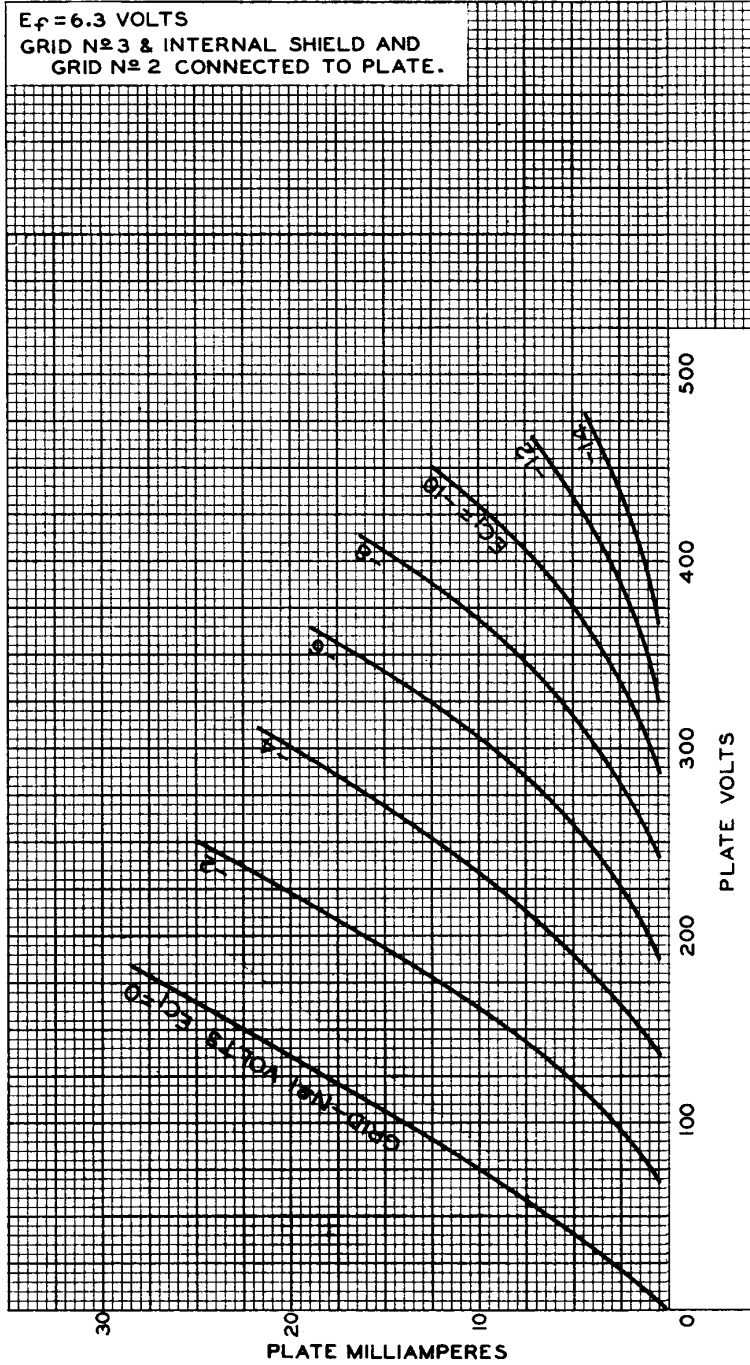
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## AVERAGE PLATE CHARACTERISTICS Triode Connection



92CM-6854



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DATA 4  
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