

# 6GY6

## Sharp-Cutoff Pentode With Two Independent Control Grids

7-PIN MINIATURE TYPE

With Heater Having Controlled Warm-Up Time

### GENERAL DATA

#### Electrical:

Heater, for Unipotential Cathode:

Voltage (AC or DC) . . . . .	6.3	volts
Current . . . . .	0.45 ± 6%	amp
Warm-up time (Average) . . . . .	11	sec

Direct Interelectrode Capacitances

(Approx.):<sup>a</sup>

Grid No.1 to plate . . . . .	0.026	μf
Grid No.1 to cathode & internal shield, grid No.3, grid No.2, and heater . . . . .	8	μf
Grid No.3 to plate . . . . .	1.6	μf
Grid No.1 to grid No.3 . . . . .	0.12	μf
Grid No.3 to cathode & internal shield, plate, grid No.2, grid No.1, and heater . . . . .	6.5	μf

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

Plate Supply Voltage . . . . .	150	volts
Grid-No.3 Supply Voltage . . . . .	0	volts
Grid-No.2 Supply Voltage . . . . .	100	volts
Grid-No.1 Supply Voltage . . . . .	0	volts
Cathode Resistor . . . . .	180	ohms
Plate Resistance (Approx.) . . . . .	0.14	megohm
Transconductance, Grid No.1 to Plate . . . . .	3700	μmhos
Transconductance, Grid No.3 to Plate . . . . .	750	μmhos
Plate Current . . . . .	3.7	ma
Grid-No.2 Current . . . . .	3	ma
Grid-No.1 Supply Voltage (Approx.) for plate $\mu_a = 20$ . . . . .	-4.5	volts
Grid-No.3 Supply Voltage (Approx.) for plate $\mu_a = 20$ . . . . .	-7	volts

#### Mechanical:

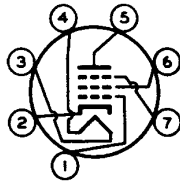
Operating Position . . . . .	Any
Maximum Overall Length . . . . .	2-1/8"
Maximum Seated Length . . . . .	1-7/8"
Length, Base Seat to Bulb Top (Excluding tip) . . . . .	1-1/2" ± 3/32"
Diameter . . . . .	0.650" to 0.750"
Dimensional Outline . . . . .	See <i>General Section</i>
Bulb . . . . .	T5-1/2
Base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



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Basing Designation for BOTTOM VIEW. . . . . 7EN

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



Pin 4-Heater  
 Pin 5-Plate  
 Pin 6-Grid No.2  
 Pin 7-Grid No.3

## GATED AGC AMPLIFIER & NOISE INVERTER

*For operation in a 525-line, 30-frame system<sup>b</sup>*

### Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE. . . . .	300	max.	volts
PEAK POSITIVE-PULSE PLATE VOLTAGE <sup>c</sup> . . . . .	600	max.	volts
GRID-No.3 (CONTROL-GRID) VOLTAGE:			
Negative-bias value. . . . .	100	max.	volts
Positive-bias value. . . . .	0	max.	volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE . . . . .	300	max.	volts
GRID-No.2 VOLTAGE. . . . .	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section		
GRID-No.1 (CONTROL-GRID) VOLTAGE:			
Negative-bias value. . . . .	50	max.	volts
Positive-bias value. . . . .	0	max.	volts
GRID-NO.2 INPUT:			
For grid-No.2 voltages up to 150 volts . . . . .	1	max.	watt
For grid-No.2 voltages between 150 and 300 volts. . . . .	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section		
PLATE DISSIPATION. . . . .	1.7	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode. . . . .	200	max.	volts
Heater positive with respect to cathode. . . . .	200 <sup>d</sup>	max.	volts

### Maximum Circuit Values:

Grid-No.3-Circuit Resistance . . . . .	0.68	max.	megohm
Grid-No.1-Circuit Resistance:			
For fixed-bias operation . . . . .	0.22	max.	megohm
For cathode-bias operation . . . . .	0.47	max.	megohm

<sup>a</sup> Without external shield.

<sup>b</sup> As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

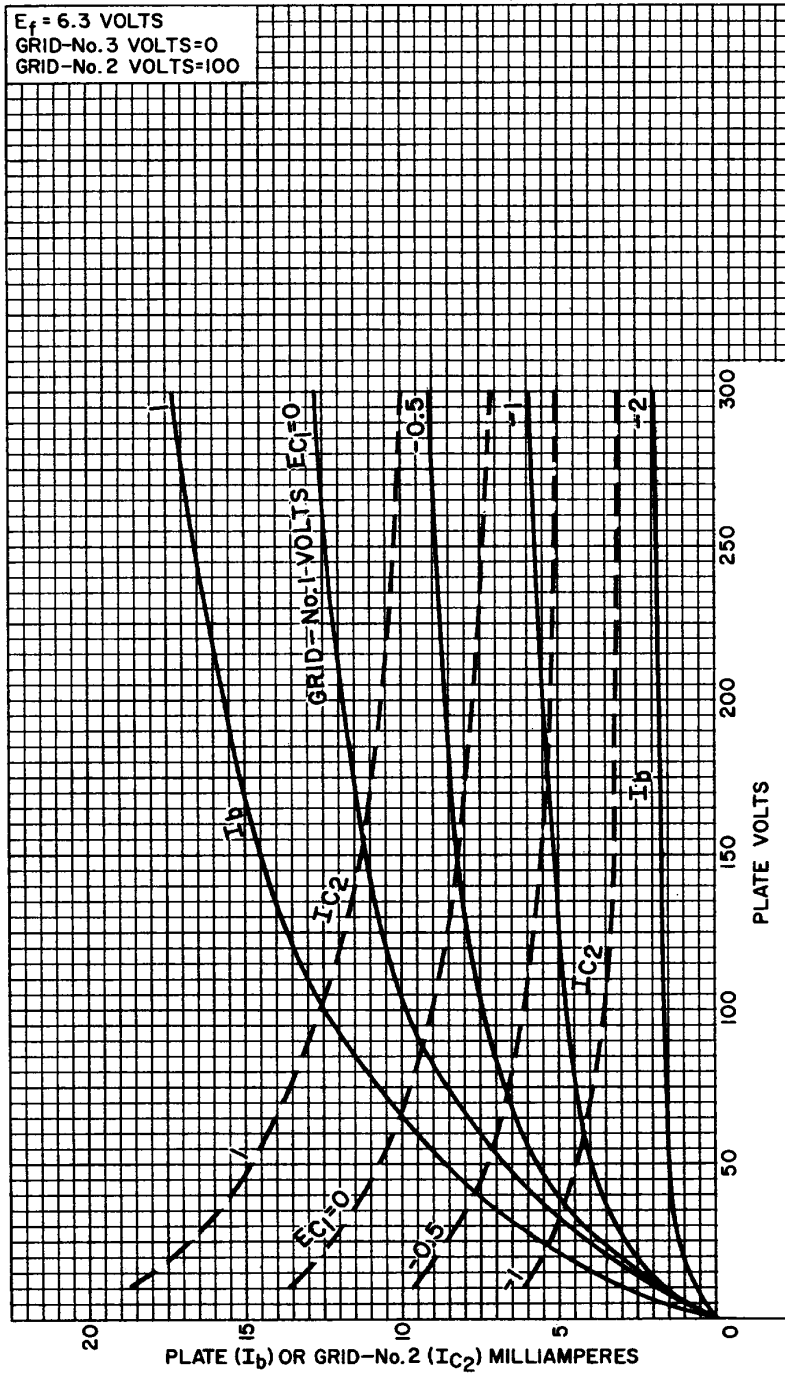
<sup>c</sup> This rating is applicable when the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.

<sup>d</sup> The dc component must not exceed 100 volts.



# 6GY6

## AVERAGE CHARACTERISTICS



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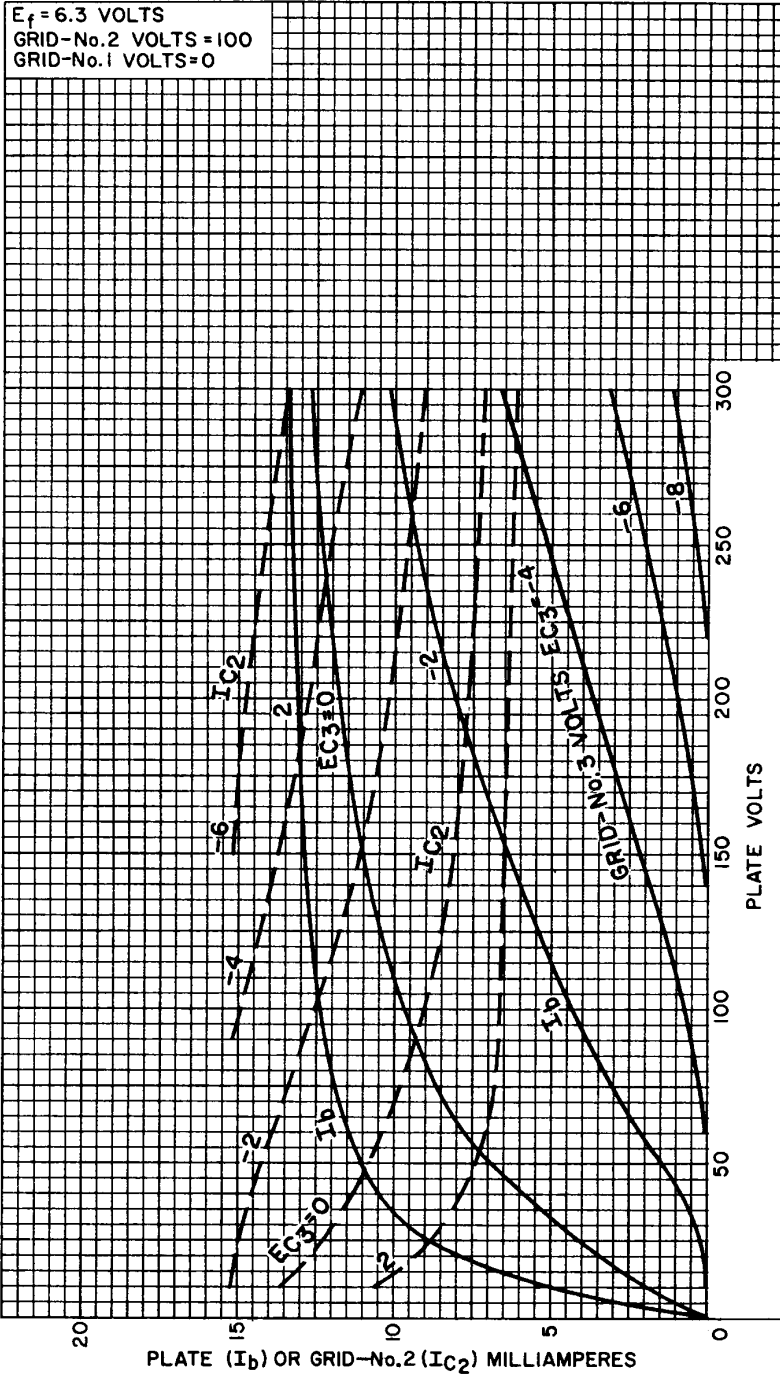


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DATA 2  
5-61

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## AVERAGE CHARACTERISTICS



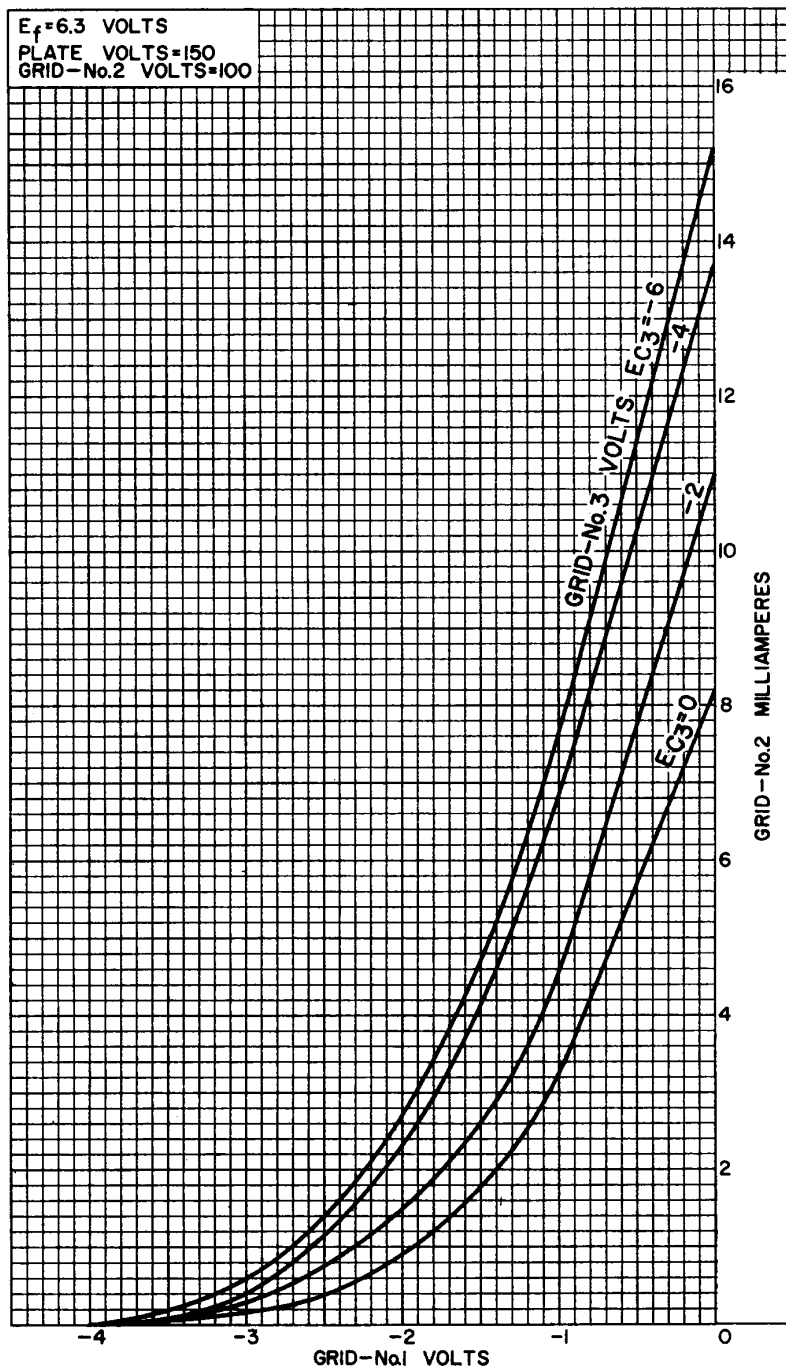
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## AVERAGE CHARACTERISTICS



92CM-11007

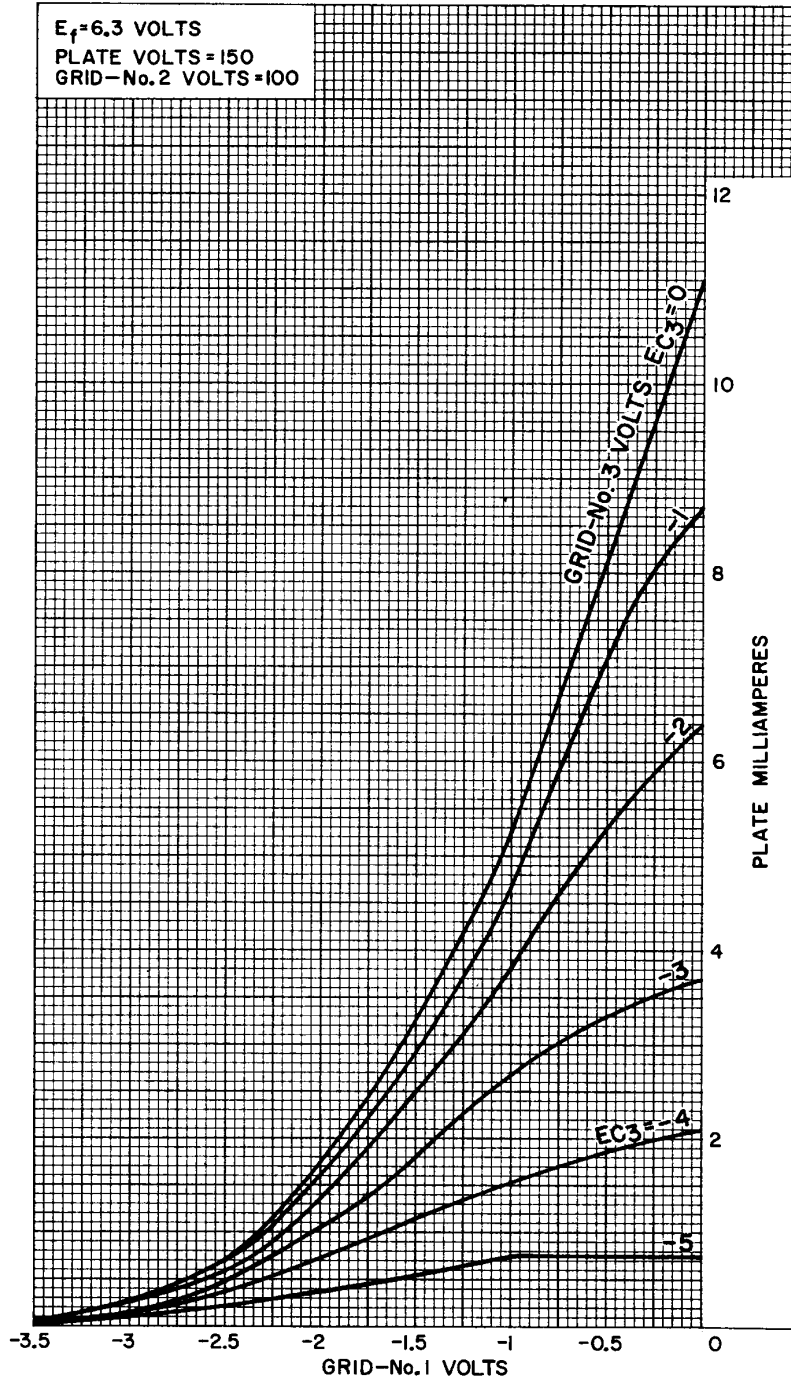


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DATA 3  
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## AVERAGE CHARACTERISTICS



92CM-11005

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