

# RCA-6HG5

## BEAM POWER TUBE

### 7-Pin Miniature Type

Plate Dissipation: 12 Watts

Controlled Cathode Warm-up Time

RCA-6HG5 is a beam power tube of the 7-pin miniature type for use in the audio output stages of television receivers. This tube features a controlled cathode warm-up time of 14 seconds minimum to delay the flow of cathode current during receiver warm up. As a result, extraneous sound is minimized until high voltage is developed and the picture appears.

The 6HG5 has a plate dissipation of 12 watts and can provide a relatively high power output at low plate current. In addition, this type utilizes the RCA "Dark Heater" for long life and dependable performance.

#### GENERAL DATA

##### Electrical:

##### Heater Characteristics and Ratings:

Voltage (AC or DC) . . . . . 6.3 ± 0.6 volts  
Current . . . . . 0.45 amp

##### Peak heater-cathode voltage:

Heater negative with respect to cathode . . . . . 200 max. volts  
Heater positive with respect to cathode . . . . . 200<sup>a</sup> max. volts

##### Minimum Cathode Warm-up Time:<sup>b</sup>

Heater volts = 6.3, plate and grid-No.2 volts = 250, and cathode resistor (ohms) = 680 . . . . . 14 sec

##### Direct Interelectrode Capacitances (Approx.):

Grid No.1 to plate . . . . . 0.4 pf  
Grid No.1 to cathode & grid No.3, grid No.2, and heater . . . . . 8 pf  
Plate to cathode & grid No.3, grid No.2, and heater . . . . . 8.5 pf

##### Mechanical:

Operating Position . . . . . Any  
Maximum Overall Length . . . . . 2-5/8"

Maximum Seated Length . . . . . 2-3/8"  
Length, Base Seat to Bulb Top (Excluding Tip) . . . . . 2" ± 3/32"  
Diameter . . . . . 0.650" to 0.750"  
Bulb . . . . . T5-1/2  
Base . . . . . Small-Button Miniature 7-Pin (JEDEC No.E7-1)  
Basing Designation for BOTTOM VIEW . . . . . 7BZ

#### AMPLIFIER - Class A<sub>1</sub>

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

Plate Voltage . . . . . 275 max. volts  
Grid-No.2 (Screen-Grid) Voltage . . . . . 275 max. volts  
Grid-No.2 Input . . . . . 2 max. watts  
Plate Dissipation . . . . . 12 max. watts  
Bulb Temperature (At hottest point on bulb surface) . . . . . 250 max. °C

##### Typical Operation and Characteristics:

Plate Voltage . . . . .	180	250	volts
Grid-No.2 Voltage . . . . .	180	250	volts
Grid-No.1 (Control-Grid) Voltage . . . . .	-8.5	-12.5	volts
Peak AF Grid-No.1 Voltage . . . . .	8.5	12.5	volts
Zero-Signal Plate Current . . . . .	29	45	ma
Max.-Signal Plate Current . . . . .	30	47	ma
Zero-Signal Grid-No.2 Current . . . . .	3	4.5	ma
Max.-Signal Grid-No.2 Current . . . . .	4	7	ma
Plate Resistance (Approx.) . . . . .	58000	52000	ohms
Transconductance . . . . .	3700	4100	μmhos
Load Resistance . . . . .	5500	5000	ohms
Total Harmonic Distortion . . . . .	8	8	%
Max.-Signal Power Output . . . . .	2	4.5	watts

##### Maximum Circuit Values:

##### Grid-No.1-Circuit Resistance:

For fixed-bias operation . . . . . 0.1 max. megohm  
For cathode-bias operation . . . . . 0.5 max. megohm

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

<sup>b</sup> The time interval between the instant all electrode voltages are applied and the instant a current of one milliampere flows in the plate circuit of the 6HG5.

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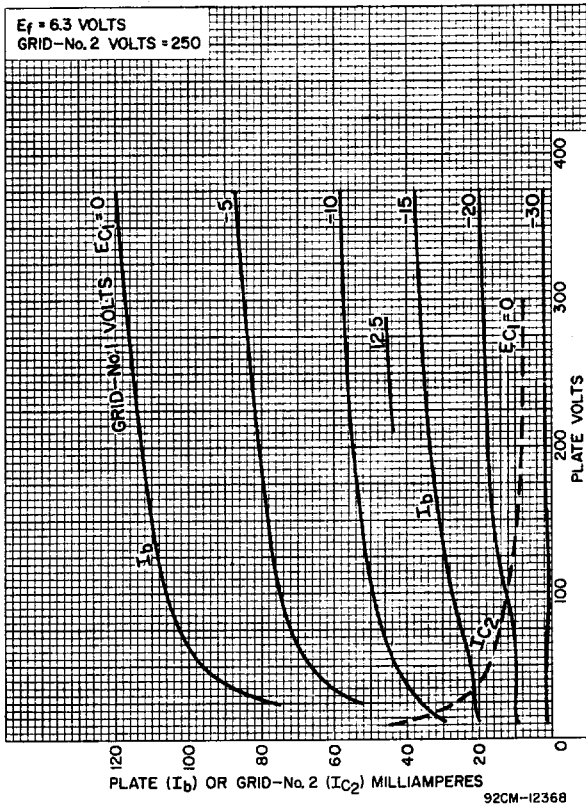


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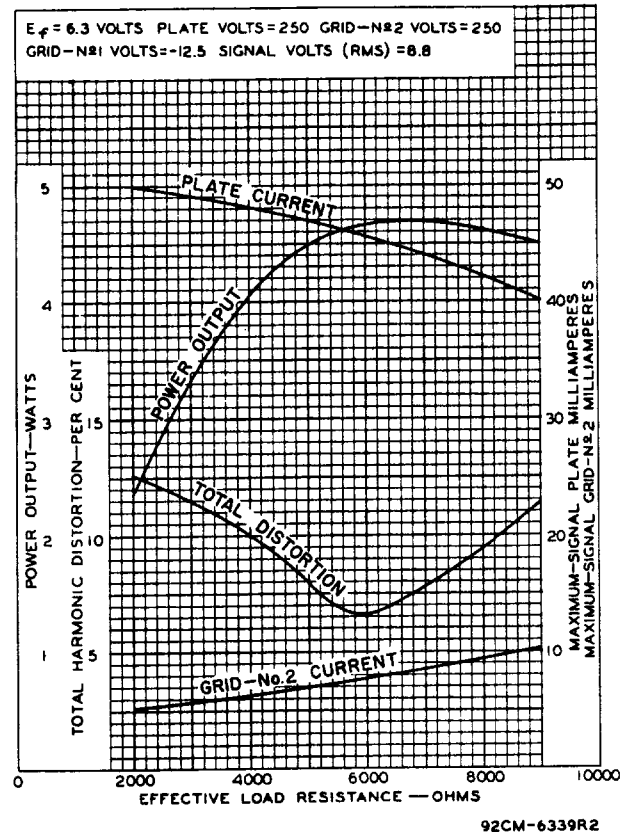
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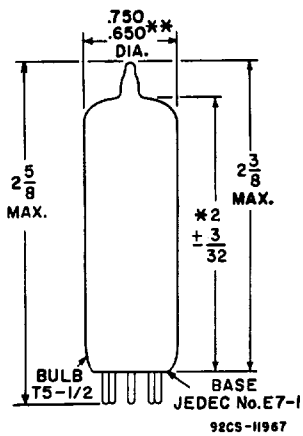
### AVERAGE CHARACTERISTICS



### OPERATION CHARACTERISTICS



### DIMENSIONAL OUTLINE



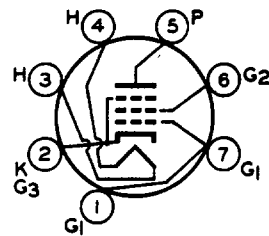
Dimensions in Inches

\* Measured from base seat to bulb-top line as determined by ring gauge of 7/16 inside diameter.

\*\* Applies in zone starting 0.375 from base seat.

### TERMINAL DIAGRAM

Bottom View



7BZ

- Pin 1—Grid No. 1
- Pin 2—Cathode,  
Grid No. 3
- Pin 3—Heater
- Pin 4—Heater
- Pin 5—Plate
- Pin 6—Grid No. 2
- Pin 7—Grid No. 1