



50C5

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# BEAM POWER TUBE

7-PIN MINIATURE TYPE

## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathode:

Voltage (AC or DC) . . . . .	50 + 10%	volts
Current . . . . .	0.15	amp

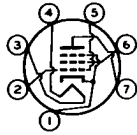
Direct Interelectrode Capacitances (Approx.):<sup>o</sup>

Grid No.1 to plate . . . . .	0.6	$\mu$ f
Grid No.1 to cathode & grid No.3, grid No.2, and heater . . . . .	13	$\mu$ f
Plate to cathode & grid No.3, grid No.2, and heater . . . . .	8.5	$\mu$ f

### 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" $\pm$ 3/32"
Diameter . . . . .	0.650" to 0.750"
Dimensional Outline . . . . .	See General Section
Bulb . . . . .	T5-1/2
Base . . . . .	Small Button Miniature 7-Pin (JEDEC No. E7-1)
Basing Designation for BOTTOM VIEW . . . . .	7CV

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



Pin 4 - Heater  
Pin 5 - Grid No.1  
Pin 6 - Grid No.2  
Pin 7 - Plate

## AMPLIFIER — Class A<sub>1</sub>

### Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE . . . . .	150	max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE . . . . .	130	max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE . . . . .	0	max.	volts
GRID-No.2 INPUT . . . . .	1.4	max.	watts
PLATE DISSIPATION . . . . .	7	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode . . . . .	200	max.	volts
Heater positive with respect to cathode . . . . .	200 <sup>▲</sup>	max.	volts
BULB TEMPERATURE (At hottest point on bulb surface) . . . . .			
	220	max.	°C

← Indicates a change.

50C5



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## → Typical Operation and Characteristics:

Plate Voltage. . . . .	120	volts
Grid-No.2 Voltage. . . . .	110	volts
Grid-No.1 Voltage. . . . .	-8	volts
Peak AF Grid-No.1 Voltage. . . . .	8	volts
Zero-Signal Plate Current. . . . .	49	ma
Max.-Signal Plate Current. . . . .	50	ma
Zero-Signal Grid-No.2 Current. . . . .	4	ma
Max.-Signal Grid-No.2 Current. . . . .	8.5	ma
Plate Resistance (Approx.) . . . . .	10000	ohms
Transconductance . . . . .	7500	μmhos
Load Resistance. . . . .	2500	ohms
Total Harmonic Distortion. . . . .	10	%
Max.-Signal Power Output . . . . .	2.3	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

○ without external shield.

▲ The dc component must not exceed 100 volts.

**NOTE:** Except for a different basing arrangement, which simplifies the problem of meeting Underwriters' Laboratories requirements in the design of ac/dc receivers, the 50C5 is similar to the miniature type 50B5.

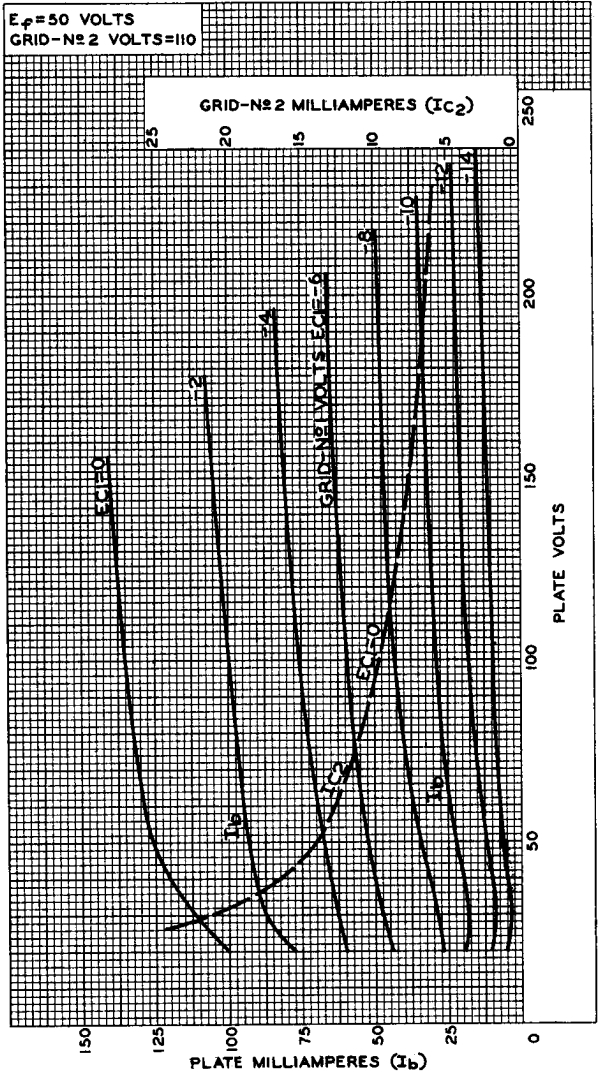
→ indicates a change.



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### AVERAGE CHARACTERISTICS



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### OPERATION CHARACTERISTICS

$E_p = 50$  VOLTS  
PLATE VOLTS = 120  
GRID-№2 VOLTS = 110  
GRID-№1 VOLTS = -8  
RMS SIGNAL VOLTS = 5.65

