

50B5

BEAM POWER AMPLIFIER
MINIATURE TYPE

**GENERAL DATA**

Electrical:

Heater, for Unipotential Cathode:

- Voltage: 50 ac or dc volts
- Current: 0.15 amp.

Direct Interelectrode Capacitances (Approx.):^\text{0}

- Grid-No.1 to Plate: 0.5 μf
- Input: 13 μf
- Output: 6.5 μf

Mechanical:

- Mounting Position: Any
- Maximum Overall Length: 2-5/8"^\times
- Maximum Seated Length: 2-3/8"^\times
- Length from Base Seat to Bulb Top (excluding tip): 2" ± 3/32"^\times
- Maximum Diameter: 3/4"^\times
- Bulb: T-5-1/2
- Base: Miniature Button 7-Pin

Basing Designation for 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

**CLASS A\text{1} AMPLIFIER**

Maximum Ratings, Design-Center Values:

- **Plate Voltage**: 117 max. volts
- **Grid-No.2 (Screen) Voltage**: 117 max. volts
- **Plate Dissipation**: 5.5 max. watts
- **Grid-No.2 Dissipation**: 1.25 max. watts

**Peak Heater-Cathode Voltage:**

- Heater negative with respect to cathode: 90 max. volts
- Heater positive with respect to cathode: 90 max. volts

Typical Operation and Characteristics:

- **Plate Voltage**: 110 volts
- **Grid-No.2 Voltage**: 110 volts
- **Grid-No.1 Voltage**: -7.5 volts
- **Peak A-F Grid-No.1 Voltage**: 7.5 volts
- **Zero-Signal Plate Current**: 49 ma.
- **Max.-Signal Plate Current**: 50 ma.

^\text{0}With no external shield.

JAN. 2, 1946

RCA VICTOR DIVISION
ELECTRIC CORPORATION OF AMERICA, HARRISON, NEW JERSEY

TENTATIVE DATA
Zéro-Signal Grid-No.2 Current (Approx.)... 4 ... ma.
Max.-Signal Grid-No.2 Current (Approx.)... 8.5 ... ma.
Plate Resistance (Approx.) .............. 14000 ... ohms
Transconductance ..................... 7500 ... µhmhos
Load Resistance ....................... 2500 ... ohms
Total Harmonic Distortion ............. 9 ... %
Max.-Sig. Power Output ................. 1.9 ... watts

Maximum Circuit Values (for maximum rated conditions):

Grid-No.1-Circuit Res. ... 
fixed bias ... 0.1 ... megohm
Cathode bias ... 0.5 ... megohm
OPERATION CHARACTERISTICS
PENTODE CONNECTION

$E_f = 50 \text{ VOLTS}$
$\text{PLATE VOLTS} = \text{GRID-\#2 VOLTS} = 110$
$\text{GRID-\#1 VOLTS} = -7.5$
$\text{SIGNAL VOLTS (RMS)} = 5.3$

Power Output - Watts
Load Resistance - Ohms

Total Distortion - Per Cent
25
20
15
10
5
0

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