Beam Power Tube

7-PIN MINIATURE TYPE
CONTROLLED CATHODE WARM-UP TIME MINIMIZES EXTRANEOUS SOUND DURING RECEIVER WARM UP.

For Use in the Audio Output Stages of Television Receivers

Electrical:

Heater Characteristics and Ratings:
Voltage (AC or DC) .................. 6.3 ± 0.6 volts
Current at heater volts = 6.3 ........ 0.450 amp
Peak heater-cathode voltage:
  Heater negative with respect to cathode ........ 200 max. volts
  Heater positive with respect to cathode ......... 200 max. volts

Minimum Cathode Warm-up Time:
Heater volts = 6.3, plate and grid-No.2 volts = 250, and cathode resistor (ohms) = 680. . .......... 14 sec

Direct Interelectrode Capacitances (Approx.):
  G1 to P .................................. 0.4 pf
  Input: G1 to (K+G3,G2,H) ................. 8.0 pf
  Output: P to (K+G3,G2,H) ................. 8.5 pf

Mechanical:

Operating Position .......................... Any
Type of Cathode ................................ Coated Unipotential
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"
Dimensional Outline ...................... See General Section
Bulb .................................. T5-1/2
Base .................................. Small-Button Miniature 7-Pin (JEDEC No.E7-1)
  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

AMPLIFIER—Class A1

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

a The dc component must not exceed 100 volts.
b 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.
AVERAGE CHARACTERISTICS

$E_1 = 6.3$ VOLTS
GRID-No. 2 VOLTS = 250

PLATE (I_b) OR GRID-No. 2 (I_c) MILLIAMPERES

GRID-No. 1 VOLTS

PLATE VOLTS
OPERATION CHARACTERISTICS

$E_T = 6.3$ VOLTS  PLATE VOLTS = 250  GRID-N$\#2$ VOLTS = 250
GRID-N$\#1$ VOLTS = -12.5  SIGNAL VOLTS (RMS) = 8.8

POWER OUTPUT — WATTS

POWER OUTPUT — MILLIAMPERES

TOTAL DISTORTION

GRID-N$\#2$ CURRENT

PLATE CURRENT

TOTAL SIGNAL

MAXIMUM SIGNAL — GRID-N$\#2$ MILLIAMPERES

MAXIMUM SIGNAL — PLATE MILLIAMPERES

EFFECTIVE LOAD RESISTANCE — OHMS

0  2000  4000  6000  8000  10000

92CM-6339R2