BEAM POWER TUBE
MINIATURE TYPE

Intended for use in equipment having series heater-string arrangement

GENERAL DATA

Electrical:
Heater, for Unipotential Cathode:
Voltage .......... 12.6 ....... ac or dc volts
Current .......... 0.6 ........ amp
Warm-up time (Average) . 11 ....... sec

For definition of heater warm-up time and method of determining it, see sheet HEATER WARM-UP TIME MEASUREMENT at front of this Section.

Direct Interelectrode Capacitances (Approx.):\(^0\)
Grid No.1 to plate .......... 0.5 \(\mu\)f
Grid No.1 to cathode & grid No.3, grid No.2, and heater .......... 15 \(\mu\)f
Plate to cathode & grid No.3, grid No.2, and heater .......... 9 \(\mu\)f

Mechanical:
Mounting Position ............ Any
Max. Overall Length .......... 2-5/8"
Max. Seated Length .......... 2-3/8"
Length, Base Seat to Bulb Top (Excluding tip) .......... 2" \pm 3/32"
Max. Diameter .......... 3/4"
Bulb .......... T-5-1/2
Base .......... Small-Button Miniature 7-Pin (JTEC No.E7-1)
Basing Designation for BOTTOM VIEW ............ 7CV

\[1\]
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\(^1\)

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE ............ 130 max. volts
GRID-No.2 (SCREEN) VOLTAGE .......... 130 max. volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:
Positive bias value .......... 0 max. volts
PLATE DISSIPATION .......... 5 max. watts
GRID-No.2 INPUT .......... 1.4 max. watts
PEAK HEATER-CATHODE VOLTAGE:
Heater negative with respect to cathode .......... 200 max. volts
Heater positive with respect to cathode .......... 200\(^*\) max. volts
BULB TEMPERATURE (At hottest point on bulb surface) .......... 180 max. \(^0\)C

\(^0\) Without external shield.
\(^*\) The dc component must not exceed 100 volts.

MAR. 1, 1955
Typical Operation and Characteristics:

Plate Voltage.......................... 110 125 volts
Grid-No.2 Voltage..................... 110 125 volts
Grid-No.1 Voltage..................... -4 -4.5 volts
Peak AF Grid-No.1 Voltage........... 4 4.5 volts
Zero-Signal Plate Current............ 32 37 ma
Max.-Signal Plate Current.......... 31 36 ma
Zero-Signal Grid-No.2 Current....... 3.5 4 ma
Max.-Signal Grid-No.2 Current...... 7.5 11 ma
Plate Resistance (Approx.)......... 16000 15000 ohms
Transconductance................... 8100 9200 µmhos
Load Resistance....................... 3500 4500 ohms
Total Harmonic Distortion.......... 5 6 %
Max.-Signal Power Output........... 1.1 1.5 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
AVERAGE PLATE CHARACTERISTICS

$E_F = 12.6$ VOLTS  GRID-N02 VOLTS = 125

PLATE (I_b) OR GRID-N02 (I_C2) MILLIAMPERES

JAN. 24, 1955  TUBE DIVISION  92CM-8507

RADIO CORPORATION OF AMERICA, Harrison, New Jersey
12CA5

OPERATION CHARACTERISTICS

E_p = 12.6 VOLTS  PLATE VOLTS = 125  GRID-N°2 VOLTS = 125
GRID-N°1 VOLTS = -4.5  SIGNAL VOLTS (RMS) = 3.2

LOAD RESISTANCE - OHMS

POWER OUTPUT - WATTS

TOTAL HARMONIC DISTORTION - PER CENT

MAXIMUM SIGNAL PLATE OR GRID-N°2 MILLIAMPERES

PLATE CURRENT

GRID-N°2 CURRENT

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RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-8506RI

JAN. 20, 1955