12DT8
HIGH-MU TWIN TRIODE
9-Pin Miniature Type
TENTATIVE DATA

RCA-12DT8 is a general-purpose high-mu twin triode of the 9-pin miniature type intended for use as an rf amplifier and as a combined oscillator-mixer in fm tuners. This tube is also useful in a wide variety of applications in radio and television receivers.

In the 12DT8, the two units are effectively isolated from each other by an internal shield having a separate base-pin terminal. As a result each unit will give stable performance when used in high-frequency applications. In addition, separate pin terminals for each cathode provide the equipment designer with greater flexibility of circuit connections.

GENERAL DATA

Electrical:
Heater, for Unipotential Cathodes:
Voltage (AC or DC) .................. 12.6 volts
Current .................. 0.15 amp

Direct Inter-electrode Capacitances
(Approx., with external shield): Emit No. 1 Emit No. 2
Grid to plate ........... 1.6 1.6 μf
Grid to cathode, heater, and internal shield ........... 2.7 2.7 μf
Plate to cathode, heater, and internal shield ........... 1.6 1.6 μf
Heater to cathode ........... 3.0 3.0 μf

Cathode Drive Operation:
Cathode to grid, heater, and internal shield ........... 5.3 μf
Plate to grid, heater, and internal shield ........... 2.8 μf

Mechanical:
Operating Position .................. Any
Maximum Overall Length .................. 2-3/16"
Maximum Seated Length .................. 1-15/16"
Length, Base Seat to Bulb Top (Excluding tip) .................. 1-9/16" ± 3/32"
Maximum Diameter .................. 7/8"
Bulb .................. T-6-1/2
Base .................. Small-Button Noval 9-Pin (JETEC No. E9-1)

AMPLIFIER - Class A1
Maximum Ratings, Design-Center Values:
Values are for Each Emit
PLATE VOLTAGE .................. 300 max. volts
GRID VOLTAGE:
Negative bias value .................. 50 max. volts
PLATE DISSIPATION .................. 2.5 max. watts
PEAK HEATER-CATHODE VOLTAGE:
Heater negative with respect to cathode ........... 200 max. volts
Heater positive with respect to cathode ........... 200 max. volts

Characteristics:
Plate-Supply Voltage .................. 100 250 volts
Cathode-Bias Resistor .................. 270 200 ohms
Amplification Factor .................. 60 60
Plate Resistance (Approx.) .................. 150000 109000 ohms
Transconductance .................. 4000 5500 μmhos
Plate Current .................. 3.7 10 ma
Grid Voltage (Approx.) for plate
Current of 10 μa ........... 5 12 volts

Maximum Circuit Values:
Grid-Circuit Resistance:
For fixed-bias operation ........... 0.25 max. megohm
For cathode-bias operation ........... 1 max. megohm

Operating Considerations
The maximum ratings in the tabulated data for the 12DT8 are working design-center maximums established according to the standard design-center system of rating electron tubes. Tubes so rated will give satisfactory performance in equipment designed so that these maximum ratings will not be exceeded when the equipment is operated from ac or dc power-line supplies whose normal voltage, including normal variations, falls within ± 10 percent of line-center voltage value of 117 volts.
**Fig. 1** - Average Plate Characteristics of Type 12DD7.

**Fig. 2** - Average Characteristics of Type 12DD7.

**Dimensional Outline**

- 1/8" MAX.
- 2 3/16" MAX.
- 1 15/16" MAX.
- 9/32" MAX.

**Socket Connections**

**Bottom View**

- PIN 1: PLATE OF TRIODE UNIT NO. 2
- PIN 2: GRID OF TRIODE UNIT NO. 2
- PIN 3: CATHODE OF TRIODE UNIT NO. 2
- PIN 4: HEATER
- PIN 5: HEATER
- PIN 6: PLATE OF TRIODE UNIT NO. 1
- PIN 7: GRID OF TRIODE UNIT NO. 1
- PIN 8: CATHODE OF TRIODE UNIT NO. 1
- PIN 9: INTERNAL SHIELD

*MEASURED FROM BASE SEAT TO BULB-TOP LINE AS DETERMINED BY RING GAUGE OF 7/16" I.D.*