

12DE8

Diode—Remote-Cutoff Pentode

9-PIN MINIATURE TYPE

For Automobile Radio Receivers Operating
Directly from 6-Cell Storage Batteries

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Voltage range 10 to 15.9 volts

*For longest life, it is recommended that the heater be
operated within the voltage range of 11 to 14 volts.*

Current (Approx.) at 12.6 volts 0.2 amp

Direct Interelectrode Capacitances:▲

Pentode Unit:

Grid No.1 to plate. 0.006 max. $\mu\mu\text{f}$

Grid No.1 to cathode, grid No.3
& internal shield, grid No.2,
and heater. 5.5 $\mu\mu\text{f}$

Plate to cathode, grid No.3
& internal shield, grid No.2,
and heater. 5.7 $\mu\mu\text{f}$

Diode Unit:

Plate to cathode, pentode grid No.3
& internal shield, and heater 3.7 $\mu\mu\text{f}$

Cathode to plate and heater 5.7 $\mu\mu\text{f}$

Pentode grid No.1 to diode plate. 0.018 max. $\mu\mu\text{f}$

Pentode plate to diode plate. 0.012 max. $\mu\mu\text{f}$

Pentode grid No.1 to diode cathode. 0.13 max. $\mu\mu\text{f}$

Pentode plate to diode cathode. 0.0016 max. $\mu\mu\text{f}$

Characteristics, Class A₁ Amplifier (Pentode Unit):

Heater Voltage. 12.6 volts

Plate Voltage 12.6 volts

Grid No.3 Connected to cathode at socket

Grid-No.2 Voltage 12.6 volts

Grid-No.1 Voltage:

Developed across a 2.2-megohm

grid resistor -0.8 volt

Plate Resistance (Approx.). 0.3 megohm

Transconductance. 1500 μmhos

Plate Current 1.3 ma

Grid-No.2 Current 0.5 ma

Grid-No.1 Voltage (Approx.) for
transconductance (μmhos) = 10 -6 volts

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" $\pm$ 3/32"

Diameter. 0.750" to 0.875"

Dimensional Outline See *General Section*



RADIO CORPORATION OF AMERICA
Electron Tube Division

Harrison, N. J.

DATA
3-61

12DE8

Bulb. T6-1/2
 Base. Small-Button Noval 9-Pin (JEDEC No.E9-1)
 Basing Designation for BOTTOM VIEW. 9HG

Pin 1 - Pentode Grid No.1		Pin 7 - Pentode Grid No.3, Internal Shield
Pin 2 - Diode Cathode		Pin 8 - Pentode Grid No.2
Pin 3 - Diode Plate		Pin 9 - Pentode Cathode
Pin 4 - Heater		
Pin 5 - Heater		
Pin 6 - Pentode Plate		

PENTODE UNIT — AMPLIFIER — Class A₁

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE	30 max.	volts
GRID No.3 (SUPPRESSOR GRID)	Connect to cathode at socket	
GRID-No.2 (SCREEN-GRID) VOLTAGE	30 max.	volts
CATHODE CURRENT	20 max.	ma
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	30 max.	volts
Heater positive with respect to cathode.	30 max.	volts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance.	10 max.	megohms
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DIODE UNIT

Maximum Ratings, Design-Center Values:

PLATE CURRENT	5 max.	ma
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Characteristics, Instantaneous Test Condition:

Plate Current for plate volts = 5	20	ma
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▲ Without external shield.

