

Twin Diode—Power Tetrode

9-PIN MINIATURE TYPE

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

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage range (DC)	10 to 15.9	volts
<i>For longest life, it is recommended that the heater be operated within the voltage range of 11 to 14 volts.</i>		
Current (Approx.) at 12.6 volts . . .	0.5	amp

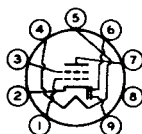
Characteristics, Class A₁ Amplifier (Tetrode Unit):

Heater Voltage	12.6	volts
Plate Voltage	12.6	volts
Grid-No.2 Voltage	12.6	volts
Grid-No.1 Resistor (Bypassed)	2.2	megohms
Plate Resistance (Approx.)	4000	ohms
Transconductance	5000	μmhos
Plate Current	6	ma
Grid-No.2 Current	1	ma

Mechanical:

Operating Position	Any
Maximum Overall Length	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (Excluding tip) . . .	2" ± 3/32"
Diameter	0.750" to 0.875"
Dimensional Outline	See <i>General Section</i>
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No. E9-1)
Basing Designation for BOTTOM VIEW	9HZ

Pin 1—Tetrode
Grid No.1
Pin 2—Cathode
Pin 3—Tetrode
Grid No.2
Pin 4—Heater
Pin 5—Heater



Pin 6—Diode—No.2
Plate
Pin 7—Tetrode Plate
Pin 8—Internal Con-
nection—
Do Not Use
Pin 9—Diode—No.1
Plate

TETRODE UNIT — AMPLIFIER — Class A₁

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE	30 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	30 max.	volts
PLATE CURRENT	10 max.	ma
PLATE DISSIPATION	0.5 max.	watt
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	30 max.	volts
Heater positive with respect to cathode.	30 max.	volts



12DK7

Typical Operation:

Heater Voltage.	12.6	volts
Plate Voltage	12.6	volts
Grid-No.2 Voltage	12.6	volts
Grid-No.1 Voltage	<i>Obtained by rectification through 15-megohm grid-No.1 resistor</i>	
Peak AF Grid-No.1 Voltage from 0.2-megohm signal source	1.4	volts
Zero-Signal Plate Current	6	ma
Max.-Signal Plate Current	2.5	ma
Load Resistance	3500	ohms
Total Harmonic Distortion	10	%
Max.-Signal Power Output.	10	mw

Maximum Circuit Values:

Grid-No.1-Circuit Resistance.	15 max.	megohms
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DIODE UNITS — Two

Values are for Each Unit

Characteristics, Instantaneous Test Condition:

Heater Voltage.	12.6	volts
Plate Current for plate volts = 10.	1	ma

