

# 12DY8

## Medium-Mu Triode— Remote-Cutoff Tetrode

9-PIN MINIATURE TYPE  
For Automobile Radio Receivers Operating  
Directly from 6-Cell Storage Batteries

### GENERAL DATA

#### Electrical:

Heater, for Unipotential Cathodes:

Voltage range (DC) . . . . . 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 . . . . . 0.35 amp

Direct Interelectrode Capacitances (Approx.):<sup>a</sup>

#### Triode Unit:

Grid to plate . . . . . 1.5  $\mu$ f

Grid to cathode & internal shield,  
and heater. . . . . 2  $\mu$ f

Plate to cathode & internal shield,  
and heater. . . . . 2  $\mu$ f

#### Tetrode Unit:

Grid No.1 to plate. . . . . 0.74  $\mu$ f

Grid No.1 to cathode, grid No.2,  
and heater. . . . . 11  $\mu$ f

Plate to cathode, grid No.2,  
and heater. . . . . 3  $\mu$ f

#### Characteristics, Class A<sub>1</sub> Amplifier:

*With heater voltage of 12.6 volts*

	Triode Unit	Tetrode Unit	
Plate Voltage . . . . .	12.6	12.6	volts
Grid-No.2 Voltage . . . . .	-	12.6	volts
Grid-No.1 Voltage . . . . .	0	-	volts
Grid-No.1 Resistor. . . . .	-	2.2	megohms
Amplification Factor. . . . .	20	-	
Plate Resistance (Approx.). . . . .	10000	5000	ohms
Transconductance. . . . .	2000	6000	$\mu$ mhos
Plate Current . . . . .	1.2	14	ma
Grid-No.2 Current . . . . .	-	2	ma
Grid Voltage (Approx.) for plate $\mu$ a = 10 . . . . .	-2	-	volts
Grid-No.1 Voltage (Approx.) for plate $\mu$ a = 20 . . . . .	-	-9	volts

#### Mechanical:

Operating Position. . . . . Any

Maximum Overall Length. . . . . 2-3/16"

Maximum Seated Length . . . . . 1-15/16"

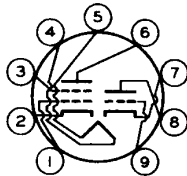
Length, Base Seat to Bulb Top (Excluding tip) . 1-9/16"  $\pm$  3/32"



# 12DY8

Diameter. . . . . 0.750" to 0.875"  
 Dimensional Outline . . . . . See *General Section*  
 Bulb. . . . . T6-1/2  
 Base. . . . . Small-Button Noval 9-Pin (JEDEC No.E9-1)  
 Basing Designation for BOTTOM VIEW. . . . . 9JD

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



Pin 6 - Tetrode  
           Plate  
 Pin 7 - Triode  
           Cathode,  
           Internal  
           Shield  
 Pin 8 - Triode  
           Plate  
 Pin 9 - Triode  
           Grid No.1

### TETRODE UNIT — RELAY-CONTROL SERVICE

**Maximum Ratings, Design-Maximum Values:**

PLATE VOLTAGE . . . . . 16 max. volts  
 GRID-No.2 (SCREEN-GRID) VOLTAGE . . . . . 16 max. volts  
 PEAK HEATER-CATHODE VOLTAGE:  
   Heater negative with respect to cathode . . 16 max. volts  
   Heater positive with respect to cathode . . 16 max. volts

**Typical Operation:**

Heater Voltage. . . . . 10           15           volts  
 Plate Supply Voltage. . . . . 10           15           volts  
 Grid-No.2 Voltage . . . . . 10           15           volts  
 Grid-No.1 Voltage . . . . . -           -6           volts  
 Grid-No.1 Resistor. . . . . 10           -           megohms  
 Plate Load Resistor . . . . . 700        700        ohms  
 Plate Current . . . . . 5 min.   3 max.   ma

**Maximum Circuit Values:**

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

### TRIODE UNIT — AMPLIFIER — Class A<sub>1</sub>

**Maximum Ratings, Design-Maximum Values:**

PLATE VOLTAGE . . . . . 16 max. volts  
 PEAK HEATER-CATHODE VOLTAGE:  
   Heater negative with respect to cathode . . 16 max. volts  
   Heater positive with respect to cathode . . 16 max. volts

**Maximum Circuit Values:**

Grid-Circuit Resistance . . . . . 10 max. megohms

<sup>a</sup> without external shield.