

# 12EC8

## Medium-Mu Triode— Semiremote-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 (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 . . . . . 0.225 amp

Direct Interelectrode Capacitances:<sup>a</sup>

*Triode Unit:*

Grid to plate . . . . . 1.7  $\mu\mu\text{f}$

Grid to cathode and heater . . . . . 2.6  $\mu\mu\text{f}$

Plate to cathode and heater . . . . . 0.4  $\mu\mu\text{f}$

*Pentode Unit:*

Grid No.1 to plate . . . . . 0.02 max.  $\mu\mu\text{f}$

Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater . . . . . 4.6  $\mu\mu\text{f}$

Plate to cathode & grid No.3 & internal shield, grid No.2, and heater . . . . . 2.6  $\mu\mu\text{f}$

Heater to cathode (Each unit) . . . . . 2.6  $\mu\mu\text{f}$

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

*With heater voltage of 12.6 volts*

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
Plate Supply Voltage . . . . .	12.6	12.6	volts
Grid-No.2 Voltage . . . . .	—	12.6	volts
Grid-No.1 Supply Voltage . . . . .	0	0	volts
Grid-No.1 Resistor . . . . .	4700	33000	ohms
Amplification Factor . . . . .	25	—	
Plate Resistance (Approx.) . . . . .	6000	750000	ohms
Transconductance . . . . .	4700	2000	$\mu\text{mhos}$
Plate Current . . . . .	2.4	0.66	ma
Grid-No.2 Current . . . . .	—	0.28	ma
Grid-No.1 Voltage (Approx.) for plate $\mu\text{a} = 10$ . . . . .	-2.2	-1.6	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*

Bulb . . . . . T6-1/2

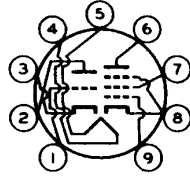
Base . . . . . Small-Button Noval 9-Pin (JEDEC No. E9-1)



# 12EC8

Basing Designation for BOTTOM VIEW. . . . . 9FA

- Pin 1 - Triode Grid
- Pin 2 - Triode Plate
- Pin 3 - Triode Cathode
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Pentode Plate
- Pin 7 - Pentode Grid No.2



- Pin 8 - Pentode Cathode, Grid No.3, Internal Shield
- Pin 9 - Pentode Grid No.1

### AMPLIFIER — Class A<sub>1</sub>

#### Maximum Ratings, Design-Maximum Values:

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
PLATE VOLTAGE. . . . .	16 max.	16 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE. . .	-	16 max.	volts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode . . . . .	16 max.	16 max.	volts
Heater positive with respect to cathode . . . . .	16 max.	16 max.	volts

#### Maximum Circuit Values:

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
Grid-No.1-Circuit Resistance . . . . .	1 max.	1 max.	megohm

\* Without external shield.

