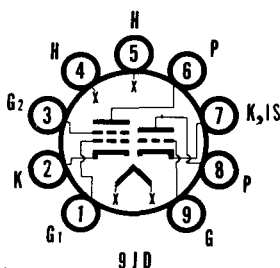


# SYLVANIA TYPE 12DY8



## MECHANICAL DATA

|                        |                            |
|------------------------|----------------------------|
| Bulb.....              | T-6 1/2                    |
| Base.....              | E9-1, Miniature            |
| Outline.....           | Button 9-Pin               |
| Basing.....            | 6-2                        |
| Cathode.....           | 9JD                        |
| Mounting Position..... | Coated Unipotential<br>Any |

## ELECTRICAL DATA

### HEATER CHARACTERISTICS

|                                     |            |
|-------------------------------------|------------|
| Heater Voltage <sup>1</sup> .....   | 12.6 Volts |
| Heater Current.....                 | 350 Ma     |
| Maximum Heater-Cathode Voltage..... | 16 Volts   |

### DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

|                    | Triode Section | Tetrode Section     |
|--------------------|----------------|---------------------|
| Grid to Plate..... | 1.5            | 0.74 $\mu\text{mf}$ |
| Input.....         | 2.0            | 11 $\mu\text{mf}$   |
| Output.....        | 2.0            | 3.0 $\mu\text{mf}$  |

### MAXIMUM RATINGS (Design-Maximum Values)<sup>2</sup>

|                            | Triode Section | Tetrode Section |
|----------------------------|----------------|-----------------|
| Plate Voltage.....         | 16             | 16 Volts        |
| Grid No. 2 Voltage.....    | ..             | 16 Volts        |
| Grid No. 1 Resistance..... | 10             | 10 Megohms      |

### CHARACTERISTICS AND TYPICAL OPERATION

|                                                   | Triode Section | Tetrode Section       |
|---------------------------------------------------|----------------|-----------------------|
| Plate Voltage.....                                | 12.6           | 12.6 Volts            |
| Grid No. 2 Voltage.....                           | ..             | 12.6 Volts            |
| Grid No. 1 Voltage.....                           | 0              | (Note 3) Volts        |
| Grid No. 1 Resistor.....                          | ..             | 2.2 Megohms           |
| Plate Current.....                                | 1.2            | 14 Ma                 |
| Grid No. 2 Current.....                           | ..             | 2 Ma                  |
| Transconductance.....                             | 2000           | 6000 $\mu\text{mhos}$ |
| Amplification Factor.....                         | 20             | ..                    |
| Plate Resistance (approx.).....                   | 10,000         | 5000 Ohms             |
| $E_c$ for $I_b = 10 \mu\text{Adc}$ (approx.)..... | -2.0           | Volts                 |
| $E_c$ for $I_b = 20 \mu\text{Adc}$ (approx.)..... | ..             | -9.0 Volts            |

### TYPICAL OPERATION

#### Tetrode Section—Relay Service

|                           |          |             |
|---------------------------|----------|-------------|
| Heater Voltage.....       | 10.0     | 15.0 Volts  |
| Plate Supply Voltage..... | 10.0     | 15.0 Volts  |
| Grid No. 2 Voltage.....   | 10.0     | 15.0 Volts  |
| Grid No. 1 Voltage.....   | (Note 3) | -6.0 Volts  |
| Grid No. 1 Resistor.....  | 10       | 0 Megohms   |
| Plate Load Resistor.....  | 700      | 700 Ohms    |
| Plate Current.....        | 5.0 Min. | 3.0 Ma Max. |

### NOTES:

1. This tube is intended to be used in automotive service from a nominal 12 volt battery source. The heater is therefore designed to operate over the 10.0 to 15.9 voltage range encountered in this service. The maximum ratings of the tube provide for an adequate safety factor such that the tube will withstand the wide variation in supply voltages.
2. Design-Maximum Ratings are limiting values of operating and environmental conditions applicable to a bogey electron device of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.  
The device manufacturer chooses these values to provide acceptable serviceability of the device, taking responsibility for the effects of changes in operating conditions due to variations in device characteristics.  
The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey device under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.
3. Contact potential bias developed across specified grid resistor.

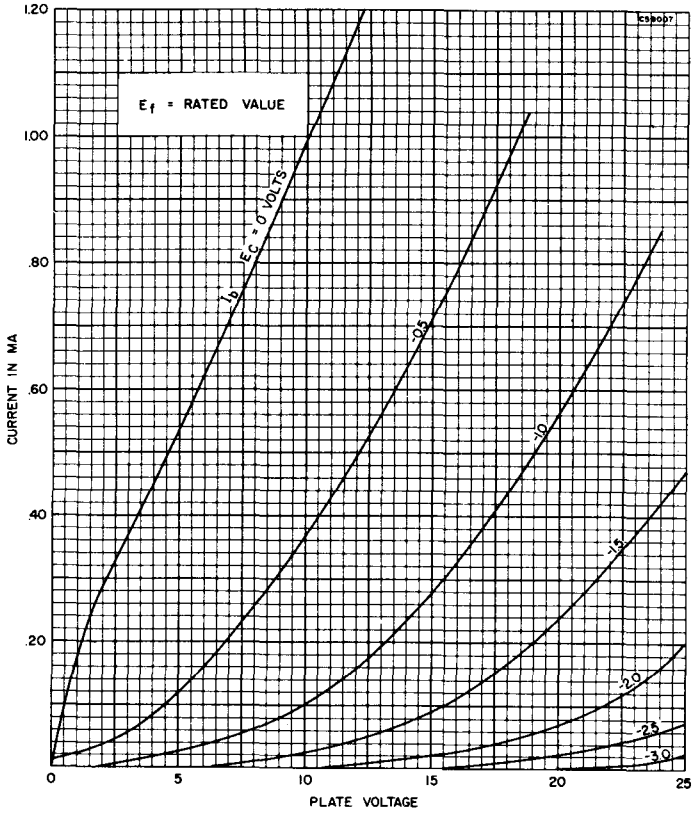
## APPLICATION

The Sylvania Type 12DY8 is a double section tube featuring a tetrode which is designed and controlled for relay service in "signal-seeker" applications; and a general purpose sharp-cutoff triode.  
The 12DY8 is intended for operation where the heater, plate and screen voltages are obtained directly from a 12-volt automotive electrical system.

## SYLVANIA ELECTRONIC TUBES

SYLVANIA TYPE 12DY8 (Cont'd)

AVERAGE PLATE CHARACTERISTICS  
(Triode Section)



AVERAGE PLATE CHARACTERISTICS  
(Tetode Section)

