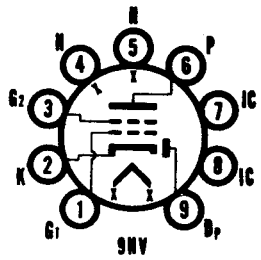


SYLVANIA TYPE 12EM6
DIODE-TETRODE



MECHANICAL DATA

Bulb.....	T-6 $\frac{1}{2}$
Base.....	E9-1, Miniature Button 9-Pin
Outline.....	6-3
Basing.....	9HV
Cathode.....	Coated Unipotential
Mounting Position.....	Any

ELECTRICAL DATA

HEATER CHARACTERISTICS

Heater Voltage ¹	12.6 Volts
Heater Current.....	500 Ma
Heater-Cathode Voltage (Design Center Values)	
Heater Positive with Respect to Cathode.....	30 Volts Max.
Heater Negative with Respect to Cathode.....	30 Volts Max.

MAXIMUM RATINGS (Design Center Values)

Plate Voltage.....	30 Volts
Grid No. 2 Voltage.....	30 Volts
Plate Dissipation.....	0.5 Watts
Grid No. 1 Resistance.....	15 Megohms
Average Diode Current.....	10 Ma.

CHARACTERISTICS

Class A₁ Amplifier

Plate Voltage.....	12.6 Volts
Grid No. 2 Voltage.....	12.6 Volts
Grid No. 1 Voltage ²	
Grid No. 1 Resistor.....	2.2 Megohms
Plate Current.....	6.0 Ma
Grid No. 2 Current.....	1.0 Ma
Transconductance.....	5000 μ mhos
Plate Resistance (approx.).....	4000 Ohms
Average Diode Current at 10 Volts D C.....	1.0 Ma

TYPICAL OPERATION

Plate Voltage.....	12.6 Volts
Grid No. 2 Voltage.....	12.6 Volts
Grid No. 1 Voltage ³	
AF Grid No. 1 Voltage (RMS).....	1.0 Volts
AF Signal Source Resistance.....	200,000 Ohms
Plate Current ⁴ (Signal Applied).....	2.5 Ma
Load Resistance.....	3500 Ohms
Power Output.....	10 Mw
Total Harmonic Distortion.....	10 Percent

NOTES:

1. This tube is intended for use in automobile radios operated from a nominal 12 volt battery. Design of the tube is such that the heater will operate satisfactorily over the range 10.0 volts to 15.9 volts, and that the maximum ratings provide a safety factor for the wide voltage variation encountered with this type of supply.
2. Contact potential bias developed across a 2.2 megohm resistor.
3. Bias voltage is developed across a 15 megohm resistor by means of Grid No. 1 rectification (obtained when applying the specified signal voltage) and contact potential.
4. With no signal applied to Grid No. 1 and bias developed solely by contact potential, the plate current is 6.0 ma.

APPLICATION

The Sylvania Type 12EM6 is a miniature diode-tetrode designed for use in automobile receivers. The diode section is intended for use as a detector while the tetrode section is designed to be used as a power amplifier driver. It is designed for operation where the heater, plate and screen voltages are supplied directly from a 12 volt automotive storage battery.