The 12DV8 is a miniature duplex-diode, space-charge-grid tetrode intended for use as a combined detector, AVC rectifier, and transistor driver. The tetrode section of the tube is specially designed to operate with its plate and space-charge-grid voltages supplied directly from a 12-volt storage battery.

**GENERAL**

**ELECTRICAL**
- Cathode—Coated Unipotential
- Heater Voltage, AC or DC: \(12.6^* \) Volts
- Heater Current: \(0.375\) Amperes
- Direct Inter electrode Capacitance:†
  - Tetrode Grid-Number 2 to Plate: \(12 \mu F\)
  - Tetrode Grid-Number 2 to Any Diode Plate: maximum \(0.015\) \(\mu F\)
  - Diode-Number 1 Input: \(1.7\) \(\mu F\)
  - Diode-Number 2 Input: \(1.6\) \(\mu F\)
- Diode-Number 1 Plate to Diode-Number 2 Plate: maximum \(0.10\) \(\mu F\)

**MECHANICAL**
- Mounting Position—Any
- Envelope—T-6½, Glass
- Base—E9-1, Small Button 9-Pin

**MAXIMUM RATINGS**

**DESIGN-MAXIMUM VALUES**
- Plate Voltage: \(16\) Volts
- Negative Control-Grid Voltage: \(16\) Volts
- Space-Charge-Grid Voltage: \(16\) Volts
- Heater-Cathode Voltage
  - Heater Positive with Respect to Cathode: \(16\) Volts
  - Heater Negative with Respect to Cathode: \(16\) Volts
- Control-Grid Circuit Resistance: \(10\) Megohms
- Diode Current for Continuous Operation, Each Diode: \(5.0\) Milliamperes

Design-Maximum Ratings are the limiting values expressed with respect to bogie tubes at which satisfactory tube life can be expected to occur for the types of service for which the tube is rated. Therefore, the equipment designer must establish the circuit design so that initially and throughout equipment life no design-maximum value is exceeded with a bogie tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, and environmental conditions.
CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage........................................................................................................ 12.6 Volts
Cathode Resistor ................................................................................................. 18 Ohms
Control Grid Resistor ......................................................................................... 4.7 Megohms
Space-Charge-Grid Voltage ................................................................................. 12.6 Volts
Amplification Factor§ ......................................................................................... 7.6
Plate Resistance, approximate ........................................................................... 900 Ohms
Transconductance§ ............................................................................................. 8500 Micromhos
Plate Current ...................................................................................................... 9.0 Milliamperes
Space-Charge-Grid Current ................................................................................ 53 Milliamperes
Average Diode Current, Each Diode
   With 10 Volts DC Applied .............................................................................. 3.0 Milliamperes

CLASS A AMPLIFIER

Plate Voltage........................................................................................................ 12.6 Volts
Cathode Resistor ................................................................................................. 18 Ohms
Control-Grid Resistor ......................................................................................... 4.7 Megohms
Space-Charge-Grid Voltage ................................................................................. 12.6 Volts
Peak AF Control-Grid Voltage ............................................................................ 1.2 Volts
AF Signal Source Resistance ............................................................................. 300,000 Ohms
Maximum Signal Plate Current .......................................................................... 6.8 Milliamperes
Space-Charge-Grid Current ................................................................................ 54 Milliamperes
Load Resistance .................................................................................................. 1250 Ohms
Total Harmonic Distortion, approximate ......................................................... 3 Percent
Power Output....................................................................................................... 5 Milliwatts

* When used in automotive service from a 12-volt source, under no circumstances should the heater voltage be less than 10.0 volts or more than 15.9 volts. These extreme variations in heater voltage may be tolerated for short periods; however, operation at or near these absolute limits in heater voltage necessarily involves sacrifice in performance at low heater voltage and in life expectancy at high heater voltage. Equipment reliability can be significantly increased with improved supply-voltage regulation.

† Without external shield.

§ Control Grid to Plate.

ELECTRONIC COMPONENTS DIVISION

GENERAL ELECTRIC

Schenectady 5, N. Y.