COMPACTRON DUPLEX-DIODE TWIN TRIODE

DESCRIPTION AND RATING

The 6AG11 is a compactron containing two high-mu triodes and two diodes, primarily designed for FM stereo multiplex service.

GENERAL

**ELECTRICAL**
- Cathode—Coated Unipotential
- Heater Characteristics and Ratings
  - Heater Voltage, AC or DC*: 6.3 ± 0.6 Volts
  - Heater Current†: 0.75 Amperes
- Direct Interelectrode Capacitances‡
- Triode, Each Section
  - Grid to Plate: (g to p): 1.8 pf
  - Input: g to (h+k): 3.8 pf
  - Output: p to (h+k): 0.24 pf
- Diode, Each Section
  - Plate to Cathode and Heater: p to (h+k): 2.2 pf
  - Cathode to Heater and Plate: k to (h+p): 5.5 pf
- Triode Grid to Diode Plate, maximum: (Tg to Dp): 0.1 pf
- Triode Grid, Section 1 to Triode Grid, Section 2, maximum: (1Tg to 2Tg): 0.01 pf
- Triode Plate, Section 1 to Triode Plate, Section 2: (1Tp to 2Tp): 0.5 pf

**MECHANICAL**
- Operating Position—Any
- Envelope—T-9, Glass
- Base—E12-70, Button 12-Pin
- Outline Drawing—EIA 9-56
  - Maximum Diameter: 1.188 Inches
  - Maximum Over-all Length: 1.875 Inches
  - Maximum Seated Height: 1.500 Inches

MAXIMUM RATINGS

**DESIGN-MAXIMUM VALUES, EACH SECTION**
- Plate Voltage: 330 Volts
- Plate Dissipation: 2.0 Watts
- Heater-Cathode Voltage
  - Heater Positive with Respect to Cathode
    - DC Component: 100 Volts
  - Total DC and Peak: 200 Volts
  - Heater Negative with Respect to Cathode
  - Total DC and Peak: 200 Volts
  - Diode Current for Continuous Operation,
    - Each Diode: 5.0 Milliamperes
  - Total DC and Peak: 200 Volts

PHYSICAL DIMENSIONS

**TERMINAL CONNECTIONS**
- Pin 1—Heater
- Pin 2—Diode Cathode (Section 2)
- Pin 3—Diode Plate (Section 2)
- Pin 4—Triode Cathode (Section 2)
- Pin 5—Triode Grid (Section 2)
- Pin 6—Triode Plate (Section 2)
- Pin 7—Triode Plate (Section 1)
- Pin 8—Triode Grid (Section 1)
- Pin 9—Triode Cathode (Section 1)
- Pin 10—Diode Plate (Section 1)
- Pin 11—Diode Cathode (Section 1)
- Pin 12—Heater

BASING DIAGRAM

EIA 9-56

EIA 12DA
MAXIMUM RATINGS (CONT'D)

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS, EACH SECTION

Plate Voltage .............................................................. 125 Volts
Grid Voltage .............................................................. -1.0 Volts
Amplification Factor .................................................. 66
Plate Resistance, approximate ....................................... 8500 Ohms
Transconductance ....................................................... 7800 Micromhos
Plate Current .............................................................. 7.5 Milliamperes
Grid Voltage, approximate
  Ib = 30 Microamperes .............................................. -5 Volts
Average Diode Current, Each Diode
  With 5.0 Volts DC Applied ........................................ 18 Milliamperes

NOTES

* The equipment designer should design the equipment so that the heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.
† Heater current for a bogey tube at Ef = 6.3 volts.
‡ Without external shield.

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