(GE) ELECTRONICS 6AG11

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

PHYSICAL DIMENSIONS

1.188" MAX.
1.875" MAX.
T 9
1.500" MAX.
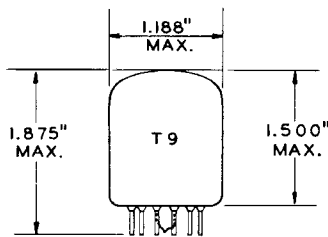
EIA 9-56

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 12DA

GENERAL (GE) ELECTRIC
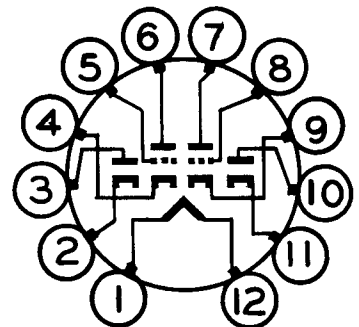
MAXIMUM RATINGS (CONT'D)

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
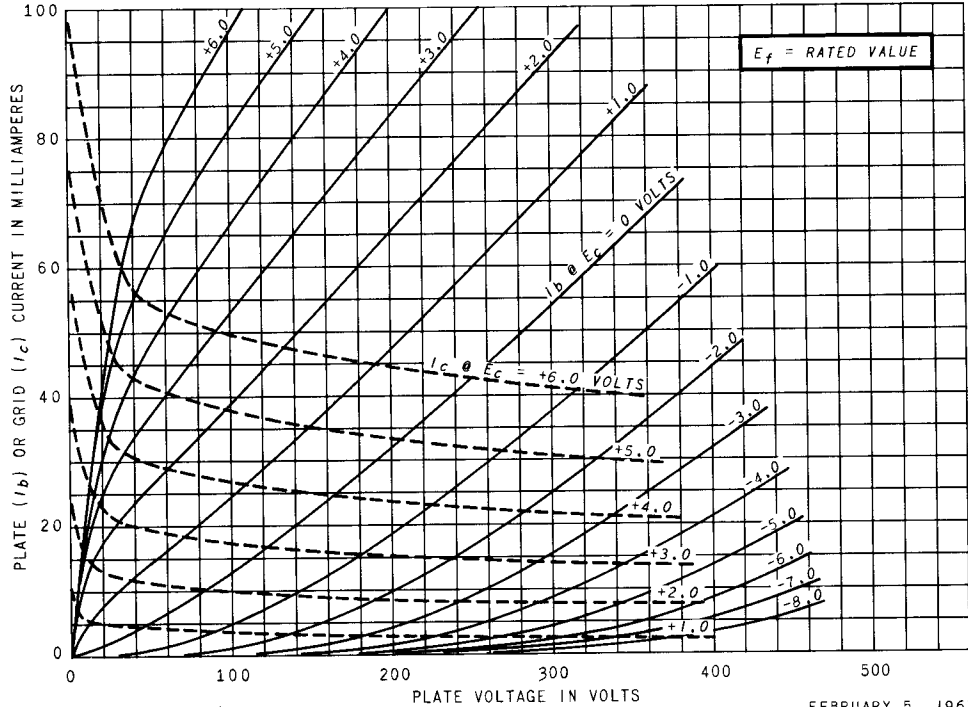
NOTES

* 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.

AVERAGE PLATE CHARACTERISTICS
EACH TRIODE SECTION

E_f = RATED VALUE

PLATE (I_b) OR GRID (I_c) CURRENT IN MILLIAMPERES

PLATE VOLTAGE IN VOLTS

K-55611-TD206-1

FEBRUARY 5, 1963

AVERAGE TRANSFER CHARACTERISTICS
EACH TRIODE SECTION

E_f = RATED VALUE

PLATE CURRENT IN MILLIAMPERES

GRID VOLTAGE IN VOLTS
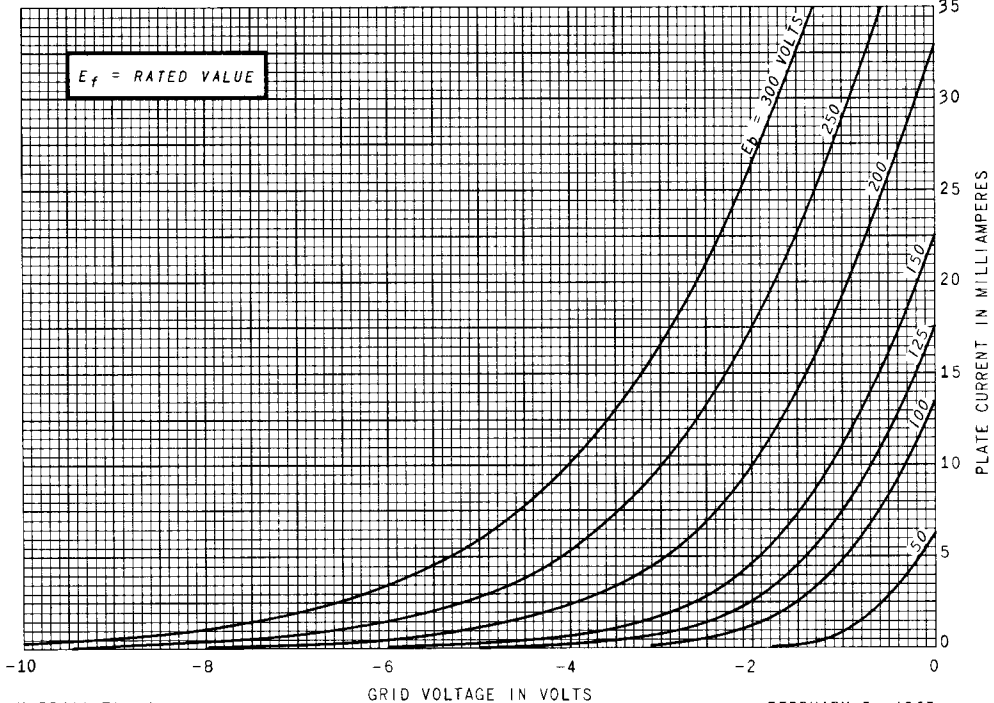
K-55611-TD206-2

FEBRUARY 5, 1963

AVERAGE CHARACTERISTICS
EACH TRIODE SECTION

E_f = RATED VALUE

100

125

E_b = 250 VOLTS μ

100 125

E_b = 250 VOLTS Gm

100 125 E_b = 250 VOLTS Rp

AMPLIFICATION FACTOR (μ)

PLATE RESISTANCE (Rp) IN OHMS

TRANSCONDUCTANCE (Gm) IN MICROMHOS

PLATE CURRENT IN MILLIAMPERES

K-55611-TD206-3

FEBRUARY 5, 1963

AVERAGE PLATE CHARACTERISTICS
EACH DIODE SECTION

E_f = RATED VALUE

PLATE CURRENT IN MILLIAMPERES

PLATE VOLTAGE IN VOLTS

K-55611-TD206-4

FEBRUARY 5, 1963
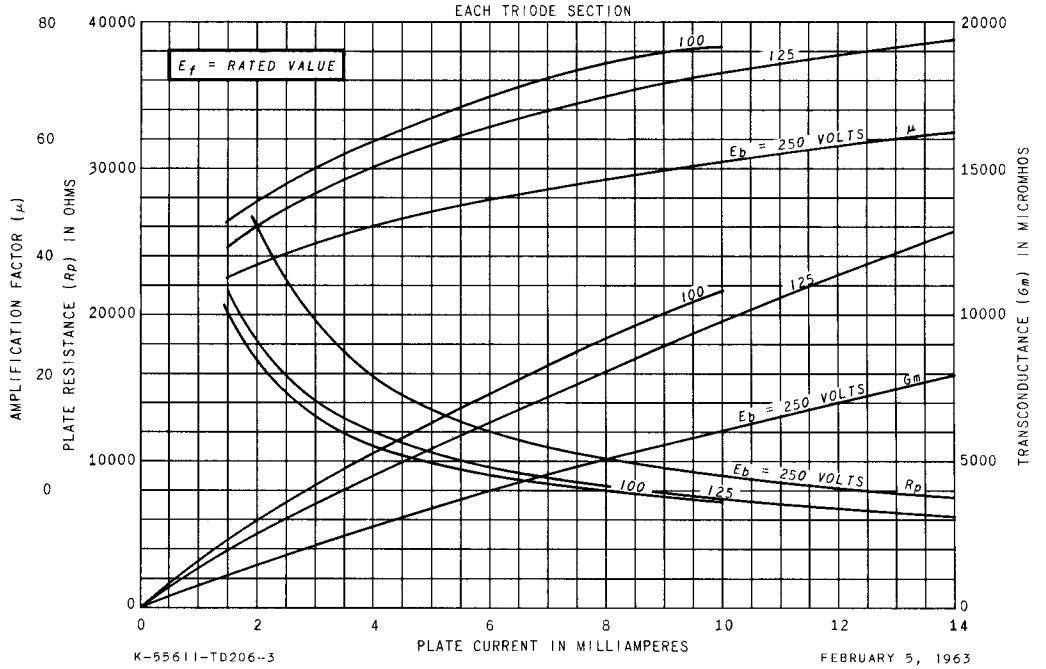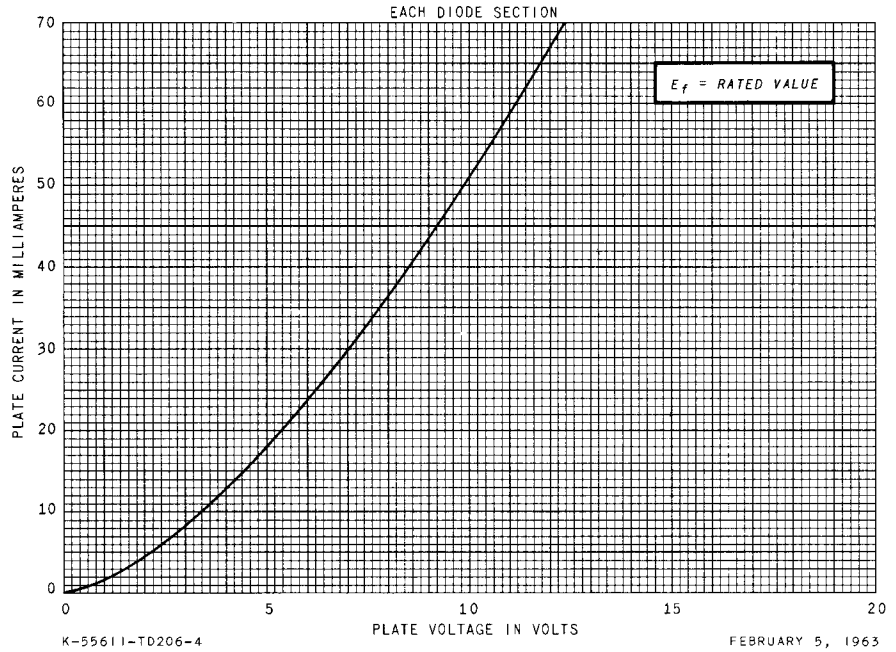
RECEIVING TUBE DEPARTMENT
GENERAL ELECTRIC
Owensboro, Kentucky