



COMPACTRON DIODE

FOR TV HIGH-VOLTAGE RECTIFIER APPLICATIONS

DESCRIPTION AND RATING

The 3AT2 is a compactron containing a heater-cathode type diode designed for use in television receivers as the high-voltage rectifier to supply power to the anode of the picture tube.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential
 Heater Characteristics and Ratings
 Heater Voltage, AC or DC* 3.15±0.32 Volts
 Heater Current† 0.22 Amperes
 Direct Interelectrode Capacitances, approximate‡
 Plate to Heater, Cathode, and
 Internal Shield: p to
 (h + k + i.s.) 1.5 pf

MECHANICAL

Operating Position - Any
 Envelope - T-9, Glass
 Base - E12-70, Button 12-Pin
 Top Cap - C1-34, Small
 Outline Drawing - EIA 9-100
 Maximum Diameter 1.188 Inches
 Maximum Over-all Length 3.625 Inches
 Maximum Seated Height 3.250 Inches
 Minimum Seated Height 3.000 Inches

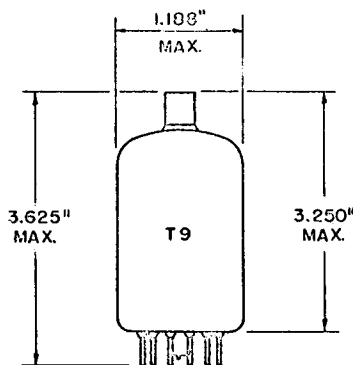
MAXIMUM RATINGS

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.

PHYSICAL DIMENSIONS

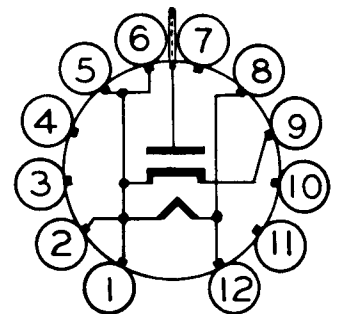


EIA 9-100

TERMINAL CONNECTIONS

- Pin 1 - Heater, Cathode, and Internal Shield
- Pin 2 - Heater, Cathode, and Internal Shield
- Pin 3 - No Connection
- Pin 4 - No Connection
- Pin 5 - Heater, Cathode, and Internal Shield
- Pin 6 - Heater, Cathode, and Internal Shield
- Pin 7 - No Connection
- Pin 8 - Heater
- Pin 9 - Heater, Cathode, and Internal Shield
- Pin 10 - No Connection
- Pin 11 - No Connection
- Pin 12 - Heater
- Top Cap - Plate

BASING DIAGRAM



EIA 12EX

MAXIMUM RATINGS (Cont'd)

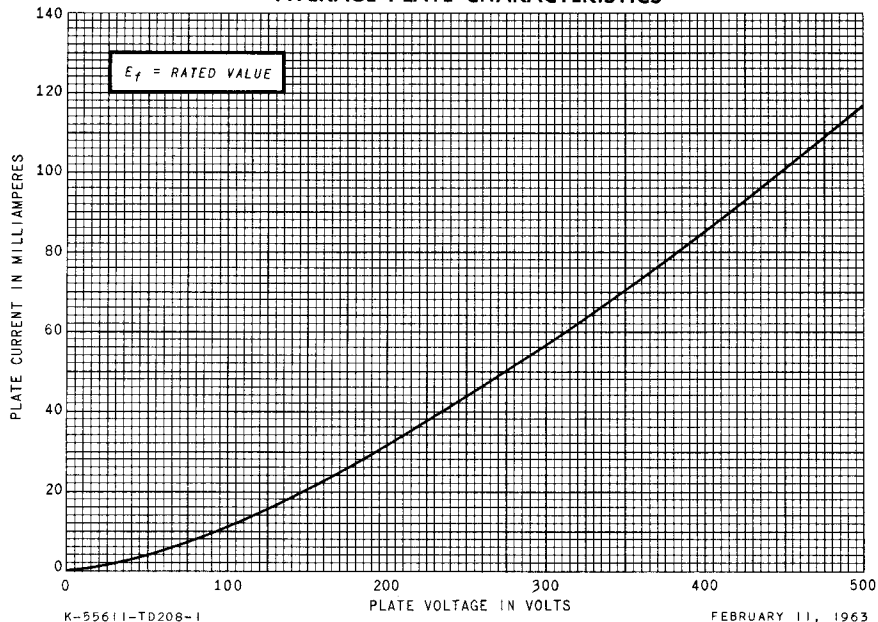
FLYBACK RECTIFIER SERVICE § DESIGN-MAXIMUM VALUES

Peak Inverse Plate Voltage	30000	Volts
Steady-State Peak Plate Current	88	Milliamperes
DC Output Current	1.7	Milliamperes

AVERAGE CHARACTERISTICS

Tube Voltage Drop, approximate	77	Volts
$I_b = 7.0$ Milliamperes		

AVERAGE PLATE CHARACTERISTICS



K-55611-TD208-1

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FOOTNOTES

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

† Heater current of a bogey tube at $E_f = 3.15$ volts.

‡ Without external shield.

§ For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

Note: The voltages employed in some television receivers and other high-voltage equipment are sufficiently high that high-voltage rectifier tubes may produce soft x-rays which can constitute a health hazard unless such tubes are adequately shielded. The need for this precaution should be considered in equipment design. Relatively simple shielding should prove adequate.

RECEIVING TUBE DEPARTMENT



Owensboro, Kentucky