

— PRODUCT INFORMATION —

6BE3

Compactron Diode

FOR TV DAMPING DIODE APPLICATIONS

- COLOR TV TYPE
- DIFFUSION BONDED CATHODE
- 5000 VOLTS DC
- 250 MILLIAMPERES DC

The 6BE3 is a compactron, single heater-cathode type diode intended for service as the damping diode in the horizontal deflection circuit of color or monochrome television receivers. The diffusion bonded cathode practically eliminates one of the major failure mechanisms in damping diodes, which is plate-to-cathode arcing caused by emissive particles being pulled from the cathode by the high electrostatic field.

GENERAL

| ELECTRICAL | MECHANICAL |
|--|--|
| <p>Cathode - Coated Unipotential</p> <p>Heater Characteristics and Ratings</p> <p>Heater Voltage, AC or DC* 6.3±0.6 Volts</p> <p>Heater Current† 1.2 Amperes</p> <p>Direct Interelectrode Capacitances, approximate‡</p> <p style="padding-left: 20px;">Cathode to Plate and Heater:</p> <p style="padding-left: 40px;">k to (p + h) 10 pf</p> <p style="padding-left: 20px;">Plate to Cathode and Heater:</p> <p style="padding-left: 40px;">p to (k + h) 8.0 pf</p> <p style="padding-left: 20px;">Heater to Cathode: (h to k). 3.4 pf</p> | <p>Operating Position - Any</p> <p>Envelope - T-9, Glass</p> <p>Base - E12-70, Button 12-Pin</p> <p>Outline Drawing - EIA 9-60</p> <p style="padding-left: 20px;">Maximum Diameter 1.188 Inches</p> <p style="padding-left: 20px;">Minimum Diameter 1.062 Inches</p> <p style="padding-left: 20px;">Maximum Over-all Length 2.875 Inches</p> <p style="padding-left: 20px;">Maximum Seated Height. 2.500 Inches</p> <p style="padding-left: 20px;">Minimum Seated Height. 2.250 Inches</p> |

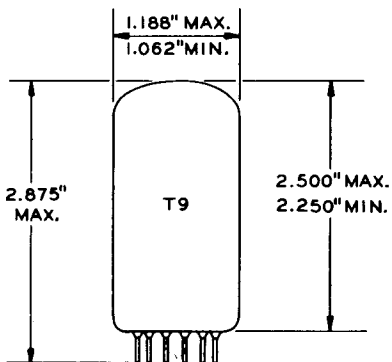
MAXIMUM RATINGS

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

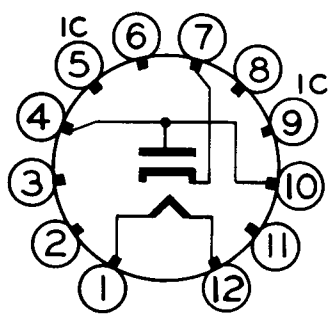


EIA 9-60

TERMINAL CONNECTIONS

- Pin 1 - Heater
- Pin 2 - No Connection
- Pin 3 - No Connection
- Pin 4 - Plate
- Pin 5 - Internal Connection - Do Not Use
- Pin 6 - No Connection
- Pin 7 - Cathode
- Pin 8 - No Connection
- Pin 9 - Internal Connection - Do Not Use
- Pin 10 - Plate
- Pin 11 - No Connection
- Pin 12 - Heater

BASING DIAGRAM



EIA 12GA



Supersedes 6BE3 D and R Sheet dated 4-63

MAXIMUM RATINGS (Cont'd)

TV DAMPER SERVICE—DESIGN-MAXIMUM VALUES

| | | |
|---|------|--------------|
| Peak Inverse Plate Voltage | 5000 | Volts |
| Plate Dissipation | 6.5 | Watts |
| Steady-State Peak Plate Current | 1200 | Milliamperes |
| DC Output Current | 225 | Milliamperes |
| Heater-Cathode Voltage | | |
| Heater Positive with Respect to Cathode | | |
| DC Component | 100 | Volts |
| Total DC and Peak | 300 | Volts |
| Heater Negative with Respect to Cathode | | |
| DC Component | 900 | Volts |
| Total DC and Peak | 5000 | Volts |

AVERAGE CHARACTERISTICS

| | | |
|--|----|-------|
| Tube Voltage Drop | | |
| I _b = 350 Milliamperes DC | 25 | Volts |

NOTES

- * 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 = 6.3 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.

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an

express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.

