The 6AY3-B is a single heater-cathode type diode designed for use as the damping diode in the horizontal-deflection circuit of television receivers.

### GENERAL

**ELECTRICAL**
- Cathode - Coated Unipotential
- Heater Characteristics and Ratings
  - Heater Voltage, AC or DC*: 6.3±0.6 Volts
  - Heater Current‡: 1.2 Amperes
- Direct Inter-electrode Capacitances, approximate§:
  - Cathode to Plate and Heater: k to (p + h): 9.0 pf
  - Plate to Cathode and Heater: p to (k + h): 6.5 pf
  - Heater to Cathode: (h to k): 2.8 pf

**MECHANICAL**
- Operating Position - Any
- Envelope - T-9, Glass
- Base - E9-89, Button 9-Pin
- Outline Drawing:
  - Maximum Diameter: 1.188 Inches
  - Minimum Diameter: 1.062 Inches
  - Maximum Over-all Length: 3.005 Inches
  - Maximum Seated Height: 2.625 Inches
  - Minimum Seated Height: 2.375 Inches

### MAXIMUM RATINGS

**TV DAMPER SERVICE®—DESIGN-MAXIMUM VALUES**
- Peak Inverse Plate Voltage: 5000 Volts
- Plate Dissipation: 6.5 Watts
- Steady-State Peak Plate Current: 1100 Milliamperes
- DC Output Current: 175 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

### PHYSICAL DIMENSIONS
- 1.188" MAX.
- 1.062" MIN.
- 3.005" MAX.
- 2.625" MAX.
- 2.375" MIN.

### TERMINAL CONNECTIONS
- Pin 1 - Internal Connection - Do Not Use
- Pin 2 - Plate
- Pin 3 - Internal Connection - Do Not Use
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Internal Connection - Do Not Use
- Pin 7 - Plate
- Pin 8 - Internal Connection - Do Not Use
- Pin 9 - Cathode

### BASING DIAGRAM

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.
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.

AVGAE CHARACTERISTICS

Tube Voltage Drop
Ib = 350 Milliamperes DC. .................................. 32 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 Ef = 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.