DIODE FOR T.V. DAMPING DIODE APPLICATIONS

Type 12B3 is an indirectly heated half-wave rectifier in a miniature envelope, intended for service as the damping diode in the horizontal deflection circuit of television receivers. It is capable of withstanding high pulse voltages between the heater and the cathode and high inverse pulse voltages between the plate and the cathode.

The 6B3 is similar to the 12B3 except the heater data.

**GENERAL DATA**

**Electrical**
- Heater for unipotential cathode
  - Voltage: 6.3 AC or DC volts
  - Current: 1.2 amp.

Direct interelectrode capacitance, approximately (without external shield):
- Heater to cathode: 2.7 μF
- Plate to cathode and heater: 5.3 μF

**Mechanical**
- Mounting position: Any
- Maximum overall length: 3 inches
- Maximum seated length: 2 3/4 inches
- Maximum diameter: 7/8 inches
- Bulb: 101/2
- Cap: Skirted Miniature (JETEC No. C1-2 or C1-33)
- Base: Small Button Novel 9 pin (JETEC No. E9-1)

**DAMPER SERVICE (1)**

**Maximum Ratings** (Design center values unless otherwise indicated)
- Peak Inverse Plate Voltage: 4400 volts
- Steady State Peak Plate Current: 750 mA
- Maximum Transient Peak Plate Current: 3.0 amp.
- Maximum D.C. Plate Current: 150 mA

**Heater-Cathode Voltage**
- Heater Positive with Respect to Cathode
  - D.C. Component: 100 volts
  - Total D.C. and Peak: 300 volts
- Heater Negative with Respect to Cathode
  - D.C. Component: 900 volts
  - Total D.C. and Peak: 4400 volts

**Average Characteristics:**
- Tube Voltage drop
  - $I_b = 250 MA$
  - 32 volts

**NOTES**

(1) 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.

(2) Value given is to be considered as an Absolute Maximum Rating. In this case, the combined effect of supply voltage variation, manufacturing variation including components in the equipment, and adjustment of equipment controls should not cause the rated value to be exceeded.

**TERMINAL CONNECTIONS**
- Pin 1 - No connection
- Pin 2 - Plate
- Pin 3 - No connection
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - No connection
- Pin 7 - Plate
- Pin 8 - No connection
- Pin 9 - Plate
- T.C. - Cathode

**BASING DIAGRAM**

![Basing Diagram](image)

**CANADIAN WESTINGHOUSE COMPANY LIMITED, ELECTRONIC TUBE DIVISION, HAMILTON, ONTARIO**

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AVERAGE PLATE CHARACTERISTICS

$E_t = \text{rated value}$

PLATE CURRENT IN MILLIAMPERES

PLATE VOLTAGE IN VOLTS