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 12B3 incorporates controlled heater warm up time for service in television receivers which employ series connected heaters.

GENERAL DATA

Electrical
Heater for unipotential cathode
Voltage 12.6 AC or DC volts
Current 0.6 amp.
Warm up time (average) 11 seconds.

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 9 3/4 inches
Maximum diameter 7/8 inches
Bulb T6 1/2
Cap Skirted Miniature (JETEC No. C1-2 or C1-33)
Base Small Button Naval 9 pin (JETEC No. E9-1)

DAMPER SERVICE

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 1b = 250MA
32 volts

NOTES

1. Heater warm-up time is defined as the time required in the circuit shown for the voltage across the heater terminals (V) to increase from zero to the heater test voltage (V1). For this type, E = 50 volts (RMS or DC), V1 = 10.0 volts (RMS or DC), and R = 63 ohms.

2. 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.

3. 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
AVERAGE PLATE CHARACTERISTICS

$E_f = \text{rated value}$

PLATE VOLTAGE IN VOLTS

PLATE CURRENT IN MILLIAMPERES