2B3

DIODE

FOR TV HIGH-VOLTAGE RECTIFIER APPLICATIONS

DESCRIPTION AND RATING

The 2B3 is a filamentary diode designed for use in television receivers as the high-voltage rectifier to supply power to the anode of the television picture tube. It is intended primarily for use in flyback types of power supplies. Primarily, the 2B3 differs from the 1B3-GT by incorporating higher filament ratings which in many cases will permit the tube to be operated directly from the flyback transformer without the use of a filament dropping resistor.

GENERAL

ELECTRICAL
Cathode—Coated Filament
Filament Voltage, AC or DC 1.75* Volts
Filament Current 0.25 Amperes
Direct Interelectrode Capacitances, approximate† Plate to Filament 1.3 μF

MECHANICAL
Mounting Position—Any
Envelope—T-9, Glass
Base—B6-8, Intermediate-Shell Octal 6-Pin or B6-60, Short Intermediate-Shell Octal 6-Pin
Top Cap—C1-34, Small

MAXIMUM RATINGS

FLYBACK RECTIFIER SERVICE§

DESIGN-MAXIMUM VALUES
Peak Inverse Plate Voltage
DC Component 22000 Volts
Total DC and Peak 27000 Volts
Steady-State Peak Plate Current 50 Milliamperes
DC Output Current 0.5 Milliamperes

Design-Maximum Ratings are the limiting values, expressed with respect to bogie tubes, at which satisfactory tube life can be expected to occur. In order to obtain satisfactory circuit performance, therefore, the equipment designer must establish the circuit design so that no design-maximum value is exceeded with a bogie tube under the worst probable operating conditions with respect to the combined effect of supply-voltage variation, equipment component variation, equipment control adjustment, load variation, and any other variation associated with the equipment or the environment of the equipment.

BASING DIAGRAM

KEY
RETMA 8HC

TERMINAL CONNECTIONS

Pin 1—Internal Connection—Do Not Use
Pin 2—Filament
Pin 3—No Connection‡
Pin 5—No Connection‡
Pin 7—Filament and Internal Shield
Pin 8—Internal Connection—Do Not Use
Cap—Plate
‡ May be used as tie point at filament potential. Do not connect to any other circuits.

PHYSICAL DIMENSIONS
**AVERAGE CHARACTERISTICS**

Tube Voltage Drop, approximate

\[ I_b = 7.0 \text{ Milliamperes DC} \]

\[ \begin{align*} & \text{..........................} \quad 0 - 100 \quad \text{Volts} \\
& \text{Without external shield.} \\
& \text{For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.} \\
& \text{Note: The voltages employed in some television receivers and other high-voltage equipment are sufficiently high that high-voltage rectifier tubes may produce soft x-rays which can constitute a health hazard unless such tubes are adequately shielded. The need for this precaution should be considered in equipment design. Relatively simple shielding should prove adequate.} \\
\end{align*} \]

**AVERAGE PLATE CHARACTERISTICS**

\[ E_f = \text{RATED VALUE} \]

**PLATE CURRENT IN MILLIAMPERES**

**PLATE VOLTAGE IN VOLTS**

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**TUBE DEPARTMENT**

**GENERAL ELECTRIC**

Schenectady 5, N. Y.