DESCRIPTION AND RATING

FOR TV HIGH-VOLTAGE RECTIFIER APPLICATIONS

The 1K3 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 primarily intended for use in flyback types of power supplies. The 1K3 is a direct replacement for the 1J3.

GENERAL

### ELECTRICAL

- Cathode—Coated Filament
- Filament Characteristics and Ratings
- Filament Voltage, AC or DC...1.25 ± 0.2 Volts
- Filament Current†.................0.2 Amperes
- Direct Inter electrode Capacitances, approximate‡:
  - Plate to Filament (p to f).............1.6 pf

### 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**

- DC Component..........................22000 Volts
- Total DC and Peak.....................26000 Volts

- Steady-State Peak Plate Current........50 Milliamperes
- DC Output Current.....................0.5 Milliamperes

**PHYSICAL DIMENSIONS**

- **TERMINAL CONNECTIONS‡**
  - Pin 1—Internal Connection
  - Pin 2—Filament
  - Pin 3—Internal Connection
  - §Pin 4—No Connection
  - Pin 5—Internal Connection
  - §Pin 6—No Connection
  - Pin 7—Filament and Internal Shield
  - Pin 8—Internal Connection
  - Cap—Plate

- ‡ Socket terminals 1, 3, 4, 5, 6, and 8 may be connected to terminal 7 or to a corona shield which connects to terminal 7. Terminals 4 and 6 may be used as tie points for components at or near filament potential.

- § Pins 4 and 6 omitted on Base Numbers B6-8 and B6-60.

**BASE 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.

Supersedes ET-T1474 dated 10-57
AVERAGE CHARACTERISTICS

Tube Voltage Drop, approximate Ib = 7.0 Milliamperes DC .................. 225 Volts

* The equipment designer should design the equipment so that filament voltage is centered at the specified bogey value, with filament supply variations restricted to maintain filament voltage within the specified tolerance.
† Filament current of a bogey tube at Ef = 1.25 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.

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.

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.

AVERAGE PLATE CHARACTERISTICS

Plate Current in Milliamperes

Plate Voltage in Volts

Ef = RATED VALUE

RECEIVING TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky