



TUBES

Diode

6DK3

FOR TV DAMPING DIODE APPLICATIONS

- COLOR TV TYPE
- LOW TUBE DROP
- 6,500 VOLTS DC AND PEAK
- 400 MILLIAMPERES DC

The 6DK3 is a heater-cathode type diode intended for service as the damping diode in the horizontal-deflection circuit of color television receivers. It utilizes a unique heater-cathode insulating system making possible a rating of 6,500 volts peak. The 6DK3 also features a top cap connection to the cathode, a T-9 bulb and a 9-pin glass button base with a 0.687-inch pin circle.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential
 Heater Characteristics and Ratings
 Heater Voltage, AC or DC* 6.3±0.6 Volts
 Heater Current • 1.8 Amperes
 Direct Interelectrode Capacitances, approximate ▲
 Cathode to Plate and Heater: k to (p + h) 22 pf
 Plate to Cathode and Heater: p to (k + h) 13.6 pf
 Heater to Cathode: (h to k) 1.10 pf

MECHANICAL

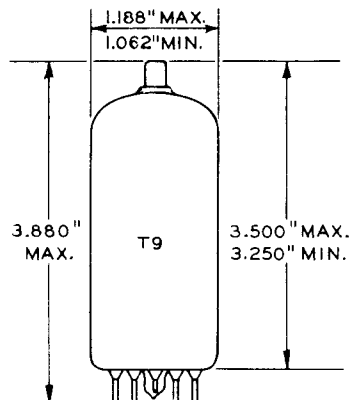
Operating Position - Any
 Envelope - T-9, Glass
 Base - E9-89, Button 9-Pin
 Top Cap - C1-2, Skirted Miniature
 Outline Drawing - EIA 9-117
 Maximum Diameter 1.188 Inches
 Minimum Diameter 1.062 Inches
 Maximum Over-all Length 3.880 Inches
 Maximum Seated Height 3.500 Inches
 Minimum Seated Height 3.250 Inches

MAXIMUM RATINGS

TV DAMPER SERVICE[†]—DESIGN-MAXIMUM VALUES

Peak Inverse Plate Voltage	6,500	Volts
Plate Dissipation	9.0	Watts
Steady-State Peak Plate Current	1,200	Milliamperes
DC Output Current	400	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	6,500	Volts
Bulb Temperature [‡]	220	°C

PHYSICAL DIMENSIONS

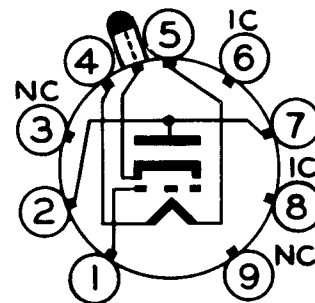


EIA 9-117

TERMINAL CONNECTIONS §

- Pin 1 - Heater Insulation Coil
- Pin 2 - Plate
- Pin 3 - No Connection
- 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 - No Connection
- Cap - Cathode

BASING DIAGRAM



EIA 9SG

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.

AVERAGE CHARACTERISTICS

Tube Voltage Drop

lb = 400 Milliampères	16	Volts
lb = 800 Milliampères	25	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 at $E_f = 6.3$ volts.
- ▲ Without external shield.
- ◆ For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Con-

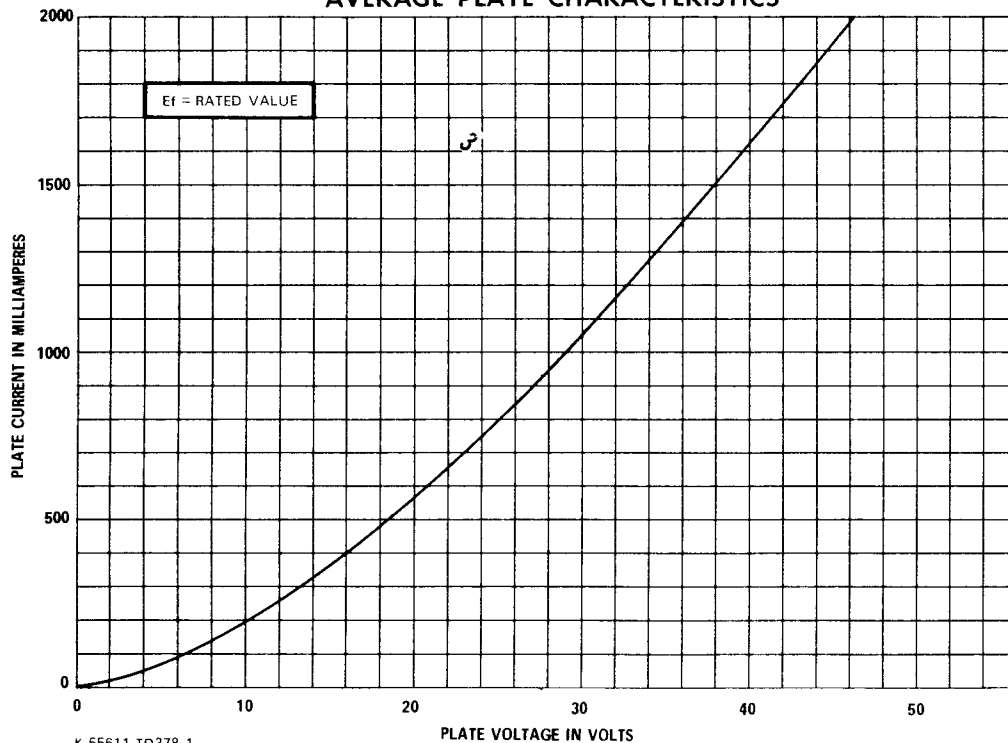
cerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

- ⊕ Measured with an infrared thermometer, Ircon Model 700 BC or equivalent
- § May be used as a tie point for components at or near heater potential.

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.

AVERAGE PLATE CHARACTERISTICS



K-55611-TD378-1



**TUBE PRODUCTS DEPARTMENT
OWENSBORO, KENTUCKY 42301**