Diode

FOR TV DAMPING DIODE APPLICATIONS

• COLOR TV TYPE
• DIFFUSION BONDED CATHODE
• LOW TUBE DROP
• 5000 VOLS DC
• 350 MILLIAMPERES DC

The 6CJ3 is a single heater-cathode type diode intended for service as the damping diode in the horizontal-deflection circuit of color television receivers. It utilizes a T-9 bulb and features a 9-pin glass button base with a 0.687-inch pin circle.

The diffusion bonded cathode practically eliminates one of the major failure mechanisms in damping diodes, which is plate-to-cathode arcing caused by emissive particles being pulled from the cathode by the high electrostatic field.

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) . . . . . . . . 16 pf
  Plate to Cathode and Heater:  
    p to (k + h) . . . . . . . . 13 pf
  Heater to Cathode:  
    (h to k) . . . . . . . . 4.0 pf

MECHANICAL

Operating Position - Any
Envelope - T-9, Glass
Base - E9-89, Button 9-Pin
Outline Drawing - EIA 9-111
  Maximum Diameter . . . . . . 1.188 Inches
  Minimum Diameter . . . . . . 1.062 Inches
  Maximum Over-all Length . . . 3.380 Inches
  Maximum Seated Height . . . . 3.000 Inches
  Minimum Seated Height . . . . 2.750 Inches

MAXIMUM RATINGS

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.

PHYSICAL DIMENSIONS

TERMINAL CONNECTIONS

Pin 1 - Internal Connection - Do Not Use
Pin 2 - Plate
Pin 3 - Internal Connection - Do Not Use
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 - Cathode

BASING DIAGRAM

EIA 9-111

EIA 9HP

GENERAL ELECTRIC
Supersedes 6CJ3 PI Sheet dated 5-66
MAXIMUM RATINGS (Cont’d)

TV DAMPER SERVICE—DESIGN-MAXIMUM VALUES

Peak Inverse Plate Voltage ........................................... 5500 Volts
Plate Dissipation ......................................................... 6.5 Watts
Steady-State Peak Plate Current ..................................... 2100 Milliamperes
DC Output Current ....................................................... 350 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 ...................................................... 5500 Volts

AVERAGE CHARACTERISTICS

Tube Voltage Drop
Ib = 700 Milliamperes ................................................. 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 tube at Ef = 6.3 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.

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