ELECTRONIC INNOVATIONS IN ACTION

TUBES

Diode

6CJ3

FOR TV DAMPING DIODE APPLICATIONS

- COLOR TV TYPE
- DIFFUSION BONDED CATHODE
- LOW TUBE DROP
- 5000 VOLTS 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

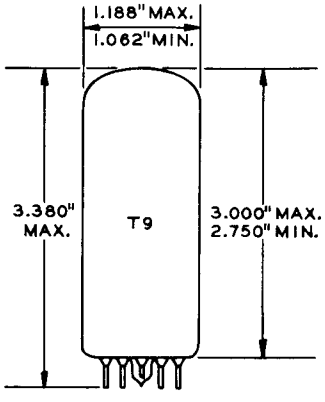
MAXIMUM RATINGS

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

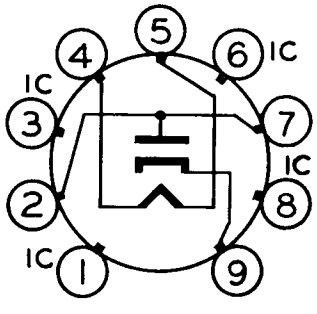


EIA 9-111

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 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

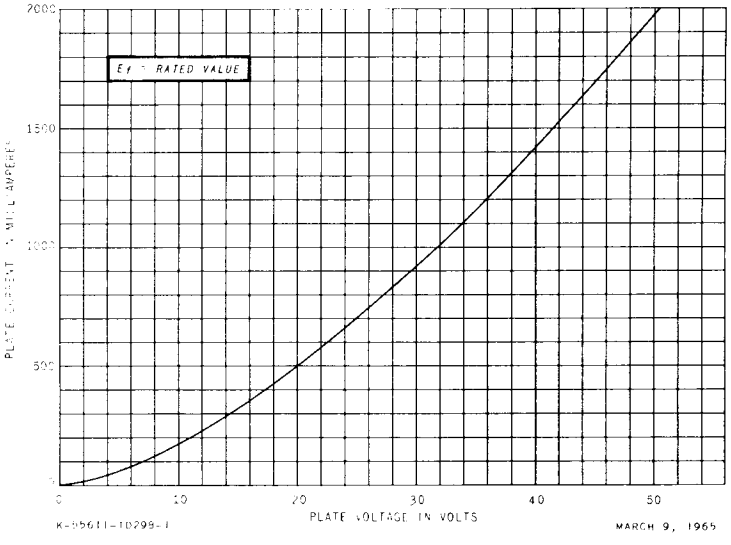
* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

‡ 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.

AVERAGE PLATE CHARACTERISTICS



TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky