# —PRODUCT INFORMATION—



# Compactron Diode

**6CG3**

## FOR TV DAMPING DIODE APPLICATIONS

- **COLOR TV TYPE**
- **LOW TUBE DROP**
- **DIFFUSION BONDED CATHODE**
- **5000 VOLTS DC**
- **350 MILLIAMPERES DC**

The 6CG3 is a compactron containing a single heater-cathode type diode. It is intended for service as the damping diode in the horizontal deflection circuit of color television receivers.

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§

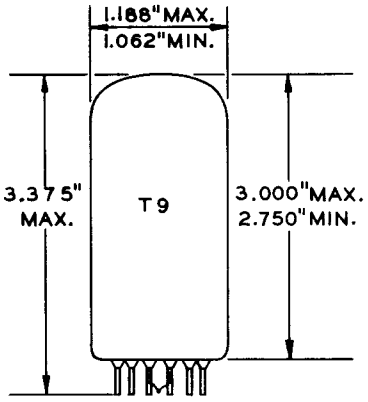
| | | |
|---|---|---|
| Cathode to Plate and Heater: | | |
| k to (p + h) | 16 | pf |
| Plate to Cathode and Heater: | | |
| p to (k + h) | 13 | pf |
| Heater to Cathode: | | |
| (h to k) | 4.0 | pf |

### MECHANICAL

Operating Position - Any
Envelope - T-9, Glass
Base - E12-70, Button 12-Pin
Outline Drawing - EIA 9-62

| | | |
|---|---|---|
| Maximum Diameter | 1.188 | Inches |
| Minimum Diameter | 1.062 | Inches |
| Maximum Over-all Length | 3.375 | Inches |
| Maximum Seated Height | 3.000 | Inches |
| Minimum Seated Height | 2.750 | Inches |

### PHYSICAL DIMENSIONS

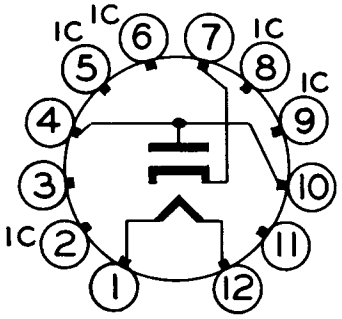



EIA 9-62

### TERMINAL CONNECTIONS

Pin 1 - Heater
Pin 2 - Internal Connection - Do Not Use
Pin 3 - No Connection
Pin 4 - Plate
Pin 5 - Internal Connection - Do Not Use
Pin 6 - Internal Connection - Do Not Use
Pin 7 - Cathode
Pin 8 - Internal Connection - Do Not Use
Pin 9 - Internal Connection - Do Not Use
Pin 10 - Plate
Pin 11 - No Connection
Pin 12 - Heater

### BASING DIAGRAM




EIA 12HF

# MAXIMUM RATINGS

## TV DAMPER SERVICE¶—DESIGN-MAXIMUM VALUES

| | | |
|---|---|---|
| Peak Inverse Plate Voltage | 5000 | Volts |
| Plate Dissipation | 9.0 | Watts |
| Steady-State Peak Plate Current | 1050 | 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 | 5000 | Volts |

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 | | |
| Ib = 700 Milliamperes DC | 25 | Volts |

# NOTES

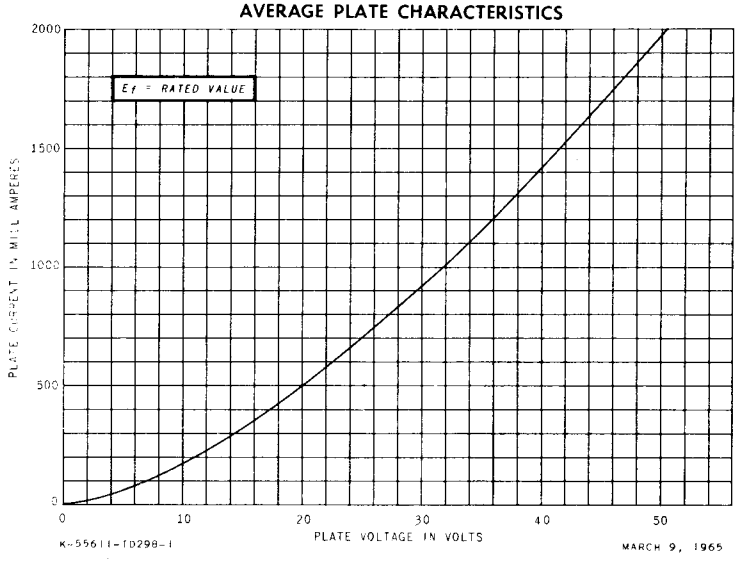
* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

‡ 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

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