ELECTRONICS

12BT3

COMPACTRON DIODE

FOR TV DAMPING DIODE APPLICATIONS

DESCRIPTION AND RATING

The 12BT3 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 television receivers.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC*	12.6	Volts
Heater Current†	0.45±0.03	Amperes
Direct Interelectrode Capacitances, approximate‡		
Cathode to Plate and Heater:		
k to (p + h)	8.5	pf
Plate to Cathode and Heater:		
p to (k + h)	7.0	pf
Heater to Cathode: (h to k)	2.7	pf

MECHANICAL

Operating Position - Any
Envelope - T-9, Glass
Base - E12-70, Button 12-Pin
Outline Drawing - EIA 9-59

Maximum Diameter	1.188	Inches
Maximum Over-all Length	2.625	Inches
Maximum Seated Height	2.250	Inches

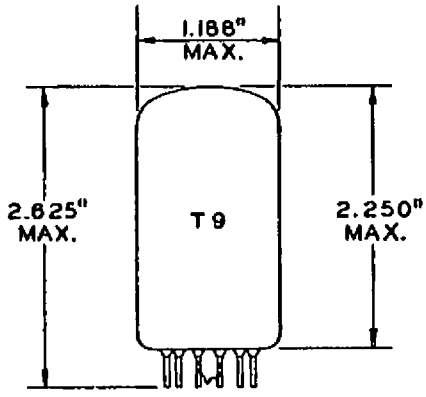
MAXIMUM RATINGS

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

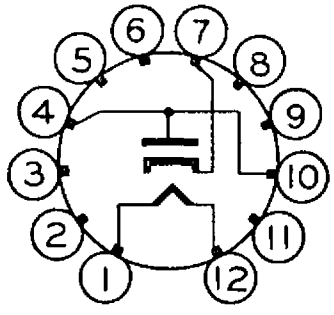


EIA 9-59

TERMINAL CONNECTIONS

Pin 1 - Heater
Pin 2 - No Connection
Pin 3 - No Connection
Pin 4 - Plate
§Pin 5 - No Connection
§Pin 6 - No Connection
Pin 7 - Cathode
§Pin 8 - No Connection
§Pin 9 - No Connection
Pin 10 - Plate
Pin 11 - No Connection
Pin 12 - Heater

BASING DIAGRAM



EIA 12BL

GENERAL ELECTRIC

from JEDEC release #4213, April 8, 1963

MAXIMUM RATINGS (Cont'd)

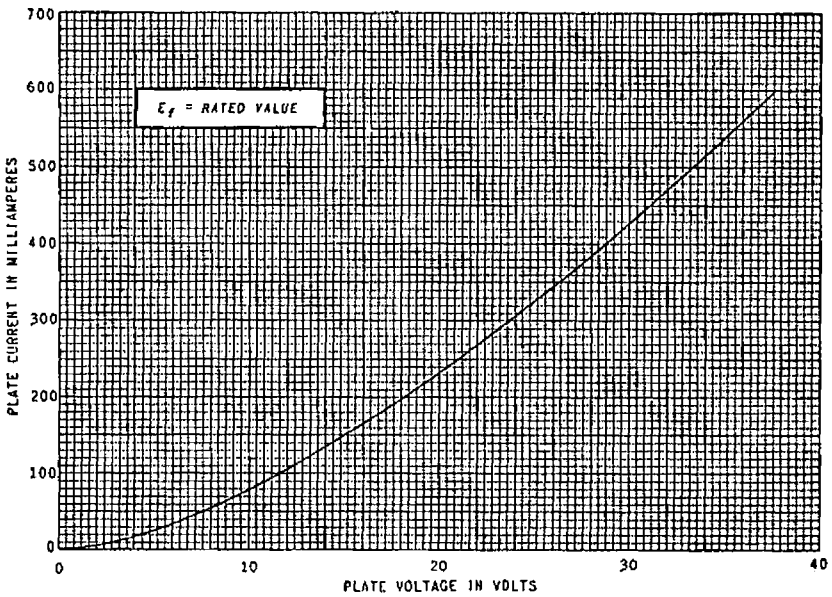
TV DAMPER SERVICE—DESIGN-MAXIMUM VALUES ¶

Peak Inverse Plate Voltage	3300	Volts
Plate Dissipation	5.3	Watts
Steady-State Peak Plate Current	1000	Milliamperes
DC Output Current	165	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	600	Volts
Total DC and Peak	3300	Volts

AVERAGE CHARACTERISTICS

Tube Voltage Drop		
Ib = 250 Milliamperes DC	21	Volts

AVERAGE PLATE CHARACTERISTICS



FOOTNOTES

* Heater voltage for a bogey tube at If = 0.45 amperes.

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

‡ Without external shield.

§ Socket terminals 5, 6, 8, and 9 should not be used as tie points.

¶ 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.

RECEIVING TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky