

TELEVISION DAMPING DIODE TYPE 6BE3, 12BE3 AND 17BE3

The 6BE3, 12BE3 and 17BE3 are 12-pin button based indirectly-heated half-wave rectifiers designed for television damping diode service in horizontal deflection circuits.

The 12BE3 and 17BE3 have been designed for use in receivers which employ series connected heaters, especially in television receivers where the picture-tube heater is in series with other heaters. When each is employed in this type of circuit with other tubes similarly designed having the same heater current rating, heater voltage surges across individual tubes are minimized inasmuch as heater warm-up characteristic is controlled.

ELECTRICAL

Cathode.....	Coated Unipotential		
Heater:	6BE3	12BE3	17BE3
Voltage (ac or dc) ..	6.3 ± 0.6	12.6	16.8
Current	1.2	0.60 ± 0.04	0.45 ± 0.03
Warm-Up Time (Note 1) ..	—	11	11
			Volts
			Ampere
			Seconds

Direct Interelectrode Capacitances:

Heater to Cathode	3.4 pf
Plate to Cathode and Heater.	8.0 pf
Cathode to Plate and Heater.	10 pf

MECHANICAL

Bulb	Glass, T-9
Base	EIA E12-70
Basing	EIA 12 GA
Mounting Position	Any

DAMPER SERVICE (Note 2)

MAXIMUM RATINGS

Design Maximum Values (Note 3)

Peak Inverse Voltage	5000	max.	Volts
Peak Plate Current	1200	max.	Ma.
DC Plate Current	200	max.	Ma.

Heater-Cathode Voltage:

Heater Negative with Respect to Cathode:		
DC Component	900	max. Volts
Total DC and Peak	5000	max. Volts
Heater Positive with Respect to Cathode:		
DC Component	100	max. Volts
Total DC and Peak	300	max. Volts
Plate Dissipation	6.5	max. Watts

CHARACTERISTIC

Voltage Drop at $I_b = 350 \text{ mA}$ 25 Volts

NOTES

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times rated heater voltage divided by rated heater current.
2. For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcasting Stations, Federal Communications Commission". The duty of the horizontal voltage pulse not to exceed 15% of one scanning cycle. In a 525 line, 30 frame system, 15% of one horizontal scanning cycle is 10 microseconds.
3. 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.



