

Half-Wave Vacuum Rectifier

GENERAL DATA

Electrical:

Filament, Coated:

	Min.	Av.	Max.	
Voltage (AC)	1.05	1.25	1.45	volts
Current at 1.25 volts	-	0.2	-	amp
Direct Interelectrode Capacitance (Approx.): ^a				
Plate to filament & internal shield		1.3		μmf

Mechanical:

Operating Position	Any
Maximum Overall Length	4-1/16"
Seated Length	3-1/8" to 3-1/2"
Maximum Diameter	1-9/32"
Bulb	T9
Cap	Small with Tubular Support (JEDEC No.C1-34)

Bases (Alternates):

Intermediate-Shell Octal:

8-Pin (JEDEC Group 1, No.B8-6)

7-Pin, Arrangement 2 (JEDEC Group 1, No.B7-166)

6-Pin, Arrangement 1 (JEDEC Group 1, No.B6-8)

5-Pin, Arrangement 2 (JEDEC Group 1, No.B5-82)

Intermediate-Shell Octal with External Barriers:

6-Pin, Arrangement 1 (JEDEC Group 1, No.B6-144)

Short Intermediate-Shell Octal with External Barriers:

8-Pin (JEDEC Group 1, No.B8-58)

7-Pin, Arrangement 2 (JEDEC Group 1, No.B7-211)

6-Pin, Arrangement 1 (JEDEC Group 1, No.B6-60)

Basing Designation for BOTTOM VIEW3C

Pin 1^b - Limited Con-
section^c

Pin 2 - Filament

Pin 3 - Same as
Pin 1

Pin 4^b - Same as
Pin 1

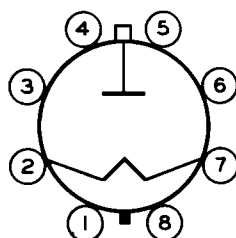
Pin 5 - Same as
Pin 1

Pin 6^b - Same as
Pin 1

Pin 7 - Filament,
Internal
Shield

Pin 8 - Same as
Pin 1

Cap - Plate



PULSED-RECTIFIER SERVICE

Maximum Ratings, Design-Maximum Values:

For operation in a 525-line, 30-frame system^d

INVERSE PLATE VOLTAGE:

Total dc and peak ^e	26000 max.	volts
DC	22000 max.	volts
PEAK PLATE CURRENT	50 max.	ma
AVERAGE PLATE CURRENT	0.5 max.	ma

← Indicates a change.



1B3GT

Characteristics, Instantaneous Value:

Tube Voltage Drop for plate ma. = 7. . . . 100 volts

→ RADIO-FREQUENCY RECTIFIER SERVICE

Maximum Ratings, Design-Maximum Values:

For operation in a 525-line, 30-frame system^d

PEAK INVERSE PLATE VOLTAGE	33000 max.	volts
PEAK PLATE CURRENT	35 max.	ma
AVERAGE PLATE CURRENT.	1.1 max.	ma
FREQUENCY RANGE OF SUPPLY VOLTAGE.	1.5 to 100	kc

Characteristics, Instantaneous Value:

Tube Voltage Drop for plate ma = 7 100 volts

^a Without external shield.

^b On the 7-pin bases, pin 4 is omitted.

On the 6-pin bases, pin 6 as well as pin 4 is omitted.

On the 5-pin base, pins 1 and 6 as well as pin 4 are omitted.

^c See *Operating Considerations*.

^d As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

^e This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.

OPERATING CONSIDERATIONS

Socket Connections. Socket terminals 1,3,4,5,6, and 8 may be connected to socket terminal 7 or to a corona shield which is connected to socket terminal 7. Socket terminals 4 and 6 may be used as tie points for components at or near filament potential. Otherwise, do not use.

Measurement of Filament Voltage. To measure the filament voltage when the filament is at a high dc potential with respect to ground, it is recommended that a simple method utilizing visual comparison of the filament temperature be used. The color temperature of the filament, operating from a pulse- or rf-power source, may be checked by observing in a darkened room the reflection of the incandescent filament upon the surface of the internal shield. A visual comparison of this color temperature with that obtained when the filament of another 1B3GT is operated from a dc or low-frequency ac supply of 1.25 volts, provides a convenient means for adjusting the amount of excitation to produce 1.25 volts (rms) at the filament terminals.

The high voltages at which the 1B3GT is operated are very dangerous. Great care should be taken in the design of apparatus to prevent the operator from coming in contact with these high voltages. Particular care against fatal shock should be taken in the measurement of filament voltage. Under all circumstances, circuit parts which may be at high potentials should be enclosed or adequately insulated.

→ Indicates a change.

X rays. The voltages employed in some television receivers and other high-voltage equipment are sufficiently high that high-voltage rectifier tubes may produce *X rays* which can constitute a health hazard unless such tubes are adequately shielded. Relatively simple shielding should prove adequate, but the need for this precaution should be considered in equipment design.

