3A2

HALF-WAVE VACUUM RECTIFIER

9-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:		
Voltage	3.15	ac volts
Current	0.22	amp
Direct Interelectrode Capacitance (Approx.):*		
Plate to heater, cathode, and internal shield	1.0	μμf

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-13/16"
Seated Length	2-7/16" ± 1/8"
Maximum Diameter	7/8"
Bulb	T-6-1/2
Cap	Skirted Miniature (JETEC No.C1-33)
Base	Small-Button Noval 9-Pin (JETEC No.E9-1)
Basing Designation for BOTTOM VIEW	9DT

Pin 1 - Heater, Cathode, Int. Shield
Pin 2 - Heater
Pin 3 - No Connection-Do Not Use
Pin 4 - Heater, Cathode, Int. Shield
Pin 5 - Heater

Pin 6 - Heater, Cathode, Int. Shield
Pin 7 - No Connection-Do Not Use
Pin 8 - Heater
Pin 9 - Heater, Cathode, Int. Shield

PULSED-RECTIFIER SERVICE

Maximum Ratings, *Design-Center Values:*

*For operation in a 525-line, 30-frame system***

PEAK INVERSE PLATE VOLTAGE	18000 max.	volts
PEAK PLATE CURRENT	80 max.	ma
AVERAGE PLATE CURRENT	1.5 max.	ma

* With no external shield.

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

OPERATING NOTES

Measurement of Heater Voltage. To measure the heater voltage when the heater is at a high dc potential with respect to ground, it is recommended that a voltmeter of the thermocouple type calibrated in rms volts be used. The meter and its leads must be insulated to withstand the dc output voltage. In some circuit designs, particularly in voltage-multiplier circuits where the heater

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of a rectifier tube may be at a high ac potential with respect to ground, measurement of the heater voltage of this tube with a thermocouple meter is not practical because the capacitances of the meter and the meter leads will load the circuit and affect circuit operation. Therefore, a simple method utilizing visual comparison of heater temperatures can be used for adjustment of heater power. The color temperature of the heater operating from a pulse-operated power source may be checked visually by observing in a darkened room the reflection of the incandescent heater upon the surface of the internal shield. A visual comparison of this color temperature with that obtained when the heater of another 3A2 is operated from a dc or low-frequency ac supply of 3.15 volts, provides a convenient means for adjusting the heater voltage to the proper rms value.

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.