3AT2

Half-Wave Vacuum Rectifier

DUODECAR TYPE

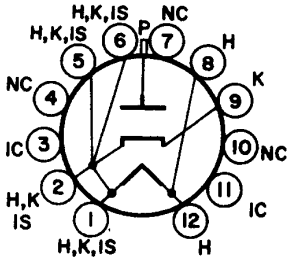
Electrical:

Heater Characteristics and Ratings:		
Voltage (AC or DC)	3.15 ± 0.32	volts
Current at heater volts = 3.15	0.220	amp
Direct Interelectrode Capacitance (Approx.):[a]		
P to (K+IS+H)	1.5	pf

Mechanical:

Operating Position	Any
Type of Cathode	Coated Unipotential
Maximum Overall Length	3.625"
Seated Length	3.000" to 3.250"
Diameter	1.062" to 1.188"
Dimensional Outline	See *General Section*
Bulb	T9
Cap	Small (JEDEC No.C1-1) or Small With Tubular Support (JEDEC No.C1-34)
Base	Small-Button Duodecar 12-Pin (JEDEC No.E12-70)
Basing Designation for BOTTOM VIEW	12FV

Pin 1 – Heater, Cathode, Internal Shield
Pin 2 – Same as Pin 1
Pin 3 – *Do Not Use*
Pin 4 – No Internal Connection
Pin 5 – Same as Pin 1
Pin 6 – Same as Pin 1
Pin 7 – Same as Pin 4
Pin 8 – Heater
Pin 9 – Same as Pin 1
Pin 10 – Same as Pin 4
Pin 11 – *Do Not Use*
Pin 12 – Heater
Cap – Plate



PULSED-RECTIFIER SERVICE

Maximum Ratings, *Design-Maximum Values:*

For operation in a 525-line, 30-frame system[b]

Peak Inverse Plate Voltage[c]	30000 max.	volts
Peak Plate Current	88 max.	ma
Average Plate Current	1.7 max.	ma

[a] Without external shield.

[b] As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

[c] This rating is applicable when 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

The high voltages at which the 3AT2 is operated are very dangerous. Great care should be taken in the design of equipment to prevent the operator from coming in contact with these high voltages. Particular care against fatal shock should be taken in the measurement of heater voltage. Under all circumstances, circuit parts which may be at high potentials should be enclosed or adequately insulated.

X-radiation. The voltages employed in some television receivers and other high-voltage equipment are sufficiently high that high-voltage rectifier tubes may produce *X-radiation* 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.