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 equip-
ment 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 circum-
stances, 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.