3DF3

HALF-WAVE VACUUM RECTIFIER

Glass octal types used as a high-voltage rectifier to supply power to the anode of the picture tube in television receivers. Outlines section, 14G and 14H, respectively; requires octal socket. Socket terminals 1 and 7 may be used as tie points for components at or near heater potential. For high-voltage and X-ray safety considerations, refer to page 93. Heater: volts (ac/dc), 3.15; amperes, 0.48.

Flyback Rectifier

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

**MAXIMUM RATINGS** (Design-Maximum Values)

- Peak Inverse Plate Voltage\(^*\)   \[38000\] volts
- Peak Plate Current           \[110\] mA
- Average Plate Current        \[2.2\] mA
- Heater Voltage:
  - Absolute maximum value    \[3.65\] volts
  - Absolute minimum value    \[2.65\] volts

**CHARACTERISTIC, instantaneous Value**

- Tube Voltage Drop for plate current of 7 mA \[60\] volts

**X-RADIATION CHARACTERISTIC**

X-Radiation, Maximum:

- Statistical value controlled on a lot sampling basis  \[25\] mR/hr
- The dc component must not exceed 30000 volts.
- Caution—Operation of this tube outside of the maximum values indicated above may result in either temporary or permanent changes in the X-radiation characteristic of the tube. Equipment design must be such that these maximum values are not exceeded.

3DG4

FULL-WAVE VACUUM RECTIFIER

Glass octal type used in power supplies of color and black-and-white television receivers and other equipment having high dc requirements. Outlines section, 19E; requires octal socket. It is especially important that this tube, like other power-handling tubes, be adequately ventilated. For discussion of Rating Chart, refer to Interpretation of Tube Data. Filament: volts (ac/dc), 3.3; amperes, 3.8.

**Full-Wave Rectifier**

**MAXIMUM RATINGS** (Design-Maximum Values)

- Peak Inverse Plate Voltage                \[1050\] volts
- Peak Plate Current (Per Plate)            \[1.2\] amperes
- Hot-Switching Transient Plate Current (Per Plate) \[6.5\] amperes
- AC Plate Supply Voltage (Per Plate, rms)  See Rating Chart
- DC Output Current (Per Plate)              See Rating Chart
- Bulb Temperature (At hottest point on bulb surface) \[200\] °C

**TYPICAL OPERATION WITH CAPACITOR INPUT TO FILTER**

- AC Plate-to-Plate Supply Voltage (rms) \[550\] volts
- Filter-Input Capacitor\(^*\) \[40\] \(\mu\)F
- Effective Plate-Supply Impedance per Plate \[32\] ohms
- DC Output Voltage at Input to Filter (Approx.):
  - At full-load current of 350 mA \[300\] volts

**CHARACTERISTICS**

- Tube Voltage Drop for plate current of 350 mA (per plate) \[25\] volts
- * Higher values of capacitance than indicated may be used, but the effective plate-supply impedance may have to be increased to prevent exceeding the maximum peak-plate-current rating.
For replacement use type 3DA3/3DH3.

**HALF-WAVE VACUUM RECTIFIER**

Glass octal type used as a high-voltage rectifier to supply power to the anode of the picture tube in color television receivers. Outlines section, 14H; requires octal socket. Socket terminals 4 and 6 may be used as tie points for components at or near heater potential. For high-voltage and X-ray safety considerations, refer to page 93. **Heater:** volts (ac/dc), 3.15; ampere, 0.3.

**Flyback Rectifier**

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

**MAXIMUM RATINGS** (Design-Maximum Values)

Peak Inverse Plate Voltage# ......................................................... 38000 volts
Peak Plate Voltage ................................................................. 100 mA
Average Plate Current .............................................................. 2 mA
Heater Voltage:
Absolute maximum value ....................................................... 3.65 volts
Absolute-minimum value ........................................................... 2.65 volts

**CHARACTERISTIC, Instantaneous Value**

Tube Voltage Drop for plate current of 7 mA .................................. 70 volts

**X-RADIATION CHARACTERISTIC**

X-Radiation, maximum:
Statistical value controlled on a lot sampling basis .................. 25 mR/hr

# Pulse duration must not exceed 15% of a horizontal scanning cycle.

\* The dc component must not exceed 30000 volts.

Caution—Operation of this tube outside of the maximum values indicated above may result in either temporary or permanent changes in the X-radiation characteristic of the tube. Equipment design must be such that these maximum values are not exceeded.

Refer to type 6DK6.
Refer to chart at end of section.

Refer to type 6DT6A.
Refer to chart at end of section.
For replacement use type 3DT6A.

Refer to type 6DT6A.
Refer to chart at end of section.
For replacement use type 3AF4A/3DZ4.

Refer to chart at end of section.
For replacement use type 3EH7/XF183.
3EH7/XF183
Refer to type 6EH7/EF183.
3EJ7
Refer to chart at end of section.
3EJ7/XF184
Refer to type 6EJ7/EF184.
3ER5
Refer to type 6ER5.
3FH5
Refer to chart at end of section.
3FS5
Refer to type 6FS5.
3GK5
Refer to type 6GK5.
3GS8
Refer to chart at end of section.
For replacement use type 3BU8/3GS8.
3GS8/3BU8
Refer to chart at end of section.
3HA5
Refer to chart at end of section.
For replacement use type 3HM5/3HA5.
3HM5/3HA5
Refer to type 6HM5/6HA5.
3HQ5
Refer to type 6HQ5.
3HS8
Refer to chart at end of section.
3JC6
Refer to chart at end of section.
3JC6A
Refer to type 6JC6A.
3JD6
Refer to type 6JD6.
3KT6
Refer to type 6KT6.
3LF4
Refer to chart at end of section.
3Q4
Refer to chart at end of section.
3Q5GT
Refer to chart at end of section.
3S4
Refer to chart at end of section.
3V4
Refer to chart at end of section.
4AU6
Refer to type 6AU6A.
4AV6
Refer to type 6AV6.
4BC5
Refer to chart at end of section.
4BC8
Refer to type 6BC8.
4BL8
Refer to chart at end of section.
4BL8/XCF80
Refer to type 6BL8/ECF80.
4BN6
Refer to type 6BN6.
4BQ7A
For replacement use type 4BQ7A/4BZ7.
Refer to type 6BQ7A/6BZ7/6BS8.
Refer to chart at end of section.
Refer to chart at end of section.
Refer to type 6BU8.
Refer to type 6BZ6.
Refer to chart at end of section.
For replacement use type 4BQ7A/4BZ7.
Refer to type 6CB6A.
Refer to type 6CS6.
Refer to chart at end of section.
Refer to type 6DE6.
Refer to type 6DK6.
Refer to chart at end of section.
Refer to type 6DT6A.
Refer to chart at end of section.
Refer to type 6EH7/EF183.
Refer to chart at end of section.
Refer to type 6EJ7/EF184.
Refer to chart at end of section.
Refer to chart at end of section.
For replacement use type 4KN8.
Refer to chart at end of section.
For replacement use type 4LU6.
Refer to type 6GK5.
Refer to type 6GJ7/ECF801.
Refer to chart at end of section.
Refer to chart at end of section.
For replacement use type 4BU8/4GS8.
Refer to chart at end of section.
Refer to chart at end of section.
Refer to chart at end of section.
For replacement use type 4HM5/4HA5.
Refer to chart at end of section.
For replacement use type 4HM5/4HA5.
Refer to chart at end of section.
Refer to chart at end of section.