THE 6AF3 IS A SINGLE INDIRECTLY-HEATED DIODE INTENDED FOR USE IN HORIZONTAL FREQUENCY DAMPER SERVICE TELEVISION RECEIVERS. IT IS DESIGNED TO WITHSTAND HIGH VOLTAGE PULSES OF LINE FREQUENCY BETWEEN CATHODE AND BOTH HEATER AND PLATE ELEMENTS SUCH AS NORMALLY ENCOUNTERED IN "DIRECT DRIVE" CIRCUITS.

**DIRECT INTERELECTRODE CAPACITANCES - APPROX.**

<table>
<thead>
<tr>
<th>Capacitance</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater to cathode H to K</td>
<td>2.8 μF</td>
</tr>
<tr>
<td>Cathode to plate and heater K to (P + H)</td>
<td>9.0 μF</td>
</tr>
<tr>
<td>Plate to cathode and heater P to (K + H)</td>
<td>6.0 μF</td>
</tr>
</tbody>
</table>

**RATINGS**

**HEATER VOLTAGE**

Maximum heater-cathode voltage:
- Heater negative with respect to cathode: 1000 volts
- Heater positive with respect to cathode: 4500 volts

Maximum dc plate current: 185 ma.
Maximum steady state peak plate current: 750 ma.
Maximum plate dissipation: 6.0 watts
Maximum bulb temperature: 210 °C
AVERAGE CHARACTERISTICS

TUBE VOLTAGE DROP
(WITH TUBE CONDUCTING PLATE CURRENT \( = 340 \text{ mA} \))

30 VOLTS

*HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

**FOR OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE FOR TELEVISION BROADCAST STATIONS: FEDERAL COMMUNICATIONS COMMISSION", THE CUTOFF CYCLE OF THE VOLTAGE PULSE MUST NOT EXCEED 15% OF ONE SCANNING CYCLE.

*UNLESS OTHERWISE STATED.

**DESIGN-MAXIMUM RATINGS ARE THE LIMITING VALUES EXPRESSED WITH RESPECT TO DOGIE TUBES AT WHICH SATISFACTORY TUBE LIFE CAN BE EXPECTED TO OCCUR. TO OBTAIN SATISFACTORY CIRCUIT PERFORMANCE, THEREFORE, THE EQUIPMENT DESIGNER MUST ENSURE THAT THE CIRCUIT DESIGN SO THAT NO DESIGN-MAXIMUM VALUE IS EXCEEDED WITH A DOGIE TUBE UNDER THE MOST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, AND ENVIRONMENTAL CONDITIONS.