THE 6012 IS A NEGATIVE CONTROL, XENON FILLED, FOUR ELECTRODE THYRATRON DESIGNED FOR USE IN RELAY AND GRID CONTROLLED RECTIFIER APPLICATIONS. ONE TYPE 6012 WILL CARRY 0.5 AMPERE IN MOTOR-CONTROL AND IN INVERTER SERVICE. USE OF THE SHIELD-GRID TYPE OF CONSTRUCTION PERMITS A VERY LOW PRE-CONDUCTION CONTROL GRID CURRENT TO FLOW. THIS PERMITS THE USE OF A HIGH RESISTANCE IN THE CONTROL GRID CIRCUIT. THE GRID CONTROL CHARACTERISTIC IS INDEPENDENT OF AMBIENT TEMPERATURE OVER THE RANGE FROM -75 TO +90 DEGREES CENTIGRADE DUE TO THE TUBE'S INERT GAS FILLING. THE 6012 MOUNTS IN A STANDARD OCTAL SOCKET.

**ELECTRICAL DATA**

<table>
<thead>
<tr>
<th>HEATER VOLTAGE</th>
<th>6.3±10%</th>
<th>VOLTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEATER CURRENT (EE=6.3 VOLTS)</td>
<td>2.6</td>
<td>AMP.</td>
</tr>
<tr>
<td>MINIMUM CATHODE HEATING TIME</td>
<td>30</td>
<td>SECONDS</td>
</tr>
<tr>
<td>INTERELECTRODE CAPACITANCES - APPROX.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANODE TO CONTROL GRID</td>
<td>0.65</td>
<td>μμF</td>
</tr>
<tr>
<td>CONTROL GRID TO CATHODE (AND SHIELD GRID)</td>
<td>6.5</td>
<td>μμF</td>
</tr>
<tr>
<td>ANODE TO CATHODE (AND SHIELD GRID)</td>
<td>4.5</td>
<td>μμF</td>
</tr>
<tr>
<td>ANODE VOLTAGE DROP - APPROX.</td>
<td>12</td>
<td>VOLTS</td>
</tr>
<tr>
<td>MAXIMUM CRITICAL GRID CURRENT (AT EpP=460 VOLTS RMS AND Ib=0.5 AMP.)</td>
<td>3</td>
<td>μAMPS.</td>
</tr>
</tbody>
</table>

**IONIZATION TIME - APPROX. - NOTE 1**

- ANODE VOLTS = 100, ANODE CURRENT = 5 AMPS., SHIELD GRID VOLTS = 0, CONTROL GRID =+50 VOLTS SQUARE WAVE PULSE | 0.5 | μSEC. |
- ANODE VOLTS = 125, ANODE CURRENT = 0.5 AMP., SHIELD GRID RESISTOR = 1000 OHMS, CONTROL GRID VOLTS =-13, CONTROL GRID RESISTOR = 1000 OHMS | 175 | μSEC. |
- ANODE VOLTS = 125, ANODE CURRENT = 0.5 AMP., SHIELD GRID RESISTOR = 1000 OHMS, CONTROL GRID VOLTS =-100, CONTROL GRID RESISTOR = 1000 OHMS | 100 | μSEC. |

(Note 1. Connect shield grid to cathode through series resistor.)
CONTINUED FROM PRECEDING PAGE

MECHANICAL DATA

MOUNTING POSITION  ANY
BULB  T12
BASE  LARGE WAFER OCTAL 6 PIN
       WITH EXTERNAL BARRIER
MAXIMUM NET WEIGHT  2.5 OUNCES

RATINGS

ABSOLUTE VALUES

FOR ANODE-SUPPLY FREQUENCY OF 60 CPS

MAXIMUM PEAK ANODE VOLTAGE
   FORWARD  650 VOLTS
   INVERSE  1300 VOLTS

MAXIMUM CATHODE CURRENT
   PEAK  5 AMP.
   AVERAGE -- NOTE 1  0.5 AMP.
   SURGE — MAXIMUM DURATION 0.1 SECOND — NOTE 2  20 AMP.

MAXIMUM NEGATIVE CONTROL GRID VOLTAGE
   BEFORE CONDUCTION  200 VOLTS
   DURING CONDUCTION — NOTE 1  10 VOLTS

MAXIMUM POSITIVE CONTROL GRID CURRENT
   AVERAGE -- NOTE 1  0.05 AMP.

MAXIMUM NEGATIVE SHIELD GRID VOLTAGE
   BEFORE CONDUCTION  100 VOLTS
   DURING CONDUCTION — NOTE 1  10 VOLTS

MAXIMUM POSITIVE SHIELD GRID CURRENT — NOTE 1  0.05 AMP.

MAXIMUM HEATER - CATHODE VOLTAGE
   HEATER NEGATIVE  100 VOLTS
   HEATER POSITIVE  25 VOLTS

MAXIMUM CONTROL GRID CIRCUIT RESISTANCE  2 MEGOHMS

1. AVERAGED OVER ANY INTERVAL OF 30 SECONDS MAXIMUM.

2. THE EQUIPMENT DESIGNER SHOULD LIMIT THE SHORT CIRCUIT CURRENT TO 20 AMPERES CIRCUITWISE.
   IT SHOULD BE UNDERSTOOD THAT WHILE THE TUBE MAY STAND SEVERAL FAULTS AT THIS MAGNITUDE
   OF CURRENT, EACH FAULT WILL ADVERSELY AFFECT TUBE LIFE.

→ INDICATES A CHANGE.