REQUIREMENTS:

1. GENERAL:
   A. INTERPRET DRAWING IN ACCORDANCE WITH STANDARDS PRESCRIBED
      BY MIL-D-5322.
   B. UNITS SHALL MEET THE REQUIREMENTS OF MIL-S-19500 WITH THE
      EXCEPTIONS AND ADDITIONS SPECIFIED HEREIN:
   C. THE SUPPLIER SHALL COMPLY WITH THE QUALITY ASSURANCE
      PROVISIONS AS CONTAINED IN ND 1015404, CLASS 2.
   D. UNITS SHALL BE CAPABLE OF MEETING THE QUALIFICATION RE-
      QUIREMENTS SPECIFIED IN ND 1002034.
   E. ACCEPTANCE LOTS MUST MEET THE ACCEPTANCE REQUIREMENTS OF
      ND 1002764. PROCESSING IN ACCORDANCE WITH ND 1002764
      SHALL BE PERFORMED AT THE BUYERS PLANT. LOTS NOT MEETING
      THE ACCEPTANCE CRITERIA OF ND 1002764 SHALL BE REJECTED
      TO THE VENDOR.
   F. PACKAGING AND PACKING: UNIT PACKAGING AND PACKING SHALL
      BE IN ACCORDANCE WITH MIL-S-19901 LEVEL A, IF ANY.

2. ACCEPTANCE AND INSPECTION:
   A. ELECTRICAL CHARACTERISTICS: PER TABLE 1.
      (1) ITEMS 1 THRU 5: 100 PERCENT INSPECTION.
      (2) ITEMS 6 AND 7: SIMPLE IN ACCORDANCE WITH
         MIL-STD-105, INSPECTION LEVEL I, NO. OF 4 PERCENT.
   B. MECHANICAL PROPERTIES:
      (1) DIMENSIONS: PER OUTLINE, SAMPLE IN ACCORDANCE WITH
         MIL-STD-105, INSPECTION LEVEL I, NO. OF 4 PERCENT.
      (2) MARKING: DIESSES SHALL BE MARKED IN ACCORDANCE WITH
         MIL-S-19500 WITH A BLACK OR OTHER PERMANENT COLOR
         BAND DENOTING THE CATHODE END. UNIT PACKAGES AND
         EXTERIOR SHIPPING CONTAINERS SHALL BE MARKED IN
         ACCORDANCE WITH ND 1002039 AND SHALL INCLUDE THE
         MFG DRAWING NUMBER, REVISION LETTER AND DASH NUMBER.
      (3) CLEAR MATERIAL: A CERTIFICATE OF COMPLIANCE SHALL
         ACCOMPANY EACH SHIPMENT. CLEAR MATERIAL SHALL BE
         IRON-BRICK ALLOY PER RP 1014501.

3. DESIGN:
   A. ABSOLUTE MAXIMUM RATINGS:
      (1) POWER DISSIPATION: 500 MILLIWATTS AT 25 DEGREES
         CENTIGRADE AMBIENT TEMPERATURE.
      (2) JUNCTION TEMPERATURE (Tj): FROM MINUS 65 DEGREES
         CENTIGRADE TO PLUS 175 DEGREES CENTIGRADE.
      (3) STORAGE TEMPERATURE (Tst): FROM MINUS 65 DEGREES
         CENTIGRADE TO PLUS 200 DEGREES CENTIGRADE.
      (4) PEAK FORWARD SURGE CURRENT IF(PS): 1 AMPERE
         FOR 1 SECOND MINIMUM. REPETITIVE IN CYCLE OF
         1 PERCENT.
   B. CONSTRUCTION: PLANAR SILICON WITH OXIDE PASSIVATION;
      CLEAR UNPAINTED GLASS, HERMETICALLY SEALED ENCLOSURE.

PROCURED ONLY FROM APPROVED SOURCES LISTED IN ND 1002034 FOR THIS
DRAWING.
### Table I

#### Electrical Characteristics

All measurements at 25°C ± 3°C unless otherwise noted.

<table>
<thead>
<tr>
<th>Item</th>
<th>Parameter</th>
<th>Conditions</th>
<th>Limits</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reverse Current</td>
<td>$I_R$ V&lt;sub&gt;b&lt;/sub&gt; = 70 Volts Min</td>
<td>-20</td>
<td>Microamps</td>
</tr>
<tr>
<td>2</td>
<td>Reverse Breakdown Voltage</td>
<td>$V_B$</td>
<td>80</td>
<td>Volts</td>
</tr>
<tr>
<td>3</td>
<td>Reverse Recovery Time (See Test Circuit Figure 1)</td>
<td>$t_{rr}$ $I_R = 10$ mA</td>
<td>10</td>
<td>Nanoseconds</td>
</tr>
<tr>
<td>4</td>
<td>Forward Voltage Drop</td>
<td>$I_F$</td>
<td>40</td>
<td>Microamps</td>
</tr>
<tr>
<td>5</td>
<td>Forward Voltage Drop</td>
<td>$I_F$</td>
<td>400</td>
<td>Microamps</td>
</tr>
<tr>
<td>6</td>
<td>Capacitance</td>
<td>C</td>
<td>20</td>
<td>Microamps</td>
</tr>
<tr>
<td>7</td>
<td>Reverse Current</td>
<td>$I_R$</td>
<td>50</td>
<td>Volts Min</td>
</tr>
</tbody>
</table>

### Figure 1

**Test Circuit - Reverse Recovery Time**

- **Pulse Generator**: 50 Ohms
- **Diode Under Test**: $V_T = 10$ Volts
- **Sampling Scope**: 50 Ohms

**Test Circuit Wave Shape**

- Output Voltage Wave Shape: FIGURE 2

**SAMPLING SCOPE 50 OHMS**

**PULSE GENERATOR 50 OHMS**

**DIODE UNDER TEST**

**ATTENUATOR 50 OHMS**

**ATTENUATOR 50 OHMS**

**INSTRUMENTATION LAB MANNED SPACECRAFT CENTER CAMBRIDGE, MASS. HOUSTON, TEXAS**

**LIST OF MATERIALS**

- **SEMICONDUCTOR DEVICE, DIODE**: SILICON PLANAR, OXIDE PASSIVATED
- **SPECIFICATION CONTROL DRAWING**

**MATERIALS OR NOTES**

**APPLICATION**

**NOMENCLATURE OR DESCRIPTION**

**INSTRUMENTATION LAB MANNED SPACECRAFT CENTER CAMBRIDGE, MASS. HOUSTON, TEXAS**

**SEMICONDUCTOR DEVICE, DIODE**: SILICON PLANAR, OXIDE PASSIVATED