1. GENERAL:
   a. INTERPRET DRAWING IN ACCORDANCE WITH STANDARDS PRESCRIBED
      BY MIL-STD-783.
   b. UNITS SHALL MEET THE REQUIREMENTS OF MIL-STD-750C WITH
      THE EXCEPTIONS AND ADDITIONS SPECIFIED HEREIN.
   c. THE SUPPLIER SHALL CONFORM TO THE QUALITY ASSURANCE
   d. UNITS SHALL BE CAPABLE OF MEETING THE QUALIFICATION
   e. PACKAGING AND PACKING: UNIT PACKAGING AND PACKING SHALL
      BE IN ACCORDANCE WITH MIL-STD-1849 LEVEL A, IN BOTH INSTANCES.

2. ACCEPTANCE AND INSPECTION:
   a. ELECTRICAL CHARACTERISTICS: PER TABLE I.
      (1) ITEMS 1 THRU 5: 10 PERCENT INSPECTION.
      (2) ITEMS 6 AND 7: SAMPLE IN ACCORDANCE WITH MIL-STD-105.
      INSPECTION LEVEL I, AQL OF 4 PERCENT.
   b. MECHANICAL PROPERTIES:
      (1) DIMENSIONS: PER OUTLINE. SAMPLE IN ACCORDANCE
      WITH MIL-STD-105, INSPECTION LEVEL I, AQL OF 4
      PERCENT.
      (2) MARKING: DIODES SHALL BE MARKED IN ACCORDANCE
      WITH MIL-STD-1940C WITH A BLACK INK DENOTING THE CATHODE
      END AND THE THREE DIGITS 751 PER DRAWING. PACKAGES
      AND EXTERIOR SHIPPING CONTAINERS SHALL BE MARKED
      IN ACCORDANCE WITH MIL-STD-630 AND SHALL INCLUDE THE NESA DRAWING
      NUMBER, REVISION LETTER AND DASH NUMBER.
   c. LEAD MATERIAL: LEAD MATERIAL SHALL BE NICKEL REN 1015400.
      SOLID PLATING PER PARAGRAPH 3.2 IS OPTIONAL. A CERTIFICATE
      OF COMPLIANCE SHALL ACCOMPANY EACH SHIPMENT.

3. DESIGN:
   a. ABSOLUTE MAXIMUM RATINGS:
      (1) POWER DISSIPATION: 500 MILLIWATTS AT 25 DEGREES
         CENTIGRADE AMBIENT TEMPERATURE.
      (2) JUNCTION TEMPERATURE ($T_J$): FROM MINUS 65 DEGREES
         CENTIGRADE TO PLUS 125 DEGREES CENTIGRADE.
      (3) STORAGE TEMPERATURE ($T_S$): FROM MINUS 65 DEGREES
         CENTIGRADE TO PLUS 200 DEGREES CENTIGRADE.
      (4) PEAK FORWARD SURGE CURRENT ($I_{F,S}$): 1 AMPERE
         FOR 1 SECOND MINIMUM, REPETITIVE DUTY CYCLE OF 1
         PERCENT.
   b. CONSTRUCTION: CLEAR UNPAINTED GLASS, HERMETICALLY SEALED ENCLOSURE.
   c. THERMAL SHOCK: UNITS SHALL BE CAPABLE OF WITHSTANDING
      A THERMAL SHOCK IN A ZILLION OIL FROM ZERO DEGREES CENTI-
      GRADE TO 200 DEGREES CENTIGRADE FOR 5 COMPLETE CYCLES.
      TOTAL IMMERSSION TIME EACH HALF CYCLE SHALL BE 30 SECONDS,
      ELAPSED TRANSFER TIME FROM ONE TEMPERATURE EXTREME TO
      THE OTHER SHALL NOT EXCEED 3 SECONDS.
      UNITS SHALL SHOW NO PHYSICAL DAMAGE OR LACK OF ELECTRICAL
      PERFORMANCE AFTER THERMAL SHOCK.

PROCURE ONLY FROM APPROVED SOURCES LISTED IN
MIL-STD-2024 FOR THIS DRAWING.
### TABLE I

**ELECTRICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PARAMETER</th>
<th>SYMBOL</th>
<th>CONDITIONS</th>
<th>UNITS</th>
<th>LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>REVERSE CURRENT</td>
<td>$I_r$</td>
<td>$V_p = 25,\text{VOLTS\ MIN}$</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>REVERSE BREAKDOWN VOLTAGE</td>
<td>$V_B$</td>
<td>$I_p = 100,\text{UA}$</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>REVERSE RECOVERY TIME</td>
<td>$t_{rr}$</td>
<td>$I_p = 10,\text{MA}$</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>(SEE TEST CIRCUIT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>FORWARD VOLTAGE DROP</td>
<td>$V_F$</td>
<td>$I_p = 40,\text{MA}$</td>
<td>.75</td>
<td>.75</td>
</tr>
<tr>
<td></td>
<td>MIL-STD-750</td>
<td>METHOD 4026</td>
<td>RISE TIME &lt; 100 NANOSEC</td>
<td>1.35</td>
<td>1.35</td>
</tr>
<tr>
<td>5</td>
<td>FORWARD VOLTAGE DROP</td>
<td>$V_F$</td>
<td>$I_p = 400,\text{MA}$</td>
<td>.85</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>MIL-STD-750</td>
<td>METHOD 4026</td>
<td>RISE TIME &lt; 100 NANOSEC</td>
<td>1.35</td>
<td>1.35</td>
</tr>
<tr>
<td>6</td>
<td>CAPACITANCE</td>
<td>$C$</td>
<td>$V_p = 1,\text{VDC}$</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$f = 1,\text{KHZ}$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>REVERSE CURRENT</td>
<td>$I_r$</td>
<td>AT 150°C</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

**OUTPUT VOLTAGE WAVE SHAPE**

FIGURE 2

---

**F REPLACES REV.E WITH CHANGES**

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.

**NOMENCLATURE OR DESCRIPTION**

**APPLICATION**

**INCHES**

**PHOTOGRAPHIC SCALE ONLY**

**MANNED SPACECRAFT CENTER**

**SEMICONDUCTOR DEVICE, DIODE**

**SPECIFICATION CONTROL DRAWING**

**NASA DRAWING NO.**

**NASA DRAWING NO.**

**NOMENCLATURE OR DESCRIPTION**

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