REQUIREMENTS:

1. GENERAL:
   A. INTERPRET DRAWING IN ACCORDANCE WITH STANDARDS PRESCRIBED BY MIL-P-70627.
   B. UNITS SHALL MEET THE REQUIREMENTS OF MIL-S-19490 WITH THE EXCEPTIONS AND ADDITIONS SPECIFIED HEREIN.
   C. THE SUPPLIER SHALL CONFORM TO THE QUALITY ASSURANCE PROVISIONS AS CONTAINED IN ND 1015404, CLASS 2.
   D. UNITS SHALL BE CAPABLE OF MEETING THE QUALIFICATION REQUIREMENTS SPECIFIED IN ND 1002034.

2. ACCEPTANCE AND INSPECTION:
   A. ELECTRICAL CHARACTERISTICS: PER TABLE 1.
      (1) ITEMS 1 THRU 5: 100 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) MARKINGS: DIODES SHALL BE MARKED IN ACCORDANCE WITH MIL-S-19500 WITH A BLACK BAND DENOTING THE CATHODE END AND THE THREE DIGITS 751 PER DRAWING. UNIT PACKAGES AND EXTERIOR SHIPPING CONTAINERS SHALL BE MARKED IN ACCORDANCE WITH MIL-STD-1290 AND SHALL INCLUDE THE NASA DRAWING NUMBER, REVISION LETTER AND DASH NUMBER.
   (3) LEAD MATERIAL: LEAD MATERIAL SHALL BE NICKEL PLATED, PER MIL-P-1015400. TOOLS MIGHT 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 (TJ): FROM MINS 65 DEGREES CENTIGRADE TO PLUS 175 DEGREES CENTIGRADE.
      (3) STORAGE TEMPERATURE (TS): FROM MINS 65 DEGREES CENTIGRADE TO PLUS 200 DEGREES CENTIGRADE.
      (4) PEAK FORWARD SURGE CURRENT (IF(SUR)): 1 AMPERE FOR 1 SECOND MINIMUM, REPEATED 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 SILICON OIL FROM ZERO DEGREES CENTIGRADE TO 100 DEGREES CENTIGRADE FOR 5 COMPLETE CYCLES.

4. LEAD BEND TEST:
   EACH LEAD SHALL BE CAPABLE OF WITHSTANDING A LEAD BEND TEST IN ACCORDANCE WITH MIL-S-750, METHOD 2036, TEST CONDITION E.
   NO MECHANICAL DAMAGE OR LACK OF ELECTRICAL PERFORMANCE SHALL BE EVIDENCED AFTER THIS TEST.

5. LEAD PULL TEST:
   EACH LEAD SHALL BE CAPABLE OF WITHSTANDING A LEAD PULL TEST IN ACCORDANCE WITH MIL-S-750, METHOD 2036, TEST CONDITION A AND THE THREE DIGITS 751 MINIMUM FOR 1 MINUTE.
   NO MECHANICAL DAMAGE OR LACK OF ELECTRICAL PERFORMANCE SHALL BE EVIDENCED AFTER THIS TEST.

6. PACKAGING AND PACKAGING:
   UNIT PACKAGING AND PACKAGING SHALL BE IN ACCORDANCE WITH MIL-S-19495 LEVEL B, IN BOTH INSTANCES.

7. ACCEPTANCE AND INSPECTION:
   A. ELECTRICAL CHARACTERISTICS: PER TABLE 1.
      B. UNITS SHALL MEET THE REQUIREMENTS OF MIL-S-19500 WITH THE EXCEPTIONS AND ADDITIONS SPECIFIED HEREIN.
      C. THE SUPPLIER SHALL CONFORM TO THE QUALITY ASSURANCE PROVISIONS AS CONTAINED IN MIL-P-1015404, CLASS 2.
      D. LEAD BEND TEST: EACH LEAD SHALL BE CAPABLE OF WITHSTANDING A LEAD BEND TEST IN ACCORDANCE WITH MIL-S-750, METHOD 2036, TEST CONDITION E.
      E. LEAD PULL TEST: EACH LEAD SHALL BE CAPABLE OF WITHSTANDING A LEAD PULL TEST IN ACCORDANCE WITH MIL-S-750, METHOD 2036, TEST CONDITION A WITH A STRAIGHT AXIAL PULL OF 4 POUNDS MINIMUM FOR 1 MINUTE.
      NO MECHANICAL DAMAGE OR LACK OF ELECTRICAL PERFORMANCE SHALL BE EVIDENCED AFTER THIS TEST.

8. PACKAGING AND PACKAGING:
   UNIT PACKAGING AND PACKAGING SHALL BE IN ACCORDANCE WITH MIL-S-19495 LEVEL B, IN BOTH INSTANCES.
## Table 1: Electrical Characteristics

<table>
<thead>
<tr>
<th>Item</th>
<th>Parameter</th>
<th>Symbol</th>
<th>Conditions</th>
<th>Min</th>
<th>Max</th>
</tr>
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<tr>
<td>1</td>
<td>Reverse Current</td>
<td>$I_R$</td>
<td>$V_R = 25$ Volts Min</td>
<td>50</td>
<td>NA</td>
</tr>
<tr>
<td>2</td>
<td>Reverse Breakdown Voltage</td>
<td>$V_B$</td>
<td>$I_R = 100$ mA</td>
<td>30</td>
<td>NA</td>
</tr>
<tr>
<td>3</td>
<td>Reverse Recovery Time</td>
<td>$t_{pr}$</td>
<td>$V_R = 10$ Volts</td>
<td>70</td>
<td>NA</td>
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<tr>
<td>4</td>
<td>Forward Voltage Drop</td>
<td>$V_F$</td>
<td>$I_R = 40$ mA</td>
<td>0.73</td>
<td>0.85</td>
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<tr>
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<td>MIL-STD-750</td>
<td></td>
<td>See Fig. 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method 4026</td>
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<td>Duty Cycle ≤ 1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Forward Voltage Drop</td>
<td>$V_F$</td>
<td>$I_R = 400$ mA</td>
<td>1.35</td>
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</tr>
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<td>MIL-STD-750</td>
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<td>See Fig. 2</td>
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</tr>
<tr>
<td></td>
<td>Method 4026</td>
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<td>Duty Cycle ≤ 1%</td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td>Capacitance</td>
<td>$C$</td>
<td>$V_R = 1$ Volts</td>
<td>10</td>
<td>NA</td>
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<tr>
<td>7</td>
<td>Reverse Current</td>
<td>$I_R$</td>
<td>AT 15°C</td>
<td>50</td>
<td>NA</td>
</tr>
</tbody>
</table>

### Diagram

**Output Voltage Wave Shape**

**Figure 2**

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