REQUIREMENTS:

1. GENERAL:
   A. INTERPRET DRAWING IN ACCORDANCE WITH STANDARDS PRESCRIBED
      BY MIL-S-7037.
   B. UNITS SHALL MEET THE REQUIREMENTS OF MIL-S-19500 WITH THE
      EXCEPTIONS AND ADDITIONS SPECIFIED HERIN.
   C. THE SUPPLIER SHALL CONFORM TO THE QUALITY ASSURANCE PRO-
      VISIONS AS CONTAINED IN ND 1015404, CLASS 2.
   D. UNITS SHALL BE CAPABLE OF MEETING THE QUALIFICATION RE-
     uirements SPECIFIED IN ND 102505.
   E. SHIPMENT LOTS MUST MEET THE ACCEPTANCE REQUIREMENTS OF
      ND 1002514. PROCESSING IN ACCORDANCE WITH ND 1002514
      SHALL BE PERFORMED AT THE BUYER'S PLANT. LOTS NOT MEETING
      THE ACCEPTANCE CRITERIA OF ND 1002514 SHALL BE REJECTED
      TO THE VENDOR.
   F. PACKAGING AND PACKING: UNIT PACKAGING AND PACKING SHALL
      BE IN ACCORDANCE WITH MIL-S-19491 LEVEL A, IN BOTH
      INSTANCES.

2. ACCEPTANCE AND INSPECTION:
   A. ELECTRICAL CHARACTERISTICS: PER TABLE 1.
      (1) ITEMS 1 THROUGH 5: 100 PERCENT INSPECTION.
      (2) ITEMS 6 AND 7: SAMPLE IN ACCORDANCE WITH
      MIL-STD-105, INSPECTION LEVEL 2, NO. OF 4 PERCENT.
   B. MECHANICAL PROPERTIES:
      (1) DIMENSIONS: PER OUTLINE, SAMPLE IN ACCORDANCE WITH
      MIL-STD-105, INSPECTION LEVEL 2, NO. OF 4 PERCENT.
      (2) MARKING: DIODES SHALL BE MARKED IN ACCORDANCE WITH
      MIL-S-19500 WITH A BLACK OR OTHER PROMINENT COLOR
      MARKING DENOTING THE CATHODE END. UNIT PACKAGES AND
      EXTERIOR SHIPPING CONTAINERS SHALL BE MARKED IN
      ACCORDANCE WITH ND 1002519 AND SHALL INCLUDE THE
      MAttribing MARKINGS, Revision Letter and Date Number.
      (3) LEAD MATERIAL: A CERTIFICATE OF COMPLIANCE SHALL
      ACCOMPANY EACH SHIPMENT. LEAD MATERIAL SHALL BE
      IRON-NICKEL ALLOY, PER 1015401.

3. DESIGN:
   A. ABSOLUTE MAXIMUM RATINGS:
      (1) POWER DISSIPATION: 350 MILLIWATTS AT 25 DEGREES
      CENTIGRADE AMBIENT TEMPERATURE.
      (2) JUNCTION TEMPERATURE (Tj): FROM MINUS 65 DEGREES
      CENTIGRADE TO PLUS 150 DEGREES CENTIGRADE. CONTACTS
      FROM BODY
      (3) STORAGE TEMPERATURE (Tstg): FROM MINUS 65 DEGREES
      CENTIGRADE TO PLUS 200 DEGREES CENTIGRADE.
      (4) PEAK FORWARD SURGE CURRENT (If): 1 IMPULSE
      FOR 1 SECOND RISING, REPETITIVE DUTY-CYCLE OF
      1 PERCENT.
   B. CONSTRUCTION: PLANAR SILICON WITH GILGE PASSIVATION,
      CLEAR UNPAINTED GLASS, HERMETICALLY SEALED ENCLOSURE.

NOTICE — WHEN GOVERNMENT OR DRAWINGS, SPECIFICATIONS, OR OTHER DATA
ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY
RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOv-
ERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSO-
EVER; AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED,
FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS
OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION OR OTHERWISE AS IN
ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION.

Drawing No. 80230 C
Material: SEMICONDUCTOR DEVICE, DIODE
List of Materials:
   MANNED SPACECRAFT CENTER
   HOUSTON, TEXAS

SPECIFICATION CONTROL DRAWING

MILITARY INSTRUMENTATION LAB
CAMBRIDGE MASS

SEMICONDUCTOR DEVICE, DIODE
SILICON PLANAR, OXIDE PASSIVATED

ACRYLIC GLUE PRINT CO. 0.19580 4
- SCALE: 1/4"=1'-0"
- INCHES
- DECIMALS
- ANGLES

DO NOT SCALE THIS DRAWING

ACRYLIC GLUE PRINT CO. 0.19580 4
- SCALE: 1/4"=1'-0"
- INCHES
- DECIMALS
- ANGLES

DO NOT SCALE THIS DRAWING
### Electrical Characteristics

**Table 1**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PARAMETER</th>
<th>SYMBOL</th>
<th>CONDITIONS</th>
<th>LIMITS</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>REVERSE CURRENT</td>
<td>$I_V$</td>
<td>$V_H = 60$ VOLTS MIN</td>
<td>100</td>
<td>MICROAMPS</td>
</tr>
<tr>
<td>2</td>
<td>REVERSE BREAKDOWN VOLTAGE (SEE TEST CIRCUIT FIGURE 13)</td>
<td>$V_B$</td>
<td>$I_V = 100$ MA, $I_T = 10$ MA, RECOVER TO 1 MA</td>
<td>70</td>
<td>VOLTS</td>
</tr>
<tr>
<td>3</td>
<td>REVERSE RECOVERY TIME</td>
<td>$t$</td>
<td>$I_V = 40$ MA, RISE TIME $\leq 100$ MICROSEC, DUTY CYCLE $\leq 1%$, SEE FIG. 2</td>
<td>1.35</td>
<td>VOLTS</td>
</tr>
<tr>
<td>4</td>
<td>FORWARD VOLTAGE DROP</td>
<td>$V_F$</td>
<td>$I_H = 50$ MA, RISE TIME $\leq 100$ MICROSEC, DUTY CYCLE $\leq 1%$, SEE FIG. 2</td>
<td>-770</td>
<td>VOLTS</td>
</tr>
<tr>
<td>5</td>
<td>FORWARD VOLTAGE DROP</td>
<td>$V_F$</td>
<td>$I_H = 400$ MA, RISE TIME $\leq 100$ MICROSEC, DUTY CYCLE $\leq 1%$, SEE FIG. 2</td>
<td>1.35</td>
<td>VOLTS</td>
</tr>
<tr>
<td>6</td>
<td>CAPACITANCE</td>
<td>$C$</td>
<td>$V_H = 1$ VOLTS, $I_V = 1$ MICROAMPS</td>
<td>10</td>
<td>PICOFARADS</td>
</tr>
<tr>
<td>7</td>
<td>REVERSE CURRENT</td>
<td>$I_R$</td>
<td>AT 150 $C$, $V_H = 90$ VOLTS MIN</td>
<td>50</td>
<td>MICROAMPS</td>
</tr>
</tbody>
</table>

**Test Circuit - Reverse Recovery Time**

![Test Circuit Diagram](image)

**FIGURE 1**

**MIT INSTRUMENTATION LAB**

**арамед.Spacecraft Center, Houston, Texas**

**Semiconductor Device, Diode**

**Silicon Planar, Oxide Passivated**

**Specification Control Drawing**

**Drawing No.**

**Date**

**Signature**

**Approved**

**Material**

**Notes**

**Dimensions are in inches (inches) or millimeters (mm) unless otherwise specified.**

**Resistor values are in ohms (Ω).**

**Capacitor values are in microfarads (µF).**

**Tolerances on fractions are ±1/32 inch.**

**Decimal angles are ±5°.**

**Material:**

**Unused**, **Specified**, **Material**

**MIT INSTRUMENTATION LAB**

**Cambridge, Mass.**

**Manned Spacecraft Center**

**Houston, Texas**

**Semiconductor Device, Diode**

**Silicon Planar, Oxide Passivated**

**Specification Control Drawing**

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**Notes**