1. GENERAL:
   A. UNITS SHALL MEET THE GENERAL SPECIFICATION REQUIREMENTS OF MIL-S-19500 EXCEPT AS MODIFIED HEREIN.
   B. SUPPLIERS SHALL CONFORM TO THE QUALITY ASSURANCE PROVISIONS OF MIL-101540, CLASS 2.
   C. UNITS SHALL MEET ALL QUALIFICATION REQUIREMENTS SPECIFIED IN MIL-1002054 UNLESS MODIFIED OR AMENDED BY SECTION 3 OF THIS DRAWING.
   D. UNIT PACKAGING AND PACKING SHALL BE IN ACCORDANCE WITH MIL-P-19491, LEVEL A.
   E. INTERPRET DRAWING IN ACCORDANCE WITH STANDARDS PRESCRIBED BY MIL-D-70327.

2. INSPECTION & ACCEPTANCE:
   A. MECHANICAL REQUIREMENTS:
      (1) LEAD DATA: LEADS SHALL BE IRON-NICHEL ALLOY (DUMET) PER ND 1015401. CERTIFICATION OF COMPLIANCE WITH THIS REQUIREMENT SHALL ACCOMPANY EACH SHIPMENT.
   B. ELECTRICAL CHARACTERISTICS PER TABLE 1:
      (1) ZENER VOLTAGE (Vz)
      (2) ZENER IMPEDANCE (Zz)
      (3) LEAKAGE CURRENT (Iz)
   C. PARAMETRIC CHANGE LIMITS:
      (1) ZENER VOLTAGE: ±0.1% OF INITIAL MEASURED VALUE.
      (2) DYNAMIC IMPEDANCE: ±10% OF INITIAL MEASURED VALUE.
      (3) LEAKAGE CURRENT SHALL NOT EXCEED 10% OF INITIAL MEASURED VALUE.

3. DESIGN REQUIREMENTS:
   A. MAXIMUM RATINGS:
      (1) POWER DISSIPATION: 400 MILLIWATTS (SEE DERATING CURVE).
      (2) STORAGE TEMPERATURE: -65°C TO +150°C.
      (3) OPERATING TEMPERATURE: -65°C TO +125°C (AT 7.5 MA).
      (4) TEMPERATURE COEFFICIENT: ±0.002%/°C WITH A ZENER CURRENT OF 7.5 MA OVER THE TEMPERATURE RANGE OF -55°C TO +100°C.
      (5) ENCLOSURE: GLASS, HERMETICALLY SEALED.
   B. THE MANUFACTURER SHALL RECORD THE ELECTRICAL CHARACTERISTICS PER TABLE 1 PRIOR TO AND FOLLOWING BURN IN. DATA SHALL BE SUPPLIED WITH THE PARTS.
   C. UNITS WHICH FAIL TO MEET ALL INITIAL REQUIREMENTS OR WHICH EXCEED THE SPECIFIED LIMITS FOR PARAMETRIC CHANGES FOLLOWING BURN IN SHALL NOT BE SHIPPED.

REPRESENTATIVE DRAWING IN ACCORDANCE WITH THE SPECIFICATION CONTROL DRAWING 1006938.

MANNED SPACECRAFT CENTER
HOUSTON, TEXAS

SEMICONDUCTOR DEVICE, DIODE

SPECIFICATION CONTROL DRAWING

SENEICONDUTOR DEVICE, DIODE

LIST OF MATERIALS

MATERIAL
INSTRUMENTATION LAB
NASA MANNED SPACECRAFT CENTER

C

1006838
TABLE I

ELECTRICAL CHARACTERISTICS AT AMBIENT TEMPERATURE = 29°C (UNLESS OTHERWISE SPECIFIED)

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>CONDITIONS</th>
<th>SYMBOL</th>
<th>SPECIFICATION LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZENER VOLTAGE</td>
<td>T₂ = 7.5 mA</td>
<td>V₁₂</td>
<td>5.9 6-5 VOLTS</td>
</tr>
<tr>
<td>ZENER IMPEDANCE</td>
<td>T₂ = 7.5 mA</td>
<td>R₁₂</td>
<td>10  OHMS</td>
</tr>
<tr>
<td>ZENER IMPEDANCE</td>
<td>T₂ = 1 mA</td>
<td>R₂</td>
<td>150  OHMS</td>
</tr>
<tr>
<td>LEAKAGE CURRENT</td>
<td>V₂ = 5.0 VOLTS</td>
<td>I₂₁</td>
<td>100  μA</td>
</tr>
<tr>
<td>LEAKAGE CURRENT</td>
<td>V₂ = 3.0 VOLTS # 100°C</td>
<td>I₂₂</td>
<td>200  μA</td>
</tr>
</tbody>
</table>

(Fₐ) AMBIENT TEMP (°C) DERATING CURVE

REPLACES REV A WITH CHANGES