**REQUIREMENTS:**

1. **GENERAL:**
   a. INTERPRET DRAWING IN ACCORDANCE WITH STANDARDS PRESCRIBED BY MIL-STD-750.
   b. UNITS SHALL MEET THE REQUIREMENTS OF MIL-S-19500 WITH THE MODIFICATIONS AND ADDITIONS SPECIFIED HERIN.
   c. THE SUPPLIER SHALL CONFORM TO THE QUALITY ASSURANCE PROVISIONS AS CONTAINED IN MIL-STD-19491, LEVEL 1 IN BOTH INSTANCES.
   d. UNITS SHALL BE CAPABLE OF MEETING THE QUALIFICATION REQUIREMENTS AS CONTAINED IN ND 1002048 UNLESS MODIFIED OR AMENDED BY SECTION 2 OF THIS DRAWING.
   e. 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. LOT: A LOT IS DEFINED AS A GROUP OF PARTS IN A SINGLE PROCUREMENT SELECTED FROM A SINGLE CONTINUOUS PRODUCTION RUN USING LIKE MATERIALS WHICH ARE CONTROLLED USING A PROCESS WHICH IS THE SAME FROM THE BEGINNING TO THE END OF THE RUN.
   b. INSPECTION CONDITIONS: UNLESS OTHERWISE SPECIFIED HEREIN ALL INSPECTIONS SHALL BE MADE AT AN AMBIENT TEMPERATURE OF PLUS 25 DEGREES CENTIGRADE PLUS OR MINUS 5 DEGREES CENTIGRADE.
   c. ELECTRICAL: 100% TESTING
      1. UNITS SHALL BE SUBJECTED TO THE ELECTRICAL TESTS SPECIFIED IN ND 1002017.
      2. SOME MECHANICAL TESTS TO BE PERFORMED ON ELECTRICAL REJECTS.

3. **MECHANICAL:** (REFERENCE MIL-STD-750 AS MODIFIED HEREIN)
   a. LEAD FATIGUE (DESTRUCTIVE): LEADS SHALL BECapable of Withstanding the Following Leardemo Test. The Unit Shall Be Held in a Vertical Position with a One-Pound Weight Suspended from the Lead Under Test. Two Cycles of Bending Shall Be Performed, a Cycle Consisting of Moving the Body of the Unit While in the Same Plane, 90 Degrees From the Vertical, in One Direction, Then 180 Degrees in the Opposite Direction and Back 90 Degrees to the Original Position. No Mechanical Damage Shall Be Evidenced After These Tests. A Sample of 3 Units per Lot Shall Be Tested.
   b. LEAD TENSION: Each Lead Shall Be Capable of Withstanding an Axial Pull of 4 Pounds Minimum for 30 Seconds. No Mechanical Damage Shall Be Evidenced After These Tests. A Sample of 3 Units per Lot Shall Be Tested.
   c. THE ABOVE MECHANICAL TEST TO BE PERFORMED ON ELECTRICAL REJECTS.

PROCURE ONLY FROM APPROVED SOURCES LISTED IN ND 1002034 FOR THIS DRAWING.

**SEE NOTE 3.A.()**
B. THE MANUFACTURER SHALL RECORD THE FOLLOWING CHARACTERISTICS PRIOR TO AND FOLLOWING HIGH TEMPERATURE STORAGE: GAIN (G), VOLTAGE RATIO (Vp), RESOLUTION (R) AND DIFFERENTIAL OFFSET (Vo).

C. PARAMETRIC CHANGE LIMITS:
   (1) GAIN (G): PLUS OR MINUS 5 PERCENT.
   (2) VOLTAGE RATIO (Vp): PLUS OR MINUS 5 PERCENT.
   (3) RESOLUTION (R): PLUS OR MINUS 10 PERCENT.
   (4) DIFFERENTIAL OFFSET (Vo): PLUS OR MINUS 5 PERCENT.

D. UNITS WHICH FAIL TO MEET ALL INITIAL REQUIREMENTS OR WHICH EXCEED THE SPECIFIED LIMITS FOR PARAMETRIC CHANGES FOLLOWING HIGH TEMPERATURE STORAGE SHALL NOT BE SHIPPED.

A. MECHANICAL REQUIREMENTS:


2. MARKING:
   (a) UNITS SHALL BE MARKED IN ACCORDANCE WITH MIL-STD-170 WITH THE MANUFACTURER'S IDENTIFICATION, DATE CODE, SERIAL NUMBER AND THE NUMBER THRU PLUS THE REVISION LETTER.
   (b) INTERIOR AND EXTERIOR SHIPPING CONTAINERS SHALL BE MARKED IN ACCORDANCE WITH MIL-STD-129 WITH THE MANUFACTURER'S NAME, LOT OR SERIAL NUMBER, DATE OF MANUFACTURE OR CODING AND THE NASA DRAWING NUMBER AND REVISION LETTER. A TAG MARKED WITH THE FOREGOING INFORMATION SHALL BE INCLUDED IN EACH CONTAINER.

3. ENCLOSURE: METAL CASE WITH GLASS HEADER, HERMETICALLY SEALED (REFERENCE JENERAL TO-5 CASE).

4. SEMICONDUCTOR MATERIAL: SILICON, NPN, DIFFUSED GROVE PASSIVATED SURFACE.

5. INTERCONNECTIONS: THE DIFFUSED TRANSISTORS AND RESISTORS SHALL BE INTERCONNECTED AS SHOWN IN FIGURE 1.

   THE TRANSISTORS SHALL BE SEPARATED FROM EACH OTHER AND FROM RESISTORS BY DIFFUSED ISOLATION REGIONS.

A. ELECTRICAL CHARACTERISTICS:

1. THE ELECTRICAL CHARACTERISTICS SHALL BE AS SPECIFIED IN SENSE AMPLIFIER ACCEPTANCE TEST PROCEDURE NO 1002017.

2. THE EQUIVALENT CIRCUIT IS SHOWN IN FIG. 1. THE RESISTOR VALUES SHALL BE 130%. RESISTOR R5 AND R6 SHALL BE GREATER THAN 20 OMS.

C. ABSOLUTE MAXIMUM RATINGS:

1. POWER DISSIPATION: 75 MILLIWATTS MAXIMUM WHILE OPERATING IN THE TEST CIRCUIT OF NO 1002017.

2. STORAGE TEMPERATURE: MINUS 65 DEGREES CENTIGRADE TO PLUS 125 DEGREES CENTIGRADE.

3. OPERATING TEMPERATURE: MINUS 20 DEGREES CENTIGRADE TO PLUS 125 DEGREES CENTIGRADE.

4. THERMAL IMPEDANCE, JUNCTION TO CASE: .007 DEGREE CENTIGRADE PER MILLIWATT.

5. VOLTAGES: 20 VOLS BETWEEN PIN 10 AND PIN 3.

A. SPECIAL CONDITIONS:

1. HIGH TEMPERATURE STORAGE: ALL UNITS SHALL BE STORED FOR 250 HOURS AT 150 DEGREES CENTIGRADE MAX.

2. DESIGN REQUIREMENTS (CONTINUED):

   C. MECHANICAL REQUIREMENTS:


   2. MARKING:

      a. UNITS SHALL BE MARKED IN ACCORDANCE WITH MIL-STD-170 WITH THE MANUFACTURER'S IDENTIFICATION, DATE CODE, SERIAL NUMBER AND THE NUMBER THRU PLUS THE REVISION LETTER.

      b. INTERIOR AND EXTERIOR SHIPPING CONTAINERS SHALL BE MARKED IN ACCORDANCE WITH MIL-STD-129 WITH THE MANUFACTURER'S NAME, LOT OR SERIAL NUMBER, DATE OF MANUFACTURE OR CODING AND THE NASA DRAWING NUMBER AND REVISION LETTER. A TAG MARKED WITH THE FOREGOING INFORMATION SHALL BE INCLUDED IN EACH CONTAINER.

   3. ENCLOSURE: METAL CASE WITH GLASS HEADER, HERMETICALLY SEALED (REFERENCE JENERAL TO-5 CASE).

   4. SEMICONDUCTOR MATERIAL: SILICON, NPN, DIFFUSED GROVE PASSIVATED SURFACE.

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      THE TRANSISTORS SHALL BE SEPARATED FROM EACH OTHER AND FROM RESISTORS BY DIFFUSED ISOLATION REGIONS.

   B. ELECTRICAL CHARACTERISTICS:

      1. THE ELECTRICAL CHARACTERISTICS SHALL BE AS SPECIFIED IN SENSE AMPLIFIER ACCEPTANCE TEST PROCEDURE NO 1002017.

      2. THE EQUIVALENT CIRCUIT IS SHOWN IN FIG. 1. THE RESISTOR VALUES SHALL BE 130%. RESISTOR R5 AND R6 SHALL BE GREATER THAN 20 OMS.

   C. ABSOLUTE MAXIMUM RATINGS:

      1. POWER DISSIPATION: 75 MILLIWATTS MAXIMUM WHILE OPERATING IN THE TEST CIRCUIT OF NO 1002017.

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   A. SPECIAL CONDITIONS:

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   B. THE MANUFACTURER SHALL RECORD THE FOLLOWING CHARACTERISTICS PRIOR TO AND FOLLOWING HIGH TEMPERATURE STORAGE: GAIN (G), VOLTAGE RATIO (Vp), RESOLUTION (R) AND DIFFERENTIAL OFFSET (Vo).

   C. PARAMETRIC CHANGE LIMITS:

      1. GAIN (G): PLUS OR MINUS 5 PERCENT.

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   D. UNITS WHICH FAIL TO MEET ALL INITIAL REQUIREMENTS OR WHICH EXCEED THE SPECIFIED LIMITS FOR PARAMETRIC CHANGES FOLLOWING HIGH TEMPERATURE STORAGE SHALL NOT BE SHIPPED.

A. MECHANICAL REQUIREMENTS:


2. MARKING:

   a. UNITS SHALL BE MARKED IN ACCORDANCE WITH MIL-STD-170 WITH THE MANUFACTURER'S IDENTIFICATION, DATE CODE, SERIAL NUMBER AND THE NUMBER THRU PLUS THE REVISION LETTER.

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