NOTICE — WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS, OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER; 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 REVISIONS DESCRIPTION REPLACES REV G WITH CHANGES AND UPGRADED TO CLASS A RELEASE REQUIREMENTS: PER TORR ©2023

1. GENERAL:
   A. INTERPRET DRAWING IN ACCORDANCE WITH STANDARDS PRESCRIBED BY MIL-D-70372.
   B. UNITS SHALL MEET THE REQUIREMENTS OF MIL-S-19500 WITH THE MODIFICATIONS AND ADDITIONS SPECIFIED HEREIN.
   D. UNITS SHALL BE CAPABLE OF MEETING THE QUALIFICATION REQUIREMENTS AS CONTAINED IN MIL-STD-105A UNLESS MODIFIED OR AMENDED BY SECTIONS 2 OF THIS DRAWING.
   E. PACKAGING AND PACKING: UNIT PACKAGING AND PACKING SHALL BE IN ACCORDANCE WITH MIL-STD-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 3 DEGREES CENTIGRADE.
   C. ELECTRICAL: 100% TESTING
      (1) UNITS SHALL BE SUBJECTED TO THE ELECTRICAL TESTS SPECIFIED IN MIL-STD-750.

D. MECHANICAL:
   (REFERENCE MIL-S-750 AS MODIFIED HEREIN)
   (1) LEAD FATIGUE (DESTRUCTIVE): LEADS SHALL BE CAPABLE OF WITHSTANDING THE FOLLOWING LEAD BEND 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 AND BACK 90 DEGREES TO THE ORIGINAL POSITION. NO MECHANICAL DAMAGE SHALL BE EVIDENCED AFTER THE TEST. A SAMPLE OF 3 UNITS PER LOT SHALL BE TESTED.
   (2) 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 THE TEST. A SAMPLE OF 3 UNITS PER LOT SHALL BE TESTED.
   (3) THE ABOVE MECHANICAL TEST TO BE PERFORMED ON ELECTRICAL REJECTS.

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

MATERIALS

SEMICONDUCTOR DEVICE, INTEGRATED SENSE AMPLIFIER SPECIFICATION CONTROL DRAWING

INSTRUMENTATION LAB MANUFACTURE CENTER
CAMBRIDGE, MASS.

DO NOT SCALE THIS DRAWING

MIL DRAWING NO. 1006763

SEE NOTES

HEAT TREATMENT

INSTRUMENTATION LAB MANUFACTURE CENTER

REF. SHEET 1 OF 2
3. DESIGN:

A. MECHANICAL REQUIREMENTS:


2. MARKING:

(a) UNITS SHALL BE MARKED IN ACCORDANCE WITH ND1002019 WITH THE MANUFACTURER'S IDENTIFICATION, DATE CODE, SERIAL NUMBER AND THE NUMBER 769. PLUS THE REVISION LETTER. A TAG MARKED WITH THE FOREGOING INFORMATION SHALL BE INCLUDED IN EACH CONTAINER.

(b) INTERIOR AND EXTERIOR SHIPPING CONTAINERS SHALL BE MARKED IN ACCORDANCE WITH MIL-STD-129 WITH THE MANUFACTURER'S IDENTIFICATION, DATE CODE, SERIAL NUMBER AND THE NUMBER 769. PLUS THE 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 JEDC TO-5 CASE).

4. SEMICONDUCTOR MATERIAL: SILICON, NPN, DIFFUSED OXIDE 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.

B. ELECTRICAL CHARACTERISTICS:

1. THE ELECTRICAL CHARACTERISTICS SHALL BE AS SPECIFIED IN INTEGRATED SENSE AMPLIFIER ACCEPTANCE TEST PROCEDURE ND 1002017.

2. THE EQUIVALENT CIRCUIT IS SHOWN IN FIG. 1. THE RESISTOR VALUES SHALL BE +30%.

C. ABSOLUTE MAXIMUM RATINGS:

1. POWER DISSIPATION: 75 MILLIWATTS MAXIMUM WHILE OPERATING IN THE TEST CIRCUIT OF ND 1002017.

2. STORAGE TEMPERATURE: MINUS 65 DEGREES CENTIGRADE TO PLUS 2087 DEGREE CENTIGRADE.

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

4. THERMAL IMPEDANCE, JUNCTION TO CASE: .087 DEGREE CENTIGRADE PER MILLIWATT.


4. SPECIAL CONDITIONING:

A. HIGH TEMPERATURE STORAGE: ALL UNITS SHALL BE STORED FOR 250 HOURS AT 252 DEGREES CENTIGRADE MIN.

B. ALL UNITS SHALL BE SUBJECTED TO, AND MEET THE REQUIREMENTS OF CONSTANT ACCELERATION TESTS (20,000 G) PER MIL-STD-750 METHOD 206.

C. THE MANUFACTURER SHALL RECORD THE CHARACTERISTICS LISTED IN TABLE I PRIOR TO AND FOLLOWING HIGH TEMPERATURE STORAGE:

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.

| ELECTRICAL CHARACTERISTICS AS SPECIFIED IN ACCEPTANCE TEST PROCEDURE NO 1002017 |
|-----------------------|-------------------|----------------|
| SECTION | PARAMETER | CHANGE LIMIT |
| 4.8.1.1 | \( G_1 \neq G_3 \) | ±10K |
| 4.8.1.2 | \( G_2 \neq G_7 \) | ±10K |
| 4.8.3 | \( V_{OUT} = V_{PD} - V_{IN} \) | ±10K |

TABLE I: ALLOWABLE PARAMETER CHANGE LIMITS