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1029001

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL
-	INITIAL RELEASE CLASS A PER TDRR 02970	9/5/63	JW
A	REVISED PER TDRR 03997	10/17/	WKL

REQUIREMENTS:

1. GENERAL:
  - A. INTERPRET DRAWING IN ACCORDANCE WITH STANDARDS PRESCRIBED BY MIL-D-70327.
  - 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 PRESCRIBED BY ND 1015404, CLASS 2.
  - D. UNITS SHALL BE CAPABLE OF MEETING THE QUALIFICATION REQUIREMENTS OF ND 1002054.
  - E. PACKAGING AND PACKING: UNIT PACKAGING AND PACKING SHALL BE IN ACCORDANCE WITH MIL-P-19491, LEVEL A IN BOTH INSTANCES.

TABLE I  
ELECTRICAL CHARACTERISTICS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED

PARAMETER	CONDITIONS	SYMBOL	LIMITS		UNITS
			MIN	MAX	
ZENER VOLTAGE	$I_{ZT} = 37 \text{ MA}$	$V_Z$	9.5	10.5	VOLTS
ZENER IMPEDANCE	$I_{ZT} = 37 \text{ MA}$	$Z_{ZT}$	—	5	OHMS
	$I_{ZK} = 0.25 \text{ MA}$	$Z_{ZK}$	—	700	OHMS
LEAKAGE CURRENT	$V_R = 7.6 \text{ V}$	$I_R$	—	5	MICROAMPERES
ZENER VOLTAGE CHANGE	$V_{Z1} @ I = 0.25 \text{ MA}$	$\Delta V_Z$	—	0.5	VOLTS
	$V_{Z2} @ I = 37 \text{ MA}$				
	$\Delta V_Z = V_{Z2} - V_{Z1}$				

- (3) JUNCTION AND STORAGE TEMPERATURE:  $-65^\circ\text{C}$  TO  $+175^\circ\text{C}$ .
- (4) THERMAL RESISTANCE:  $60^\circ\text{C/W}$  JUNCTION TO AMBIENT.  
TEMPERATURE COEFFICIENT:  $5.5 \text{ MV}/^\circ\text{C}$   
DERATING:  $10 \text{ MW}/^\circ\text{C}$  CASE TEMP

2. ACCEPTANCE AND INSPECTION:

- A. MECHANICAL CHARACTERISTICS:
  - (1) MARKING: DIODES SHALL BE MARKED IN ACCORDANCE WITH MIL-S-19500 WITH THE JEDEC TYPE NUMBER AND POLARITY. UNIT PACKAGES AND EXTERIOR SHIPPING CONTAINERS SHALL BE MARKED IN ACCORDANCE WITH MIL-STD-129 AND SHALL INCLUDE THE NASA DRAWING NUMBER, REVISION LETTER AND DASH NUMBER.
  - (2) LEAD MATERIAL: LEAD MATERIAL SHALL BE IRON-NICKEL ALLOY (DUMET) IN ACCORDANCE WITH PS 1015401. A CERTIFICATE OF COMPLIANCE WITH THIS REQUIREMENT SHALL ACCOMPANY EACH SHIPMENT.
  - (3) TERMINAL STRENGTH: EACH LEAD SHALL BE CAPABLE OF WITHSTANDING A LEAD TENSION TEST IN ACCORDANCE WITH MIL-STD-750, METHOD 2036, TEST CONDITION A, WITH A STRAIGHT AXIAL PULL OF FOUR (4) POUNDS MINIMUM FOR ONE (1) MINUTE. SAMPLE IN ACCORDANCE WITH MIL-STD-105C INSPECTION LEVEL I AQL OF 4 PERCENT. NO MECHANICAL DAMAGE OR LACK OF ELECTRICAL PERFORMANCE SHALL BE EVIDENCED AFTER THIS TEST.

4. BURN IN:

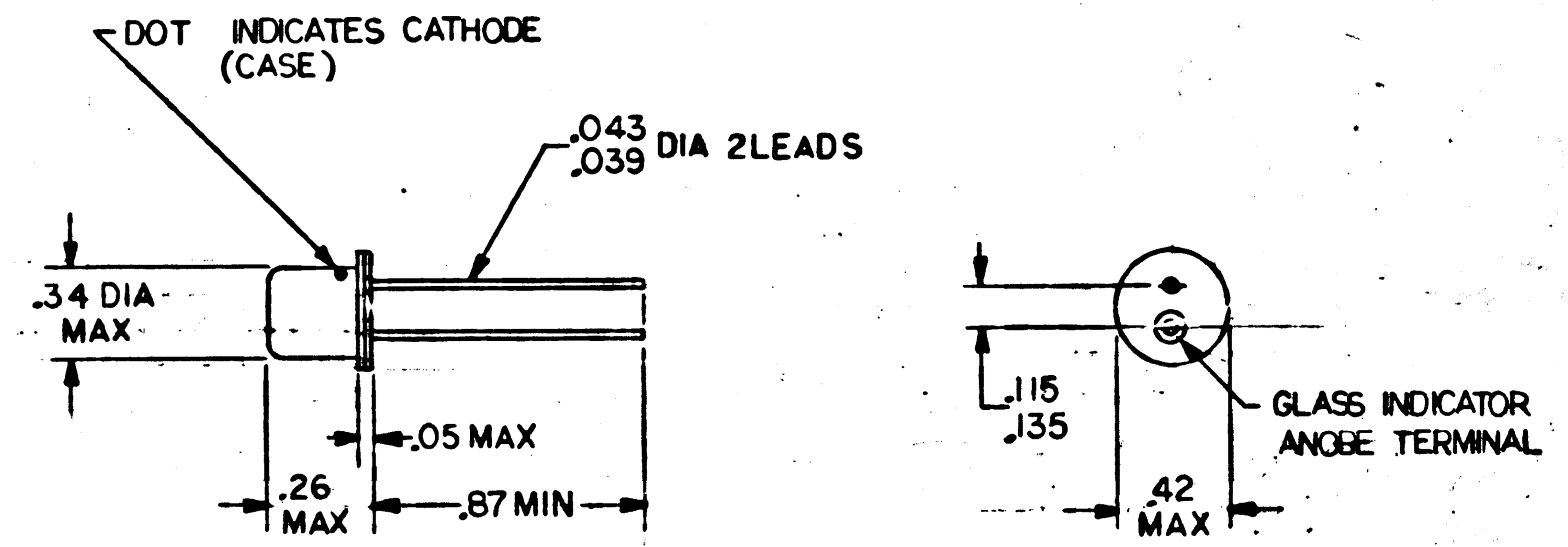
- A. UNITS SHALL BE BURNED IN FOR A PERIOD OF 240 HOURS AT 300 MILLIWATTS POWER DISSIPATION.  
UNITS SHALL MEET ALL REQUIREMENTS OF TABLE I AFTER BURN-IN.

3. DESIGN:

- A. ABSOLUTE MAXIMUM RATINGS:
  - (1) ZENER CURRENT: 125 MILLIAMPERES DC.
  - (2) D.C. POWER DISSIPATION: 1.5 WATTS @ CASE TEMP OF  $25^\circ\text{C}$

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

NOTES



QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	FIND NO.
LIST OF MATERIALS			
MIT INSTRUMENTATION LAB CAMBRIDGE, MASS.		MANNED SPACECRAFT CENTER HOUSTON, TEXAS	
DRAWN <i>[Signature]</i> DATE <i>16/01/63</i>		SEMICONDUCTOR DEVICE, DIODE	
CHECKED <i>[Signature]</i> DATE <i>17/01/63</i>		SPECIFICATION CONTROL DRAWING	
APPROVAL <i>[Signature]</i>		CODE IDENT NO.	NASA DRAWING NO.
NASA APPROVAL <i>[Signature]</i> DATE <i>7/5/63</i>		SIZE C	1006701
MIT APPROVAL <i>[Signature]</i> DATE <i>9/5/63</i>		SCALE NONE	SHEET 1 OF 1

