

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 LIABILITY, AND 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 LIMITING THE RIGHTS OF THE GOVERNMENT TO MAKE, HAVE MADE, OR TO USE OR TO HAVE USED, IN WHOLE OR IN PART, ANY INVENTION, OR TO HAVE ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL, ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

REQUIREMENTS:

1. GENERAL:

- A. INTERPRET DRAWING IN ACCORDANCE WITH STANDARDS DESCRIBED BY MIL-B-70322.
- 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 AS CONTAINED IN ND 1015404, CLASS 2.
- D. UNITS SHALL BE CAPABLE OF MEETING THE QUALIFICATION REQUIREMENTS SPECIFIED IN ND 1002054.
- E. SHIPMENT LOTS MUST MEET THE ACCEPTANCE REQUIREMENTS OF ND 1002264. PROCESSING IN ACCORDANCE WITH ND 1002264 SHALL BE PERFORMED AT THE BUYERS PLANT. LOTS NOT MEETING THE ACCEPTANCE CRITERIA OF ND 1002264 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 I.
- (1) ITEMS 1 THRU 5: 100 PERCENT INSPECTION.
- (2) ITEMS 6 AND 7: SAMPLE IN ACCORDANCE WITH MIL-STD-105, INSPECTION LEVEL I, AQL OF 4 PERCENT.

B. MECHANICAL PROPERTIES:

- (1) DIMENSIONS: PER OUTLINE. SAMPLE IN ACCORDANCE WITH MIL-STD-105, INSPECTION LEVEL I, AQL OF 4 PERCENT.
- (2) MARKING: DIODES SHALL BE MARKED IN ACCORDANCE WITH MIL-S-19500 WITH A BLACK OR OTHER PROMINENT COLOR BAND DENOTING THE CATHODE END. UNIT PACKAGES AND EXTERIOR SHIPPING CONTAINERS SHALL BE MARKED IN ACCORDANCE WITH ND 1002019 AND SHALL INCLUDE THE NASA DRAWING NUMBER, REVISION LETTER AND DASH NUMBER.
- (3) BLEAD MATERIAL: A CERTIFICATE OF COMPLIANCE SHALL ACCOMPANY EACH SHIPMENT. BLEAD MATERIAL SHALL BE IRON-NICKEL ALLOY PER PS 1015401.

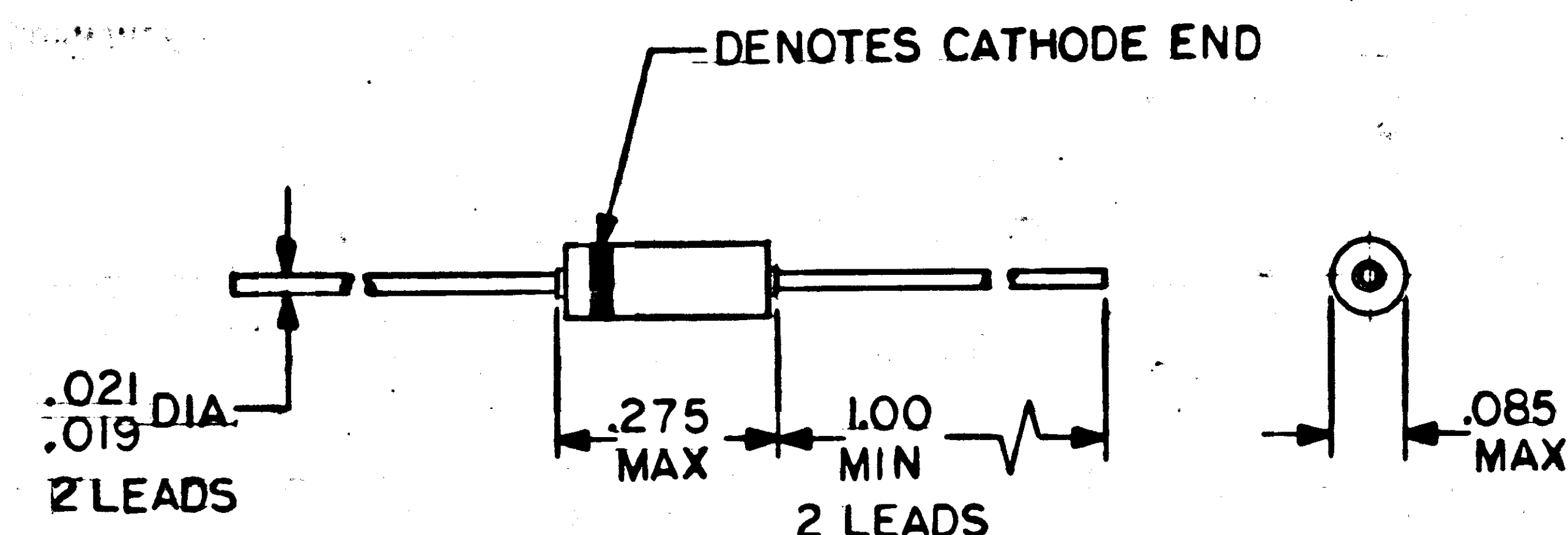
3. DESIGN:

- A. ABSOLUTE MAXIMUM RATINGS:
- (1) POWER DISSIPATION: 350 MILLIWATTS AT 25 DEGREES CENTIGRADE AMBIENT TEMPERATURE.
 - (2) JUNCTION TEMPERATURE (T_J): FROM MINUS 65 DEGREES CENTIGRADE TO PLUS 150 DEGREES CENTIGRADE. CONTACTS $3/8"$ FROM BODY
 - (3) STORAGE TEMPERATURE (T_{STG}): FROM MINUS 65 DEGREES CENTIGRADE TO PLUS 200 DEGREES CENTIGRADE.
 - (4) PEAK FORWARD SURGE CURRENT (I_{FSM} SURGE): 1 AMPERE FOR 1 SECOND MINIMUM. REPETATIVE DUTY CYCLE OF 1 PERCENT.

- B. CONSTRUCTION: PLANAR SILICON WITH OXIDE PASSIVATION,
CLEAR UNPAINTED GLASS. HERMETICALLY SEALED ENCLOSURE.**

PROCURE ONLY FROM APPROVED SOURCES LISTED IN NO 1002034 FOR THIS
DRAWING.

REVISIONS						
SYM	ZONE	DESCRIPTION	DR	CHK	DATE	APPROVED
-		INITIAL RELEASE CLASS A PER TDRR 28257	90		4-14-66	
A		REVISED PER TDRR 29212	B	11	6/7/66	6-766/11/66



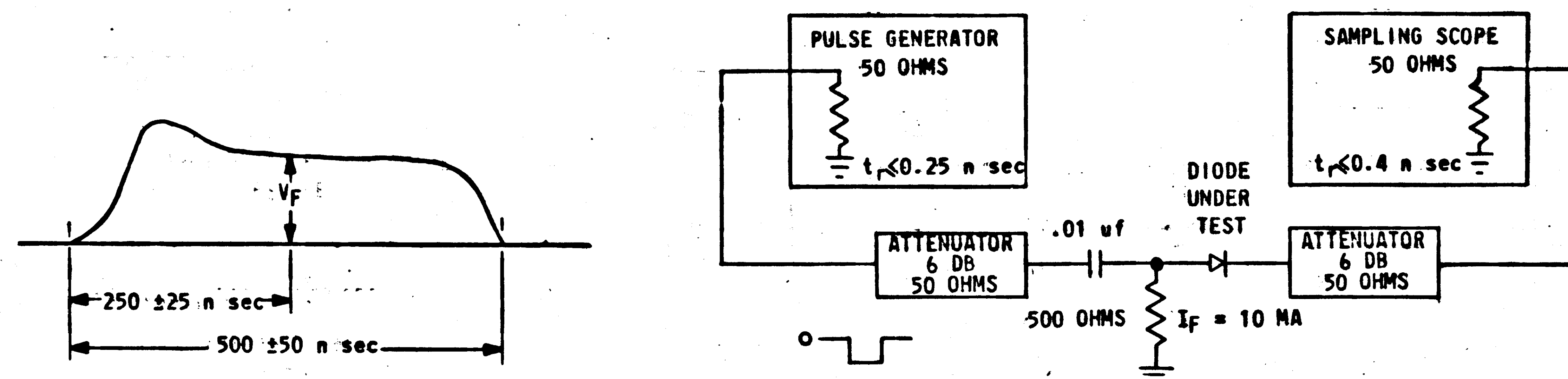
		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES CAPACITOR VALUES ARE IN μ f RESISTOR VALUES ARE IN OHMS TOLERANCES ON FRACTIONS DECIMALS ANGLES $\pm$ $\pm$ $\pm$ DO NOT SCALE THIS DRAWING	MIT INSTRUMENTATION LAB CAMBRIDGE, MASS.		MANNED SPACECRAFT CENTER HOUSTON, TEXAS	
			DRAWN <i>J. Polanski</i> <i>PR</i> 13 APR 66	SEMICONDUCTOR DEVICE, DIODE		
			CHECKED <i>Bob Marshall</i> 15 APR 66	SILICON PLANAR, OXIDE PASSIVATED		
			APPROVED <i>Ed H. Kelly</i> 23 APR 66	SPECIFICATION CONTROL DRAWING		
		MATERIAL SEE NOTES	APPROVED <i>W. J. Metzger</i> MIT A. J. METZGER	DATE <i>4/24/66</i>	SCALE <i>None</i>	DRAWING NO. 1006399
			APPROVED MSC	DATE	SCALE NONE	SHEET 1 OF 2
NEXT ASSY	USED ON					
APPLICATION						

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REVISIONS						
SYM	ZONE	DESCRIPTION	DR	CHK	DATE	APPROVED
-		INITIAL RELEASE CLASS A PER TDRR 28257	TD		4-26-66	
A		REVISED PER TDRR 29212	B	HA	4/7/66	6-7-66 [Signature]

TABLE I						
ELECTRICAL CHARACTERISTICS						
ALL MEASUREMENTS AT 25°C ± 3°C UNLESS OTHERWISE NOTED						
ITEM	PARAMETER	SYMBOL	CONDITIONS	LIMITS		UNITS
				MIN	MAX	
1	REVERSE CURRENT	I_R	$V_R = 60$ VOLTS MIN	-	100	NANOAMPS
2	REVERSE BREAKDOWN VOLTAGE	BV	$I_R = 100$ UA	70	-	VOLTS
3	REVERSE RECOVERY TIME (SEE TEST CIRCUIT FIGURE 1)	t_{rr}	$I_F = 10$ MA $I_R = 10$ MA RECOVER TO 1 MA	-	10	NANOSECONDS
4	FORWARD VOLTAGE DROP MIL-STD-750 METHOD 4026	V_F	$I_F = 40$ MA RISE TIME ≤ 100 NANOSEC DUTY CYCLE ≤ 1% SEE FIG. 2	.730	.850	VOLTS
5	FORWARD VOLTAGE DROP MIL-STD-750 METHOD 4026	V_F	$I_F = 400$ MA RISE TIME ≤ 100 NANOSEC DUTY CYCLE ≤ 1%, SEE FIG. 2		1.35	VOLTS
6	CAPACITANCE	C	$V_R = 1$ VDC $f = 1$ MC		10	PICOFARADS
7	REVERSE CURRENT	I_R	AT 150 C $V_R = 30$ VOLTS MIN		50	MICROAMPS

FIGURE 1
TEST CIRCUIT - REVERSE RECOVERY TIME



OUTPUT VOLTAGE WAVE SHAPE
FIGURE 2

		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES CAPACITOR VALUES ARE IN μ f RESISTOR VALUES ARE IN OHMS TOLERANCES ON FRACTIONS DECIMALS ANGLES $\pm$ $\pm$ $\pm$ DO NOT SCALE THIS DRAWING
		MATERIAL
NEXT ASSY	USED ON	
APPLICATION		

QTY REQD	PART OR IDENTIFYING NO.	MATERIAL OR NOTES	NOMENCLATURE OR DESCRIPTION	FIND NO.
LIST OF MATERIALS				
MIT INSTRUMENTATION LAB CAMBRIDGE, MASS.		MANNED SPACECRAFT CENTER HOUSTON, TEXAS		
DRAWN J.P. Leonard 13 APR 66		SEMICONDUCTOR DEVICE, DIODE		
CHECKED Bob Marshall 15 APR 66		SILICON PLANAR, OXIDE PASSIVATED		
APPROVED P.D. Hensley 22 APR 66		SPECIFICATION CONTROL DRAWING		
APPROVED E.D. Hall 22 APR 66				
APPROVED MIT W.K. [Signature] 10 APR 66		CODE IDENT NO.	SIZE	DRAWING NO.
APPROVED MSC I.C. [Signature]		80230	C	1006399
DATE		SCALE NONE	SHEET 2 OF 2	