

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 FOR 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 LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

REVISIONS						
SYM	ZONE	DESCRIPTION	DR	CHK	DATE	APPROVED
-		INITIAL RELEASE CLASS A PER TDRR 28257	QD		4-26-66	
A		REVISED PER TDRR 29212	B	JA	6/7/66	6-766/10/70
B		REVISED PER TDRR 32569	AF	DW	12/24/67	
C		REVISED PER TDRR 32571	AF	DW	12/24/67	

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 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 1002314. PROCESSING IN ACCORDANCE WITH ND 1002314 SHALL BE PERFORMED AT THE BUYER'S PLANT. LOTS NOT MEETING THE ACCEPTANCE CRITERIA OF ND 1002314 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) LEAD MATERIAL: A CERTIFICATE OF COMPLIANCE SHALL ACCOMPANY EACH SHIPMENT. SEE TABLE II.

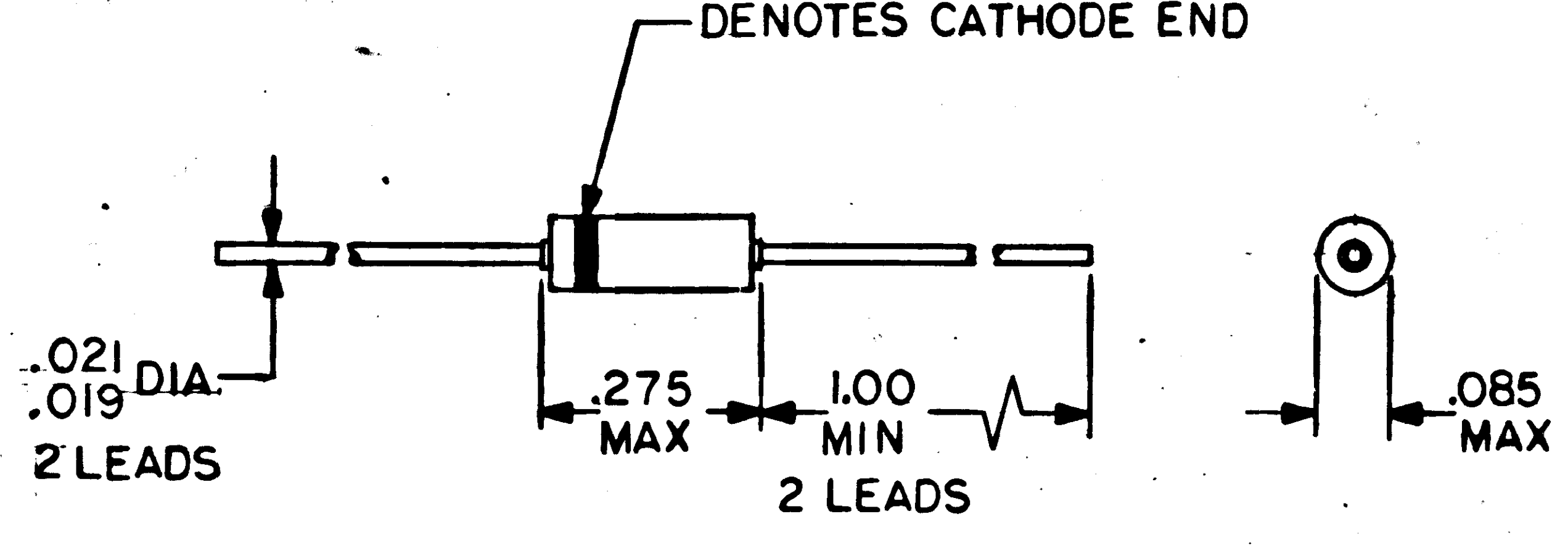
PART NO	LEAD MATERIAL
-000	IRON-NICKEL ALLOY PER PS 1015401
-001	IRON-NICKEL ALLOY PER PS 1015401 EXCEPT PLATING TO BE NICKEL 75 ± 10 MICRO INCHES THICKNESS

NOTE: THE ORIGINAL CONFIGURATION IS IDENTIFIED BY THE DRAWING NUMBER AND A-000 SUFFIX.

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_F 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 ND 1002034 FOR THIS DRAWING.



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
CAPACITOR VALUES ARE IN μf	
RESISTOR VALUES ARE IN OHMS	
TOLERANCES ON FRACTIONS DECIMALS ANGLES	
± ± ±	
DO NOT SCALE THIS DRAWING	
MATERIAL	
SEE NOTES	
NEXT ASSY	USED ON
APPLICATION	

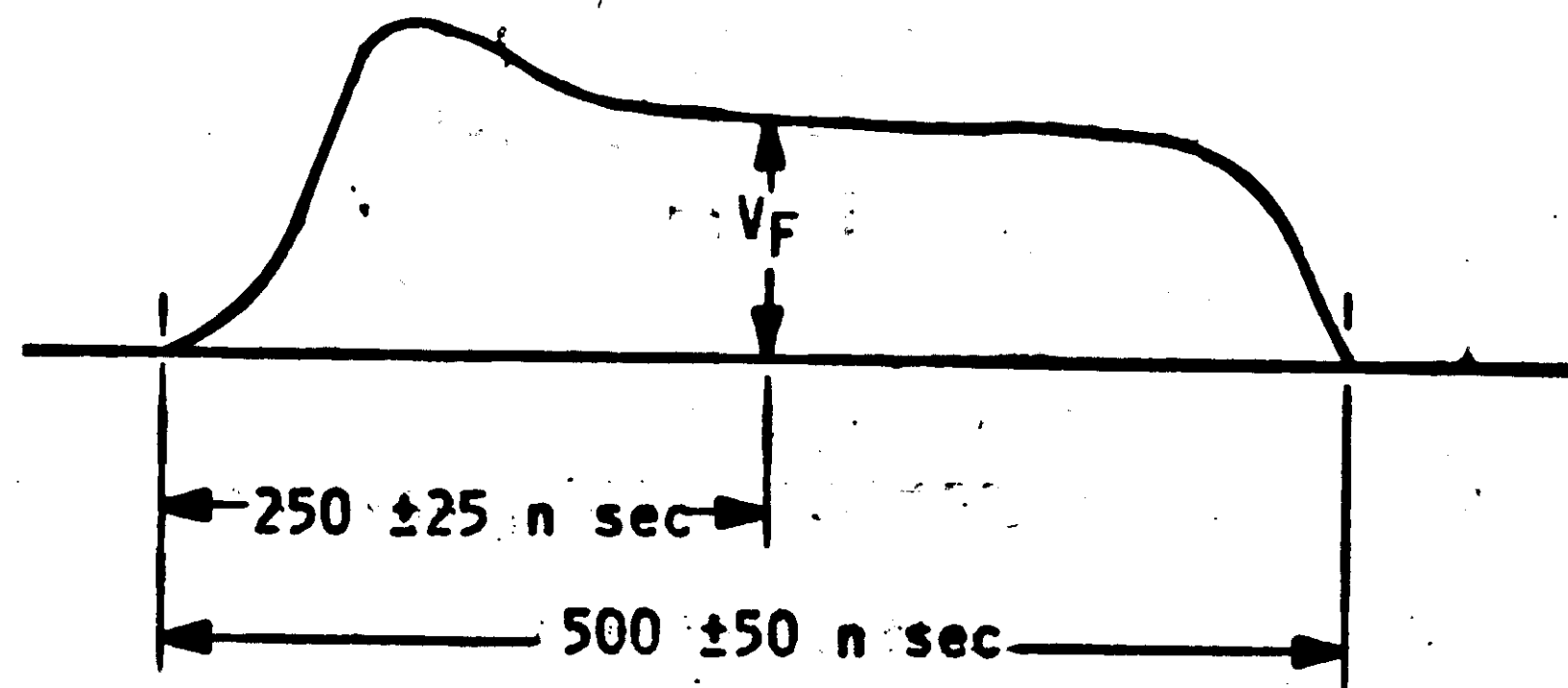
QTY REQD	PART OR IDENTIFYING NO.	MATERIAL OR NOTES	NOMENCLATURE OR DESCRIPTION	FIND NO.
LIST OF MATERIALS				
MIT INSTRUMENTATION LAB CAMBRIDGE, MASS.		MANNED SPACECRAFT CENTER HOUSTON, TEXAS		
DRAWN <i>J.P. Leonard</i> 13 APR 66		SEMICONDUCTOR DEVICE, DIODE SILICON PLANAR, OXIDE PASSIVATED SPECIFICATION CONTROL DRAWING		
CHECKED <i>Bob Marsh</i> 15 APR 66				
APPROVED <i>L.D. Hinkle</i> 22 APR 66				
APPROVED <i>Edwin C. Hill</i> 22 APR 66				
APPROVED MIT <i>W. Metzger</i>	DATE	CODE IDENT NO. SIZE	DRAWING NO.	
APPROVED MSC <i>A.G. METZGER</i>		80230 C	1006399	
		SCALE NONE	SHEET 1 OF 2	

1006399 C

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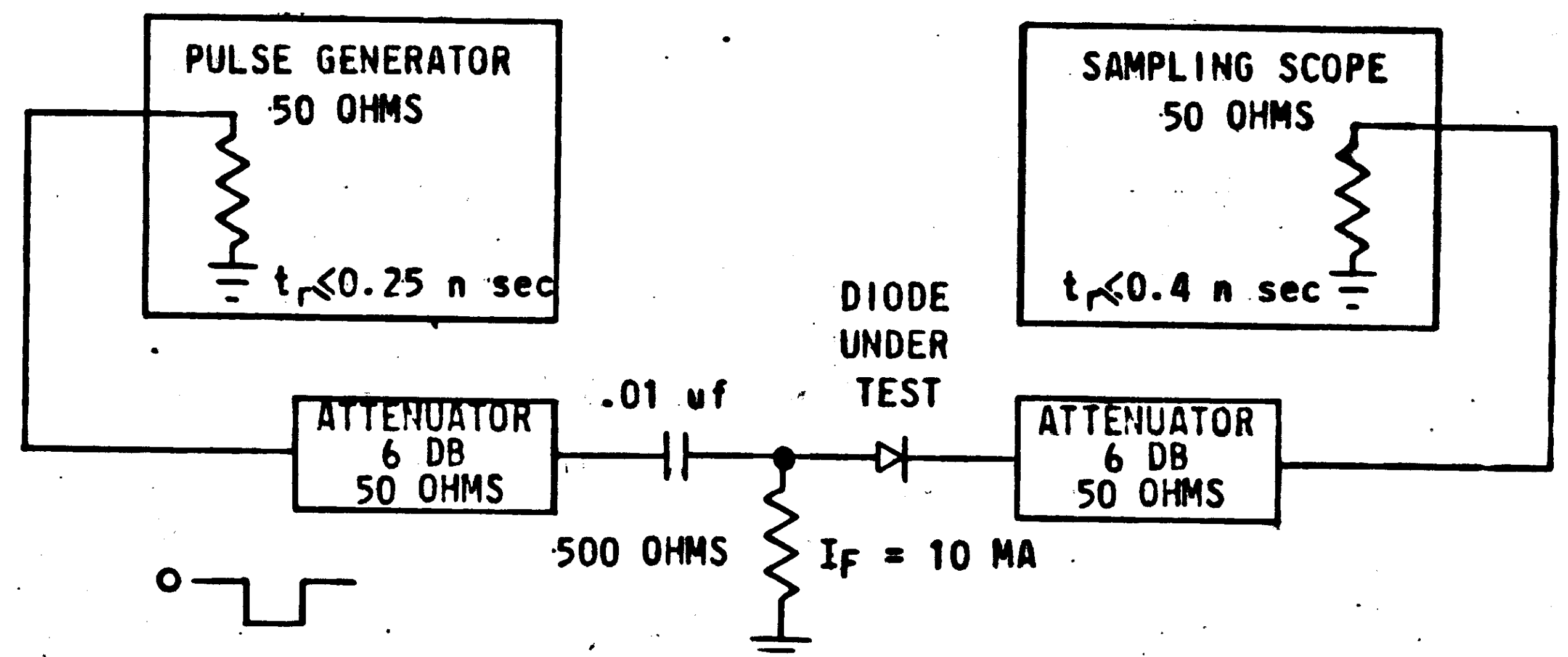
REVISIONS						
SYM	ZONE	DESCRIPTION	DR	CHK	DATE	APPROVED
-		INITIAL RELEASE CLASS A PER TDRR 28257	TD		4-26-66	
A		REVISED PER TDRR 29212	B	HW	4/26/66	MSW
B		REVISION STATUS CHANGED	AF	BW	13JUN 67	
C		REVISION STATUS CHANGED	AF	BW	13JUN 67	

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	.750	.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



OUTPUT VOLTAGE WAVE SHAPE
FIGURE 2

FIGURE 1
TEST CIRCUIT - REVERSE RECOVERY TIME



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 <i>J.P. Leonard PE</i> 13 APR 66	CHECKED <i>Bob Marshall</i> 15 APR 66	SEMICONDUCTOR DEVICE, DIODE		
APPROVED <i>P.D. Hanley</i> 22 APR 66	APPROVED <i>Edna O'Hall</i> 22 APR 66	SILICON PLANAR, OXIDE PASSIVATED		
APPROVED MIT <i>W. G. ...</i>		CODE IDENT NO.	SIZE	DRAWING NO.
APPROVED MSC <i>A.C. ...</i>		80230	C	1006399
DATE		SCALE NONE	SHEET 2 OF 2	