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NOTES:

1. REQUIREMENTS:

- THIS DEVICE SHALL MEET THE MATERIAL AND WORKMANSHIP REQUIREMENTS OF MIL-S-19500.
- LEAD MATERIAL SHALL BE IN ACCORDANCE WITH NASA DOCUMENT PS 1015402 EXCEPT LEAD DIAMETERS SHALL BE AS FOLLOWS:
 - THE LEAD DIAMETER IN THE ZONE BETWEEN .050 AND .250 FROM THE BASE SEAT SHALL BE .016 PLUS .003 MINUS .000; IN THE ZONE BETWEEN .250 AND 1.5 FROM THE BASE SEAT SHALL BE .021 MAX, AND IN ALL OTHER ZONES SHALL BE UNCONTROLLED.
- UNITS SHALL BE HERMETICALLY SEALED IN A METAL CASE.
- PERFORMANCE SHALL BE IN ACCORDANCE WITH TABLE I. ALL MEASUREMENTS SHALL BE MADE AT 25 DEGREES CENTIGRADE. TESTS TO BE PERFORMED IN SEQUENCE, I.E., DIODE AND 2K RESISTOR FOR TEST NO. 2 ARE RETAINED FOR TEST NO. 3 AND NO. 4.
- QUALITY ASSURANCE PROVISIONS SHALL BE IN ACCORDANCE WITH NASA DOCUMENT ND 1015404 SECTION
- PREPARATION FOR DELIVERY SHALL BE IN ACCORDANCE WITH MIL-S-19491.

2. EXPLANATORY NOTES FOR SCHEMATIC:

- R^* IS THE EMITTER DEGENERATION REQUIRED TO BALANCE THE D.C. COLLECTOR VOLTAGES OF T_1 AND T_2 AND TO GET THE REQUIRED DIFFERENTIAL GAIN.
- V_Y IS ADJUSTABLE TO SET SENSING THRESHOLD. $-6V \leq V_Y \leq -4V$
- AN EXTERNAL RESISTOR MIGHT BE ADDED AT THIS POINT TO MATCH SENSE AMPLIFIERS IF ANALYSIS SHOWS IT TO BE NECESSARY.
- V_Z AND ITS ACCOMPANYING 100 Ω RESISTORS MAY NOT BE USED ON SOME SENSE AMPLIFIERS WHICH MAY BE TRANSFORMER COUPLED.

TABLE I.

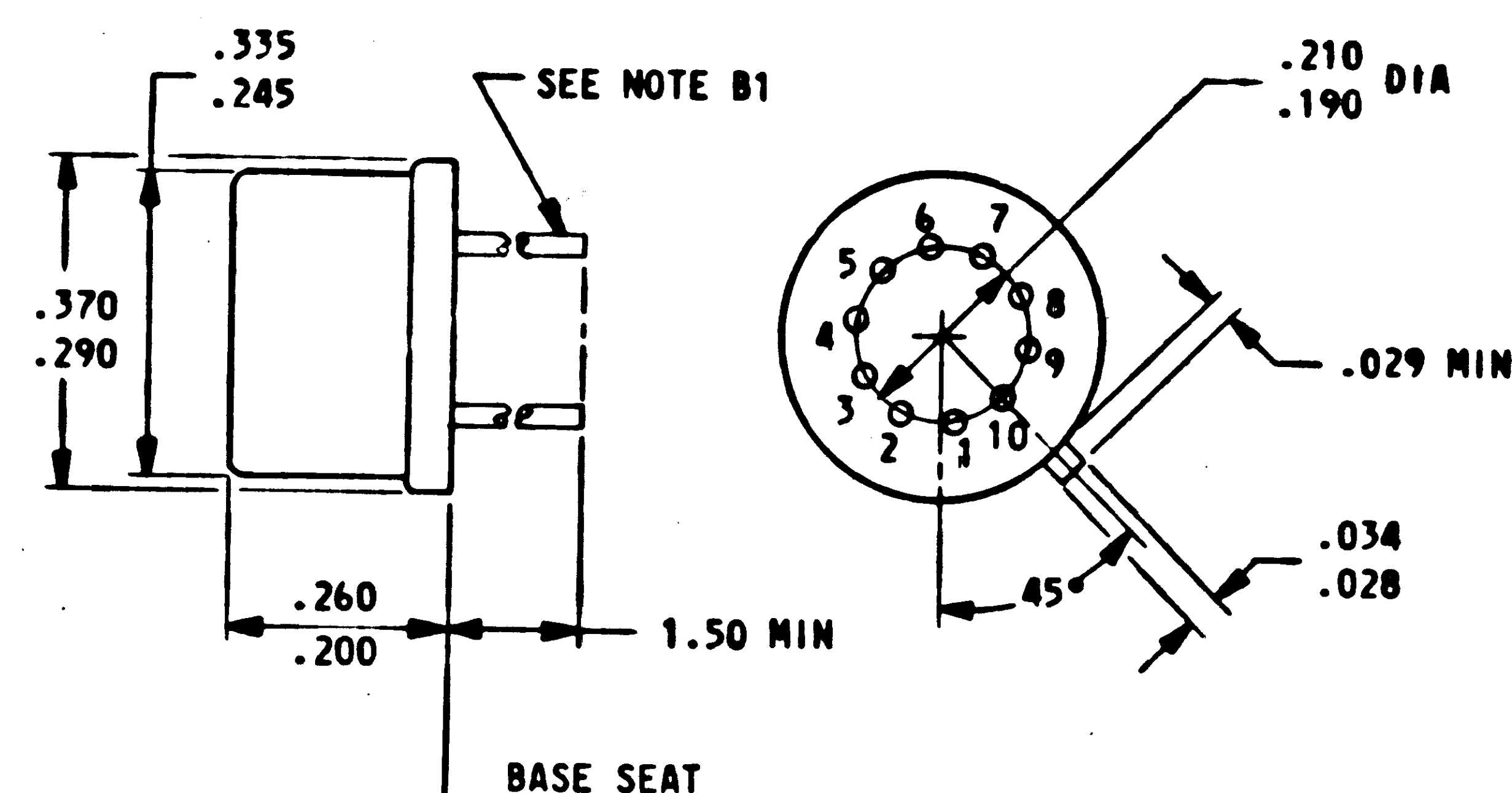
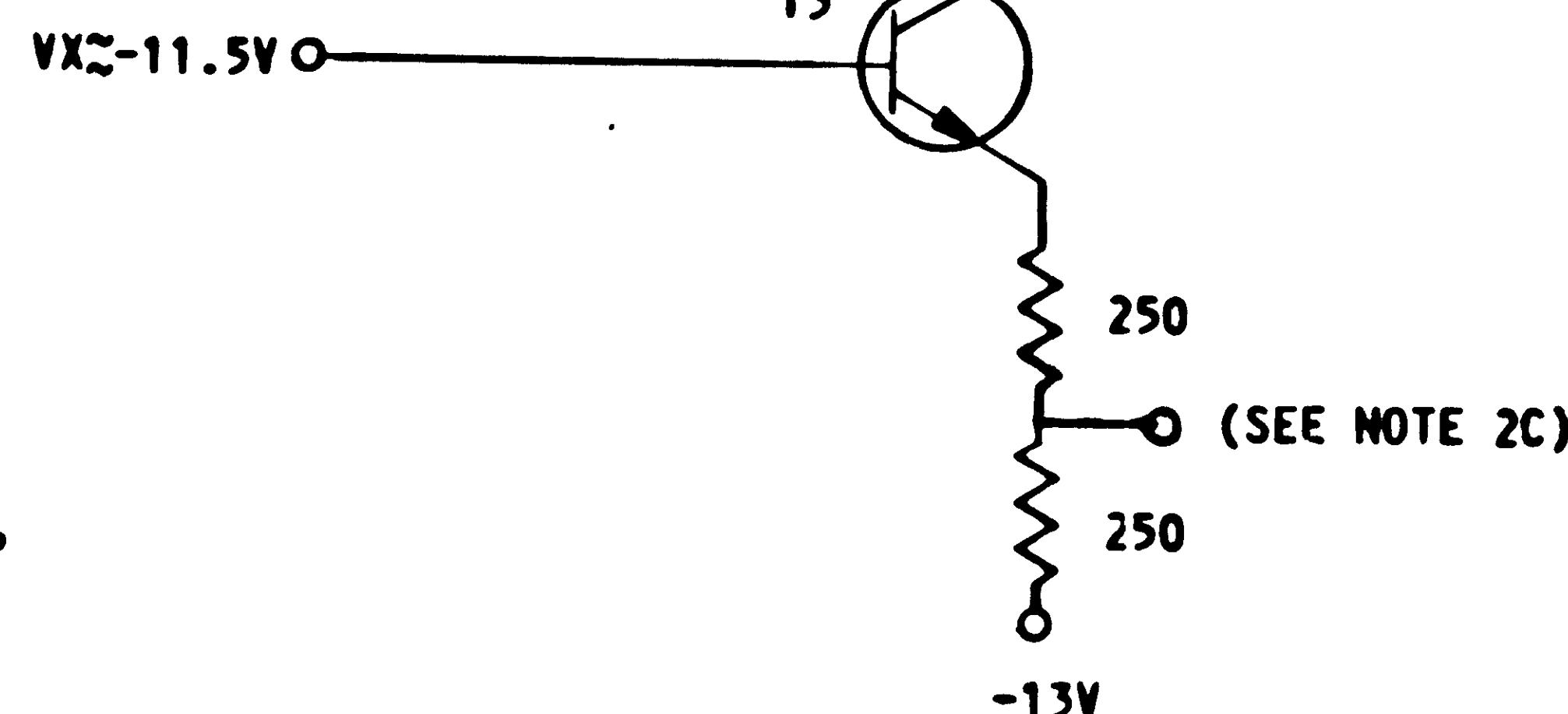
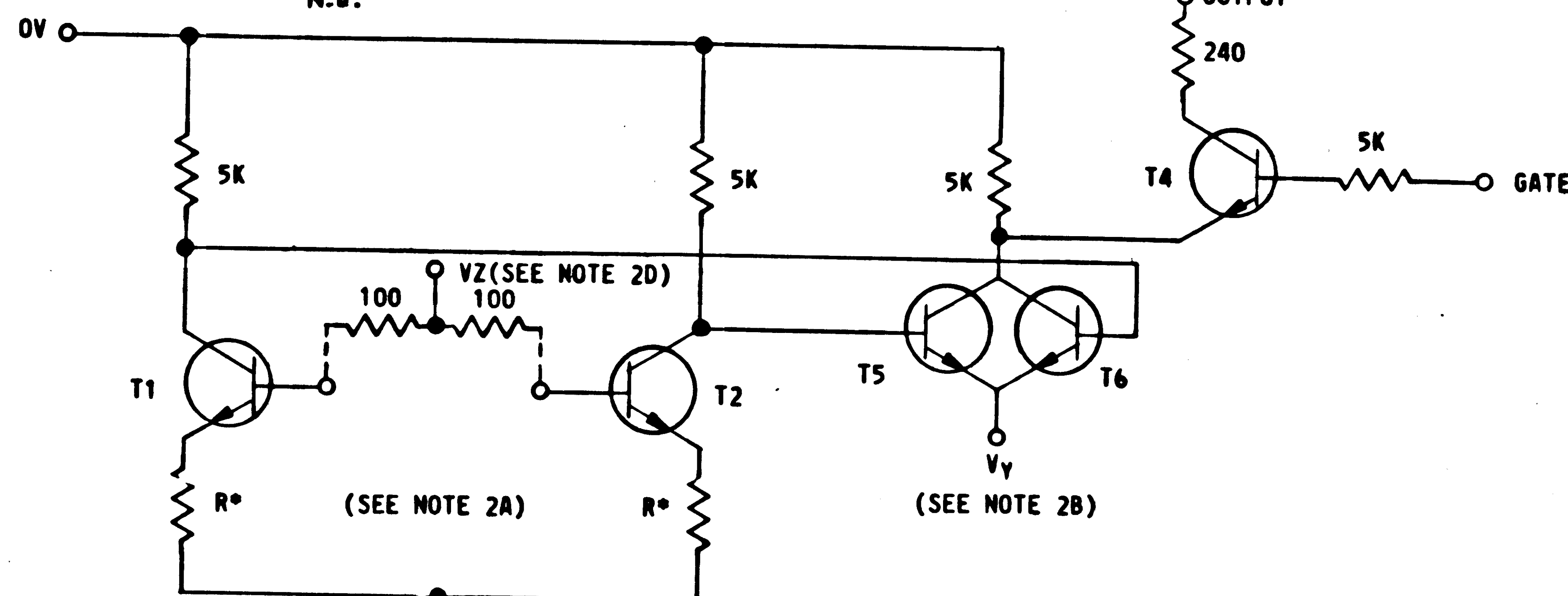
NO.	PARAMETER	TEST CONDITIONS	LIMITS
1.	V_{T3E}		$0.7V \pm 15\%$
2.	V_{T4E}	$I_1 = I_2 = 0$. VARIABLE POWER SUPPLY FROM T_{4E} TO GND. 2K Ω IN SERIES WITH FORWARD BIASED SILICON DIODE FROM T_{4C} TO GND.	MEAS. MAX V_{T4E} REQUIRED FOR ($V_{T4C} - V_{T4E}$) $< 1.5V$.
3.	TRANSF. FCN	A. USING A TRANSFORMER INPUT, SUPPLY A 1 MC SINE WAVE DIFFERENTIAL INPUT OF 30, 50 AND 70 MV. SET V_{T4E} FOR ZERO OUTPUT IN EACH CASE. B. INCREASE INPUT BY 10 MV FOR EACH CASE.	A. MEAS. MIN. V_{T4E} FOR ZERO OUTPUT WITH 30, 50, 70 MV INPUTS. B. MEAS. + & - PEAK CURRENTS. THESE SHOULD BALANCE TO WITHIN 30%. OUTPUT VOLTAGE MAGNITUDE SHOULD BE $\geq 2V$. PEAK TO ZERO. THEN MEAS. MIN. V_{T4E} FOR ZERO OUTPUT AT THIS INPUT LEVEL. C. PLOT V_{T4E} VS. V_{IN} . SLOP SHOULD BE $30 \pm 10\%$.
4.	CM REJECTION	SET V_{T4E} TO VOLTAGE MEAS. IN #3 FOR 30 MV. TIE I_1 AND I_2 INPUTS TOGETHER TO 1 MC SINE WAVE SOURCE THRU 0.001 μF . AMPLITUDE AT SOURCE SHOULD BE 2V PEAK TO PEAK.	NO OUTPUT (V_{T4C} IS GREATER THAN -1 V.)

INCHES
0 1 2
PHOTOGRAPHIC SCALE ONLY

ORIGINAL SOURCE OF SUPPLY:
PER QUALIFIED VENDOR LIST
SEE ND

NOTES: CONTINUED

- INTERPRET DRAWING IN ACCORDANCE WITH STANDARDS PRESCRIBED IN MIL-D-70327.
- PADS ARE TO BE PROVIDED AT RESISTOR ENDS IN CLOSE PROXIMITY TO THE BASE PADS SUCH THAT THE OPERATOR OF THE THERMO COMPRESSION BONDER MAY CHOOSE TO CONNECT THE RESISTORS TO THE BASE LEADS OR NOT, AS SPECIFIED.
- QUAL. TESTING SHALL BE IN ACCORDANCE WITH N.D.



FOR INFORMATION ONLY

CLASS B RELEASE TDR No. 00085 DATE 11-8-62

QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	FIND NO.
LIST OF MATERIALS			
MIT INSTRUMENTATION LAB CAMBRIDGE, MASS. CONTRACT		MANNED SPACECRAFT CENTER HOUSTON, TEXAS	
DRAWN Ray Wheeler DATE 5/2/62 CHECKED J. J. Maynard 6 Nov 62 APPROVAL J. J. Maynard 7 Nov 62 APPROVAL J. J. Maynard 7 Nov 62		SEMICONDUCTOR DEVICE, SENSE AMPLIFIER SPECIFICATION CONTROL DRAWING	
NASA APPROVAL W. J. R. 11-8-62 MIT APPROVAL W. J. R. 11/8/62		CODE IDENT NO. 10001 SIZE C	NASA DRAWING NO. 1006769
HEAT TREATMENT		SCALE NONE	WT
FINAL FINISH		SHEET 1 OF 1	