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A		1006714	
		REVISIONS 02821	
SYM	DESCRIPTION	DATE	APPROVAL
A	REVISED PER TDRR 19734	6/15/65	W.K.

1. GENERAL REQUIREMENTS:

1. GENERAL REQUIREMENTS:
- A. INTERPRET DRAWING IN ACCORDANCE WITH THE STANDARDS PRESCRIBED BY MIL-D-70327.
 - B. UNITS SHALL BE IN ACCORDANCE WITH MIL-R-93/20 (TYPE RB71) AS SPECIFIED BELOW WITH EXCEPTIONS.
 - C. SUPPLIER SHALL CONFORM TO THE QUALITY ASSURANCE PROVISIONS CONTAINED IN ND 1015404, CLASS 2.
 - D. UNITS SHALL BE CAPABLE OF MEETING THE QUALIFICATION REQUIREMENTS OF ND 1002057.
 - E. UNITS SHALL BE PERMANENTLY AND LEGIBLY MARKED, PER ND 1002019 WITH THE RESISTANCE VALUE, WATTAGE AND NASA PART NUMBER (DRAWING NUMBER AND REVISION LETTER). PACKAGES SHALL BE MARKED, PER MIL-STD-129, WITH THE MANUFACTURER'S NAME AND/OR SYMBOL, LOT CODE, DATE OF MANUFACTURE OR DATE CODE AND THE NASA PART NUMBER.

- B. 100 HOUR SHORT TERM STABILITY REQUIREMENTS:**

EACH RESISTOR SHALL BE ENERGIZED AT FULL RATED POWER (40%) AT 125°C +0° FOR A PERIOD OF 100 +2 HOURS. -5°C -0

POWER SHALL BE APPLIED FOR AT LEAST 98 HOURS WITH ONE TURN OFF PERIOD OF AT LEAST ONE(1) HOUR NEAR THE FIFTY(50) HOUR INTERVAL. MEASUREMENTS SHOULD BE TAKEN AND DATA RECORDED BEFORE AND AFTER TEST. THESE MEASUREMENTS ARE TO BE TAKEN WITHIN ONE(1) HOUR BEFORE START AND AFTER TEST. MEASUREMENT TEMPERATURES SHALL BE WITHIN ONE(1) DEGREE CENTIGRADE OF EACH OTHER AND CORRECTED TO 0.2°C.

TOTAL RESISTANCE CHANGE AS A RESULT OF THE STABILITY TEST SHOULD NOT EXCEED 400 PPM.

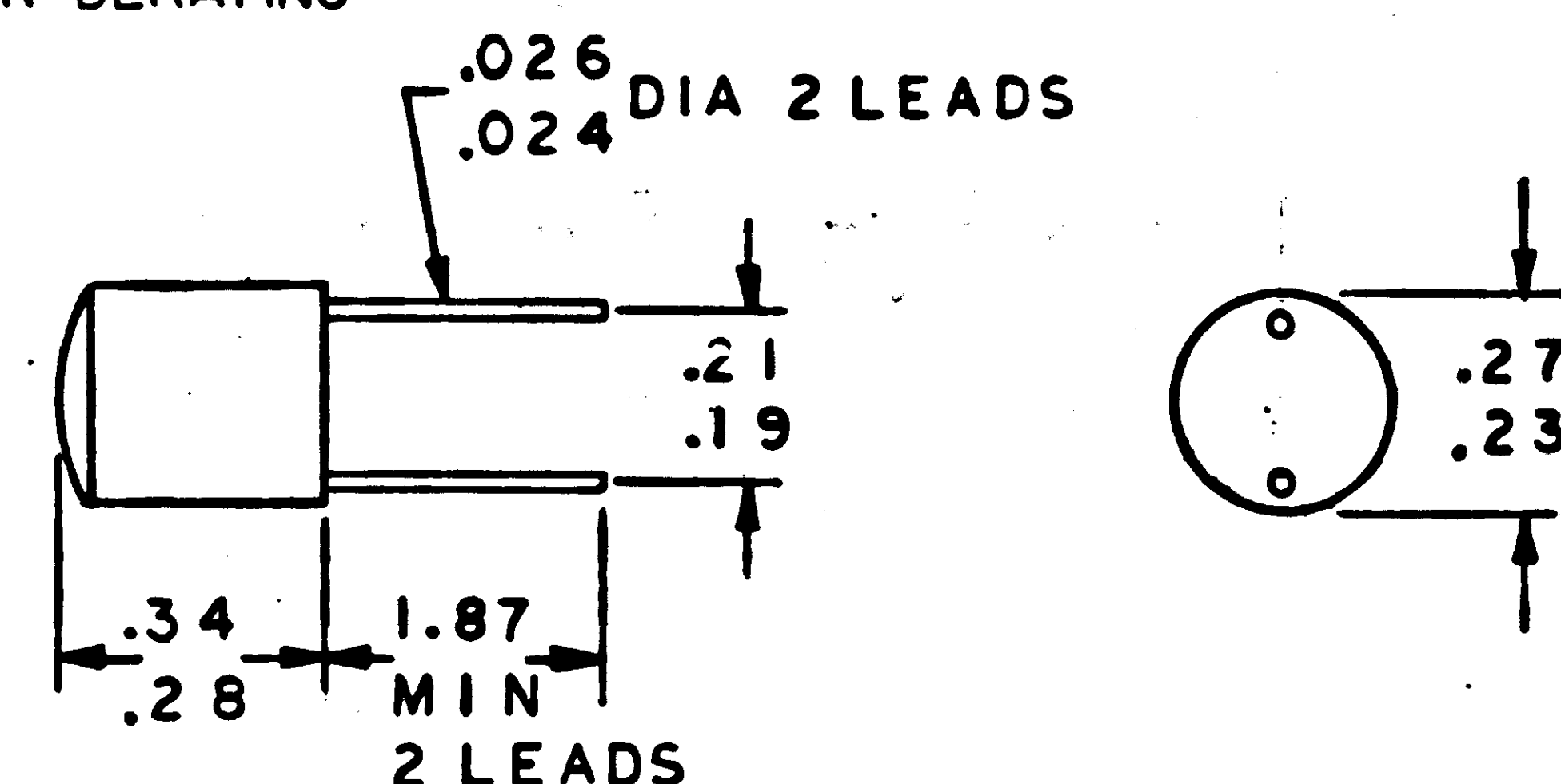
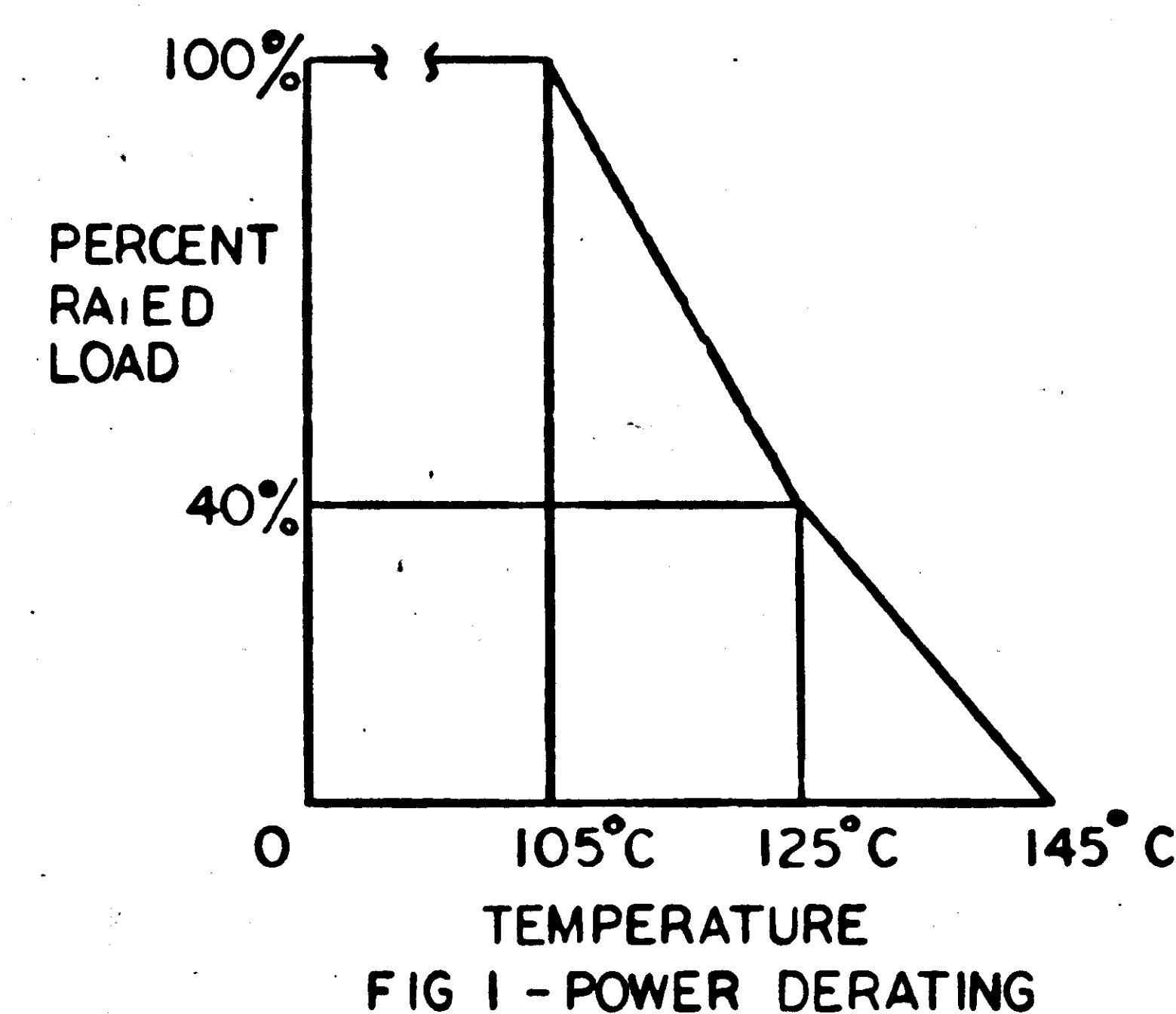
- C. EACH RESISTOR SHALL BE SERIALIZED AND RESISTANCE MEASUREMENTS TAKEN AND SUPPLIED WITH SHIPMENT AT $0^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$, $25^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$, $50^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$ AND $70^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$.

2. ACCEPTANCE AND INSPECTION:

- A. MECHANICAL PROPERTIES:
- (1) LEAD MATERIAL: NICKEL PER ND PS 1015400. MATERIAL CERTIFICATION SHALL ACCOMPANY EACH SHIPMENT. FOR INFORMATION ONLY
- B. ELECTRICAL CHARACTERISTICS (AT $25 \pm 0.1^\circ\text{C}$ UNLESS OTHERWISE SPECIFIED):
- (1) RESISTANCE VALUE: 4000 OHMS.
- (2) RESISTANCE TOLERANCE: $\pm 1\%$
- (3) RESISTANCE-TEMPERATURE CHARACTERISTIC (FROM $+25^\circ$ TO $+105^\circ\text{C}$): $+4300 \pm 300$ PPM/ $^\circ\text{C}$.

3. DESIGN REQUIREMENTS: 0 + 100 FEET

- A. RATINGS: (MINIMUM WORKING VOLTAGE: 100 VOLTS.)
- (1) MAXIMUM WORKING VOLTAGE: 100 VOLTS.
 - (2) POWER DISSIPATION: 1.25 WATTS AT +105°C DERATED LINEARLY TO 0.10 WATTS AT +125°C. (SEE FIGURE 1.)
 - (3) RESISTANCE-VALUE STABILITY (LONG RANGE): 30 PARTS PER MILLION FOR ONE YEAR AND 50 PARTS PER MILLION FOR A 3 YEAR PERIOD.



DESIGN REQUIREMENTS:

- B. OPERATING LIFE: 2000 HOURS MINIMUM AT FULL RATED WATTAGE.
- C. STORAGE LIFE: 1 YEAR MINIMUM AT ROOM TEMPERATURE WITHOUT ELECTRICAL CHANGE.
- D. CONSTRUCTION: ENCAPSULATED, WIREWOUND RESISTANCE ELEMENT.

4. SPECIAL CONDITIONING:

- A. TEMPERATURE CYCLING: ALL RESISTORS SHALL BE TEMPERATURE CYCLED IN ACCORDANCE WITH MIL-R-93, PARAGRAPH 4.6.4. ALL PARTS NOT MEETING PARAGRAPH 2.8.2 OF THIS SPECIFICATION AFTER TEST SHALL BE REJECTED.
3. BURN IN: ALL RESISTORS SHALL BE SUBJECTED TO A 24 HOUR FULL POWER BURN IN AT 105°C AMBIENT TEMPERATURE. THE CHANGE IN RESISTANCE SHALL NOT EXCEED 0.2%. DO NOT SHIP ANY PARTS WHICH ARE BEYOND PURCHASE TOLERANCE AT CONCLUSION OF TEST.

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

		QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION		FIND NO.
		LIST OF MATERIALS				
		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS DECIMALS ANGLES ± ± ± DO NOT SCALE THIS DRAWING MATERIAL SEE NOTES		MIT INSTRUMENTATION LAB CAMBRIDGE, MASS. DWS. NO. CONTRACT		MANNED SPACECRAFT CENTER HOUSTON, TEXAS
				DRAWING <u>8106 C. Coe</u> DATE <u>22 Aug 63</u> CHECKED <u>J. Rogers</u> APPROVAL <u>E. Brown</u> 23 Aug 63 APPROVAL <u>Eden C. Hall</u> 23 Aug 63		RESISTOR, FIXED, WIREWOUND POSITIVE TEMP COEF SPECIFICATION CONTROL DRAWING
		HEAT TREATMENT		NASA APPROVAL <u>Jack Baseman</u>	CODE IDENT NO.	SIZE
NEXT ASSY	USED ON	FINAL FINISH		MIT APPROVAL <u>W. H. Hall</u> 8/28/63	80230	C
APPLICATION					SCALE NONE	WT
						SHEET OF