REVISION RECORD		
REV	DESCRIPTION	DATE
0	INITIAL RELEASE	06/12/96
A	• PAGE 2, ADDED PARAGRAPHS 3.2.1 AND 3.2.2. PARAGRAPH 3.3.b, ADDED "(SEE PARAGRAPH 3.2)". • PAGE 3, ADDED PARAGRAPHS 3.8.1 AND 3.8.3. PARAGRAPH 3.12, WAFER LOT ACCEPTANCE REDEFINED. • PAGE 4, PARAGRAPH 4.4.2, GROUP B INSPECTION, REDEFINED. PARAGRAPH 4.4.3, GROUP D INSPECTION, REDEFINED. PARAGRAPH 4.5, SOURCE INSPECTION, REDEFINED. • PAGE 6, ADDED TO FIGURE 1, TO39 CASE OUTLINE θja AND θjc. • PAGE 7, ADDED TO FIGURE 2, TO3 CASE OUTLINE θja AND θjc.	11/27/97
B	PAGE 4, AMENDED PARAGRAPHS 4.1 AND 4.1.1 TAKING EXCEPTION TO ANALYSIS OF CATASTROPHIC FAILURES.	02/23/98
C	PAGE 6 AND 7 FIGURE 1 AND 2 CHANGED θja AND θjc.	09/29/99
D	• PAGE 2: PARAGRAPHS 3.2.1, 3.2.2, FIGURES 1, 2 REMOVED. • PAGE 3: PARAGRAPHS 3.7 CHANGED VERBIAGE FROM "SPECIFIED IN TABLE III" TO "AND AS SPECIFIED IN TABLE III HEREIN", LINE 2. PARAGRAPH 3.9, ADDED "HEREIN" AFTER TABLE II, LINE 2. • PAGE 4: PARAGRAPH 4.3, ADDED "HEREIN" AFTER TABLE III", LINE 2. 4.4.1, ADDED "HEREIN" AFTER TABLE III", LINE 2. 4.4.2.2, CHANGED VERBIAGE IN LINE 1 FROM "ALL FOOTNOTES OF TABLE IIa OF MIL-STD-883" TO "ALL FOOTNOTES PERTAINING TO TABLE IIa IN MIL-STD-883". PARAGRAPH 4.4.3.2 CHANGED VERBIAGE IN LINE 1 FROM "ALL FOOTNOTES OF TABLE IV OF MIL-STD-883" TO "ALL FOOTNOTES PERTAINING TO TABLE IV IN MIL-STD-883".	11/17/99
E	• CONVERSION FROM WORD PERFECT TO MICROSOFT WORD. • PAGE 1: CORRECTED CAGE CODE # FROM 94115 TO 64115. • PAGE 2: AN ADDITIONAL REVISION RECORD PAGE WAS INSTALLED. • PAGE 3: PARAGRAPH 3.2.1 ADDED "OPTION 1" AND PARAGRAPH 3.2.2, ADDED "OPTION 2". CONTINUED ON NEXT PAGE…..	05/30/02

CAUTION: ELECTROSTATIC DISCHARGE SENSITIVE PART

REVISION	PAGE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14			
INDEX	REVISION	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**	**K**			

				ANALOG DEVICES INC			
	ORIG			TITLE: **MICROCIRCUIT, LINEAR, RH137, NEGATIVE ADJUSTABLE REGULATOR**			
	DSGN						
	ENGR						
	MFG						
	CM						
	QA			SIZE	CAGE CODE	DRAWING NUMBER	REV
	PROG				**64155**	**05-08-5028**	**L**
APPLICATION	FUNCT	SIGNOFFS	DATE	CONTRACT:			

FOR OFFICIAL USE ONLY

REVISION RECORD		
REV	DESCRIPTION	DATE
	• PAGE 4: PARAGRAPH 3.4 , MOVED PARAGRAPH AND NOTES FROM PAGE 3. CHANGED INPUT TO OUTPUT VOLTAGE DIFFERENTIAL FROM 40V TO 30V. PARAGRAPH 3.6, TABLE IA CHANGED TO TABLE II. PARAGRAPH 3.7, TABLE III CHANGED TO TABLE IV. PARAGRAPH 3.9, TABLE II CHANGED TO TABLE III. PARAGRAPH 3.11.1 WAS CHANGED FROM "…dosage rate of approximately 20 Rads per second" TO "…dosage rate of less than or equal to 10 Rads per second". • PAGE 5: PARAGRAPHS 4.1 THROUGH 4.4.2 CHANGES WERE DONE TO CLARIFY GROUP SAMPLING. PARAGRAPHS 4.4.2.1 THROUGH 4.4.3.1 CHANGES WERE DONE TO CLARIFY GROUP SAMPLING. • PAGE 6: PARAGRAPHS 4.6.2 THROUGH 4.6.4 WERE RE-WRITTEN TO CLARIFY DATA PROVIDED AND DATA AVAILABLE. • PAGES 7 THROUGH 12: ALL FIGURE TITLES CHANGED TO HAVE DEVICE OPTIONS AND PACKAGE TYPES AT TOP OF PAGE, AND HAVE ALL FIGURES AT BOTTOM OF PAGE. • PAGE 10: STATIC BURN-IN CIRCUIT NOTES CHANGED. Tj CHANGED FROM +148°C MAX TO +170°C MAX. Ta CHANGED FROM +125°C TO +150°C. BURN-IN VOLTAGES CHANGED FROM ±20V - ±22V TO ±15V - ±16.5V. • PAGE 11: STATIC BURN-IN CIRCUIT NOTES CHANGED. Tj CHANGED FROM +137°C MAX TO +161°C MAX. Ta CHANGED FROM +125°C TO +150°C. BURN-IN VOLTAGES CHANGED FROM ±20V - ±22V TO ±15V - ±16.5V. • PAGES 13 AND 14: TABLE IA WAS CHANGED TO TABLE II. Vin MAX CHANGED FROM 40V TO 30V AND MAX RAD DOSE CHANGED FROM 200 KRADS TO 100 KRADS. • PAGE 14: TABLE II CHANGED TO TABLE III. TABLE III CHANGED TO TABLE IV. TABLE NOTES NOW REFLECTS TABLE I AND TABLE II BECAUSE OF CHANGE ON PAGE 14.	05/30/02
F	• PAGE 4: CHANGED INITIAL RATE OF RADS TO 240 RADS/SEC.	03/15/05
G	PAGE 5, CHANGED IN BOTH PARAGRAPHS 4.2, 4.3 IN CONJUNCTION TO 3.3 CHANGED TO 3.4 AND PARAGRAPH 4.3 CHANGED 3.1.1 TO 3.1 AND 3.2.1 TO 3.1.1. AND ADDED UPDATED DATA SHEET CHANGES TO TABLE I & II AND TOTAL DOSE BIAS CIRCUIT.	12/03/07
H	• PAGE 4, PARAGRAPH 3.11.1 CHANGED VERBIAGE AND PARAGRAPH 3.10.3 CHANGED "ALLOY 42" TO "ALLOY 52" REQUIREMENT ON TO3 PACKAGE.	04/30/08
J	• PAGE 5, PARAGRAPH 4.4.2 CHANGED VERBIAGE. • PAGE 8, FIGURE 2 NOTE 2 ADDED TO LEAD THICKNESS.	07/11/08
K	• REPLACE BURNIN CIRCUIT ON PG 10 & 11 TO REFLECT CHANGES TO BURN-IN AMBIENT TEMPERATURE AND ADDITION OF THERMAL SHUTDOWN TEMPERATURE.	08/29/17
L	• **TO REMOVE SOURCE AND CHANGE LINEAR TO ANALOG**	**4/5/21**

1.0 SCOPE:

1.1 This specification defines the performance and test requirements for a microcircuit processed to a space level manufacturing flow.

2.0 APPLICABLE DOCUMENTS:

2.1 Government Specifications and Standards: the following documents listed in the Department of Defense Index of Specifications and Standards, of the issue in effect on the date of solicitation, form a part of this specification to the extent specified herein.

SPECIFICATIONS:

MIL-PRF-38535 Integrated Circuits (Microcircuits) Manufacturing, General Specification for

MIL-STD-883 Test Method and Procedures for Microcircuits

MIL-STD-1835 Microcircuits Case Outlines

2.2 Order of Precedence: In the event of a conflict between the documents referenced herein and the contents of this specification, the order of precedence shall be this specification, MIL-PRF-38535 and other referenced specifications.

3.0 REQUIREMENTS:

3.1 General Description: This specification details the requirements for the RH137, Negative Adjustable Regulator, processed to space level manufacturing flow.

3.2 Part Number:

3.2.1 Option 1 – RH137H (TO39 METAL CAN, 3 LEADS)

3.2.2 Option 2 – RH137K (TO3 METAL CAN, 2 LEADS)

3.3 Part Marking Includes:

a. LTC Logo

b. LTC Part Number (See Paragraph 3.2)

c. Date Code

d. Serial Number

e. ESD Identifier per MIL-PRF-38535, Appendix A

3.4 The Absolute Maximum Ratings:

Power Dissipation	Internally Limited
Input to Output Voltage Differential	30V
Operating Junction Temperature Range	-55°C to +150°C
Storage Temperature Range	-65°C to +150°C
Lead Temperature (Soldering, 10 Sec)	+300°C

3.5 Electrostatic discharge sensitivity, ESDS, shall be Class 2.

3.6 Electrical Performance Characteristics: The electrical performance characteristics shall be as specified in Table I and Table II.

3.7 Electrical Test Requirements: Screening requirements shall be in accordance with 4.1 herein, MIL-STD-883, Method 5004, and as specified in Table IV herein.

3.8 Burn-In Requirement:

3.8.1 Option 1 (TO39): Static Burn-In, Figure 5

3.8.2 Option 2 (TO3): Static Burn-In, Figure 6

3.9 Delta Limit Requirement: Delta limit parameters are specified in Table III herein, are calculated after each burn-in, and the delta rejects are included in the PDA calculation.

3.10 Design, Construction, and Physical Dimensions: Detail design, construction, physical dimensions, and electrical requirements shall be specified herein.

3.10.1 Mechanical / Packaging Requirements: Case outlines and dimensions are in accordance with Figure 1 and Figure 2.

3.10.2 Terminal Connections: The terminal connections shall be as specified in Figure 3 and Figure 4.

3.10.3 Lead Material and Finish: The lead material and finish shall be Kovar for device option 1 and Alloy 52 for device option 2, with hot solder dip (Finish letter A) in accordance with MIL-PRF-38535.

3.11 Radiation Hardness Assurance (RHA):

3.11.1 The manufacturer shall perform a lot sample test as an internal process monitor for total dose radiation tolerance. The sample test is performed with MIL-STD-883 TM1019 Condition A as a guideline.

3.11.2 For guaranteed radiation performance to MIL-STD-883, Method 1019, total dose irradiation, the manufacturer will provide certified RAD testing and report through an independent test laboratory when required as a customer purchase order line item.

3.11.3 Total dose bias circuit is specified in Figure 7.

3.12 Wafer Lot Acceptance: Wafer lot acceptance shall be in accordance with MIL-PRF-38535, Appendix A, except for the following: Topside glassivation thickness shall be a minimum of 4KÅ.

3.13 Wafer Lot Acceptance Report: SEM is performed per MIL-STD-883, Method 2018 and copies of SEM photographs shall be supplied with the Wafer Lot Acceptance Report as part of a Space Data Pack when specified as a customer purchase order line item.

4.0 VERIFICATION (QUALITY ASSURANCE PROVISIONS)

4.1 Quality Assurance Provisions: Quality Assurance provisions shall be in accordance with MIL-PRF-38535. Analog Devices is a QML certified company and all Rad Hard candidates are assembled on qualified Class S manufacturing lines.

4.2 Sampling and Inspection: Sampling and Inspection shall be in accordance with MIL-STD-883, Method 5005 with QML allowed and TRB approved deviations in conjunction with paragraphs 3.1.1, 3.2.1, and 3.4 of the test method.

4.3 Screening: Screening requirements shall be in accordance with MIL-STD-883, Method 5004 with QML allowed and TRB approved deviations in conjunction with paragraphs 3.1, 3.1.1, and 3.4 of the test method. Electrical testing shall be as specified in Table IV herein.

4.3.1 Analysis of catastrophic (open/short) failures from burn-in will be conducted only when a lot fails the burn-in or re-burn-in PDA requirements.

4.4 Quality Conformance Inspection: Quality conformance inspection shall be in accordance with 4.2 and 4.3 herein and as follows:

4.4.1 Group A Inspection: Group A inspection shall be performed in accordance with 4.1 herein, per MIL-STD-883, Method 5005, and specified in Table IV herein.

4.4.2 Group B Inspection: When purchased, a full Group B is performed on an inspection lot. As a minimum, Subgroups 1-4 plus 6 are performed on every assembly lot, and Subgroup B2 (Resistance to Solvents / Mark Permanency) and Subgroup B3 (Solderability) are performed prior to the first shipment from any inspection lot and Attributes provided when a Full Space Data Pack is ordered. Subgroup B5 (Operating Life) is performed on each wafer lot. This subgroup may or may not be from devices built in the same package style as the current inspection lot. Attributes and variables data for this subgroup will be provided upon request at no charge.

4.4.2.1 Group B, Subgroup 2c = 10%

Group B, Subgroup 3 = 10%

Group B, Subgroup 4 = 5%

Group B, Subgroup 5 = *5% (*per wafer or inspection lot whichever is the larger quantity)

Group B, Subgroup 6 = 15%

4.4.2.2 All footnotes pertaining to Table IIa in MIL-STD-883, Method 5005 apply. The quantity (accept number) of all other subgroups are per MIL-STD-883, Method 5005, Table IIa.

4.4.3 Group D Inspection: When purchased, a full Group D is performed on an inspection lot. As a minimum, periodic full Group D sampling is performed on each package family for each assembly location every 26 weeks. A generic Group D Summary is provided when a full Space Data Pack is ordered.

4.4.3.1 Group D, Subgroups 3, 4 and 5 = 15% each (Sample Size Series).

4.4.3.2 All footnotes pertaining to Table IV in MIL-STD-883, Method 5005 apply. The quantity (accept number) or sample number and accept number of all other subgroups are per MIL-STD-883, Method 5005, Table IV.

4.5 Deliverable Data: Deliverable data that will ship with devices when a Space Data Pack is ordered:

4.5.1 Lot Serial Number Sheets identifying all devices accepted through final inspection by serial number.

4.5.2 100% attributes (completed lot specific traveler; includes Group A Summary)

4.5.3 Burn-In Variables Data and Deltas (if applicable)

4.5.4 Group B2, B3, and B5 Attributes (Variables data, if performed on lot shipping)

4.5.5 Generic Group D data (4.4.3 herein)

4.5.6 SEM photographs (3.13 herein)

4.5.7 Wafer Lot Acceptance Report (3.13 herein)

4.5.8 X-Ray Negatives and Radiographic Report

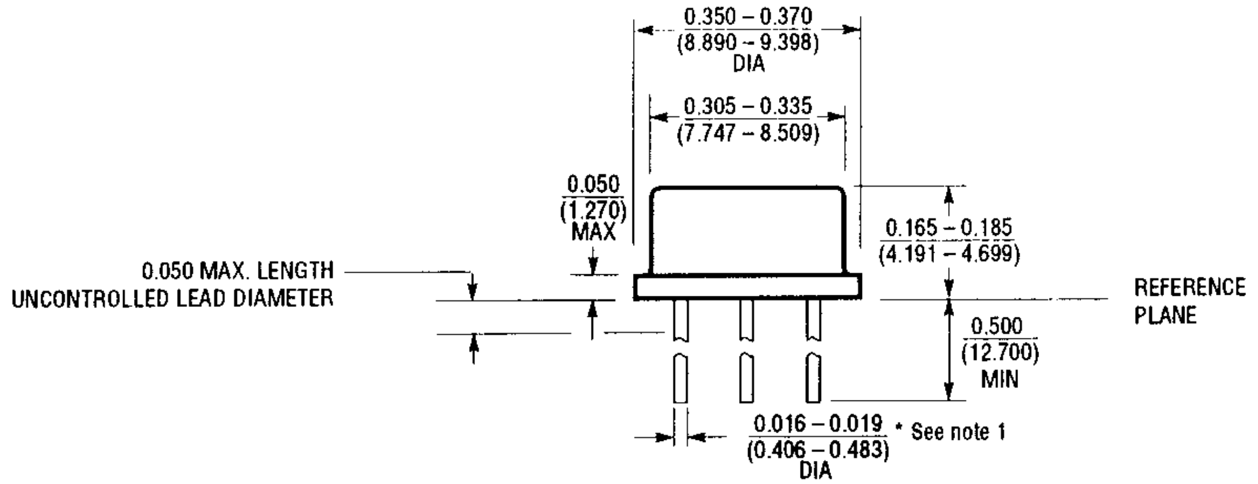
4.5.9 A copy of outside test laboratory radiation report if ordered

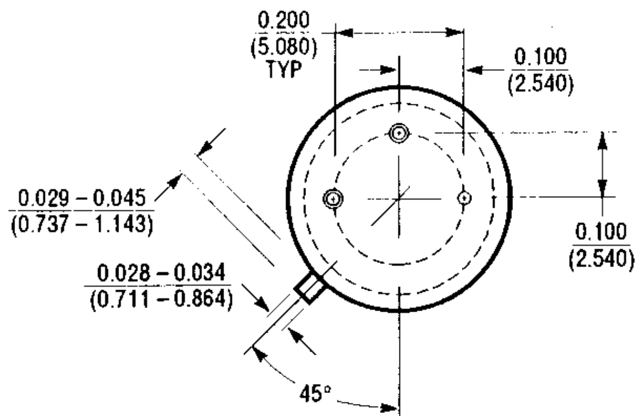
4.5.10 Certificate of Conformance certifying that the devices meet all the requirements of this specification and have successfully completed the mandatory tests and inspections herein.

Note: Items 4.5.1 and 4.5.10 will be delivered as a minimum, with each shipment. This is noted on the Purchase Order Review Form as “No Charge Data”.

5.0 Packaging Requirements: Packaging shall be in accordance with Appendix A of MIL-PRF-38535. All devices shall be packaged in conductive material or packaged in anti-static material with an external conductive field shielding barrier.

DEVICE OPTION # 1
(H) TO39 METAL CAN / 3 LEADS CASE OUTLINE



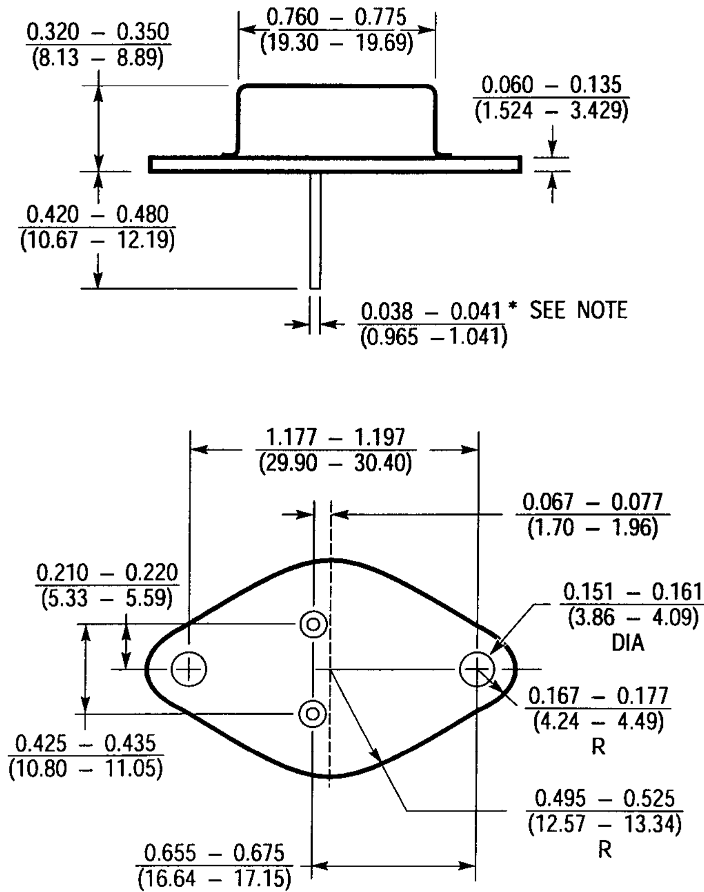


NOTE: 1. FOR SOLDER DIP LEAD FINISH, LEAD DIAMETER IS $\frac{0.016 - 0.024}{(0.406 - 0.610)}$

θja = +150°C/W
θjc = +15°C/W

FIGURE 1

DEVICE OPTION # 2
(K) TO3 METAL CAN / 2 LEADS CASE OUTLINE



NOTE: FOR SOLDER DIP LEAD FINISH, LEAD DIAMETER IS $\frac{0.038 - 0.044}{(0.965 - 1.118)}$

θja = +35°C/W
θjc = +3°C/W

FIGURE 2

TERMINAL CONNECTIONS

DEVICE OPTION #1, TO39 / 3 LEAD METAL CAN

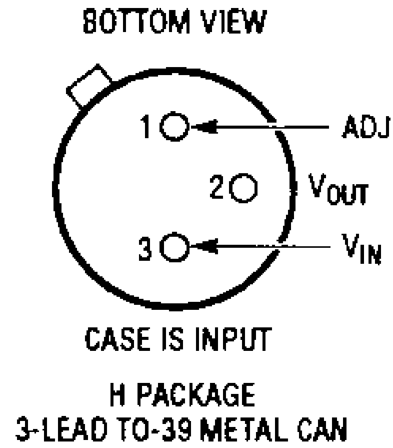


FIGURE 3

DEVICE OPTION #2, TO3 / 2 LEADS

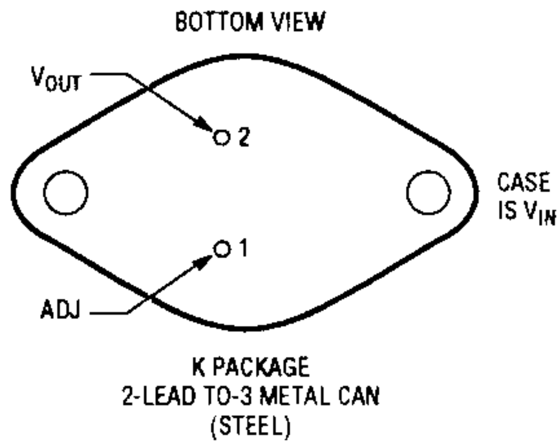
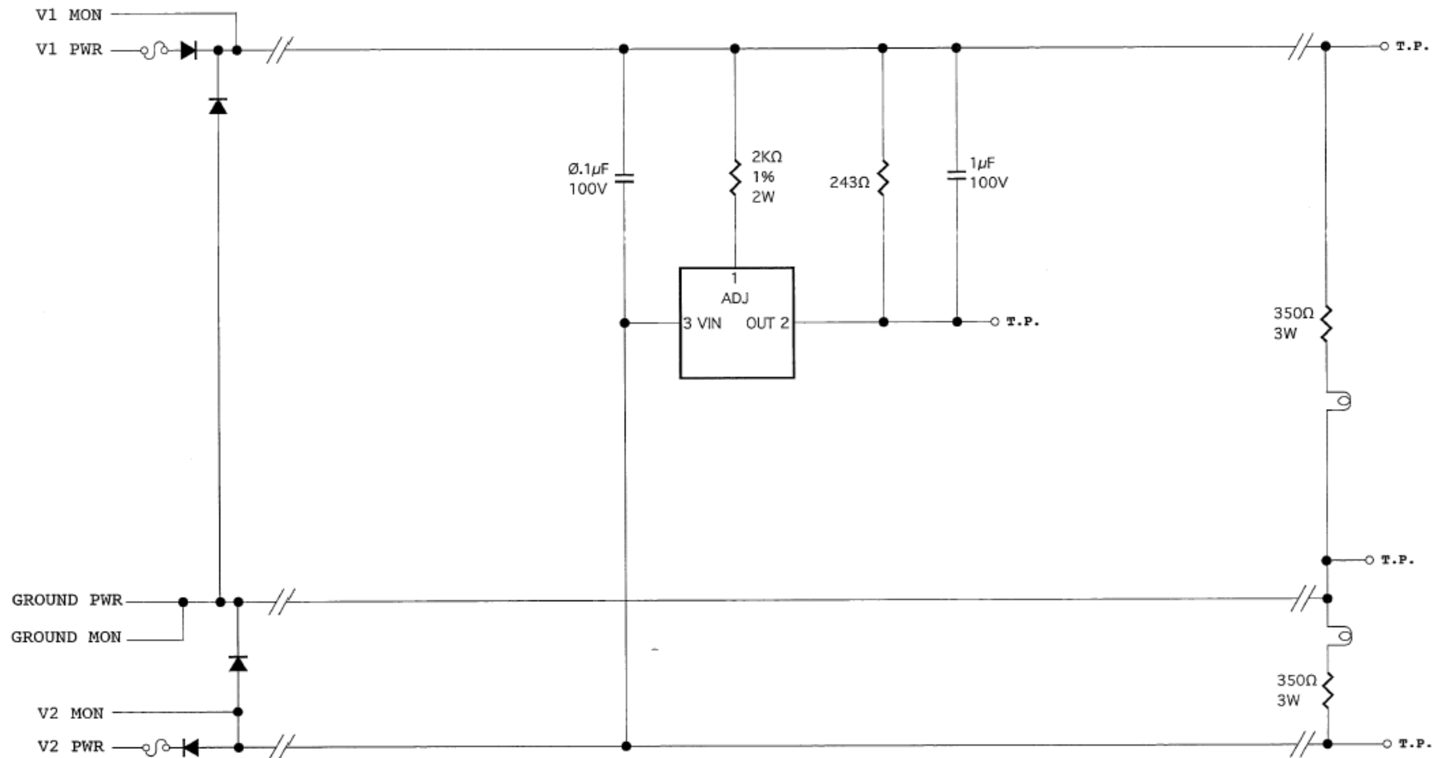


FIGURE 4

STATIC BURN-IN CIRCUIT
OPTION 1, T039 METAL CAN / 3 LEADS



LEGACY: YES OPTIMUM: YES MCC: YES OUTSIDE OVEN: YES

RIDERCARD ASSMBLY: NA
PROBE: 4/6/52

	HARDWARE#	REV.	QUANTITY BOARDS	MAX SKTS PER BOARD
BOARD	04-06-0010	K	1	200
EDGE CARD	NA			
ROW CARD	NA			

	MIN °C	MAX °C
AMBIENT TEMP.	125	133
JUNCTION TEMP	139	148

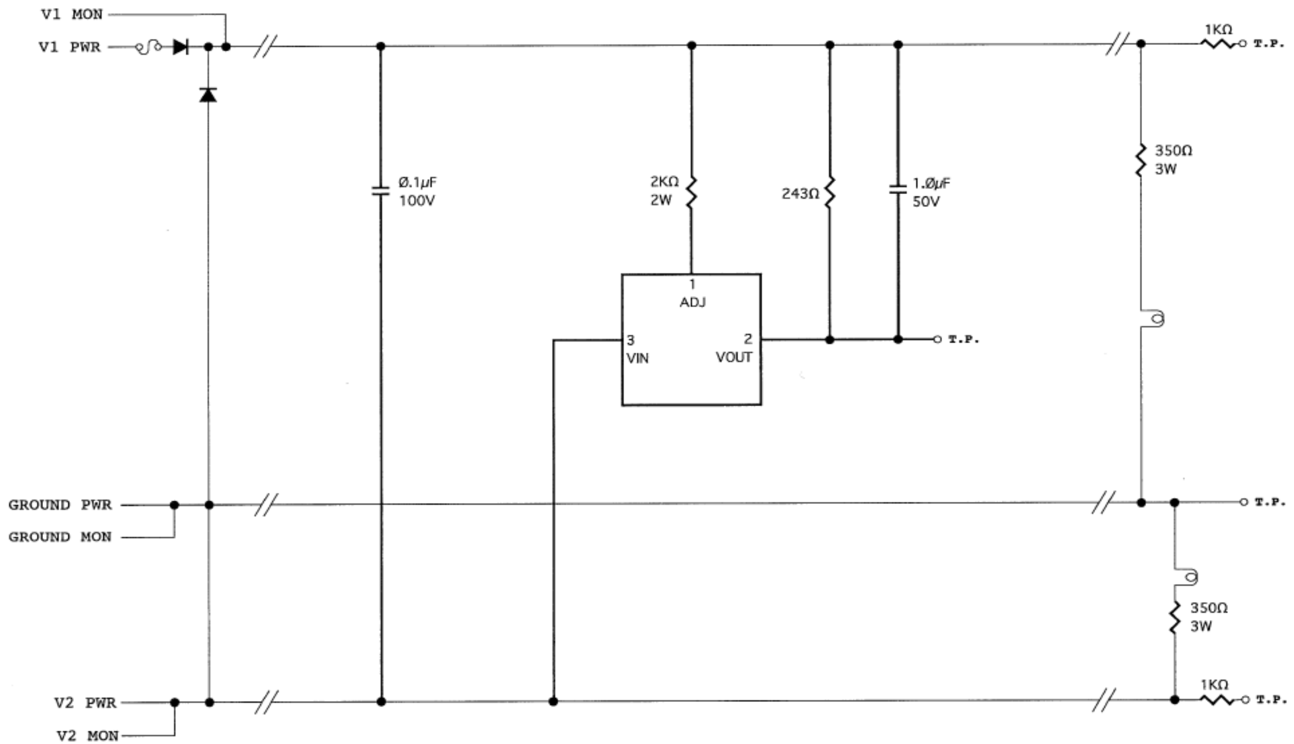
THERMAL SHTDWN: 165°C ±5°C

POWER/MONITOR JUMPER OPTION? NA

SEQUENCE		MIN V	MAX V	FUSE AMPS	CURRENT /PART	EMPTY BOARD CURRENTS in mA ±10% ROW CARD	EDGE CARD	DED BOARD PER BOARD
1	V1	15	16.5	5	5.5mA	NA	NA	50mA
2	V2	-15	-16.5	5	5.5mA	NA	NA	50mA
	V3	NA				NA	NA	
	V4	NA				NA	NA	
	V5	NA				NA	NA	

FIGURE 5

STATIC BURN-IN CIRCUIT
OPTION #2, TO3 / 2 LEADS



LEGACY	YES	OPTIMUM	YES	MCC	YES	OUTSIDE OVEN	YES

RIDERCARD ASSMBLY: NA
PROBE: 04-06-9254

	HARDWARE#	REV.	QUANTITY BOARDS	MAX SKTS PER BOARD
BOARD	04-06-0008	H	2	60
EDGE CARD	NA			
ROW CARD	NA			

	MIN °C	MAX °C		MIN °C	MAX °C
AMBIENT TEMP.	125	133	JUNCTION TEMP	128	136
THERMAL SHTDWN	160°C to 170°C				

POWER/MONITOR JUMPER OPTION? NO

SEQUENCE		MIN V	MAX V	FUSE AMPS	CURRENT /PART	EMPTY BOARD CURRENTS in mA ±10% ROW CARD	EDGE CARD	DED BOARD
	V1	15	16.5	2	6mA	NA	NA	40mA
	V2	-15	-16.5	2	6mA	NA	NA	40mA
	V3	NA				NA	NA	
	V4	NA				NA	NA	
	V5	NA				NA	NA	

TEST POINT 1.35V TO 1.475V BELOW V1

FIGURE 6

TOTAL DOSE BIAS CIRCUIT

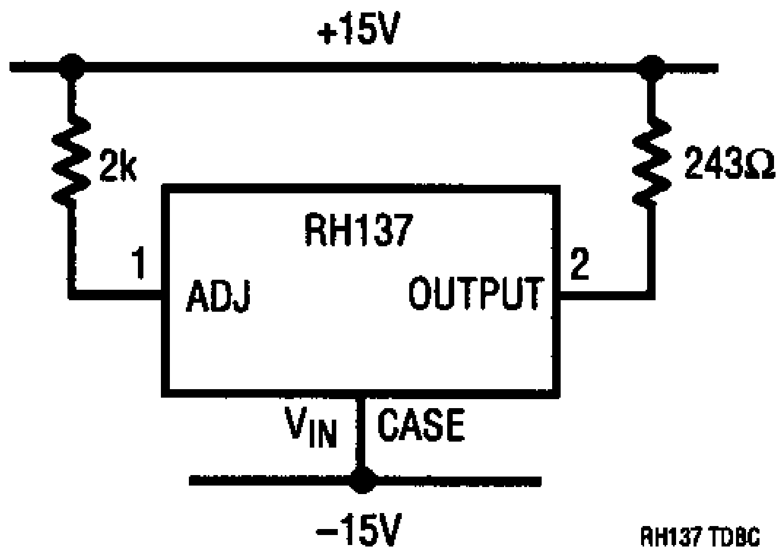


FIGURE 7

TABLE I: ELECTRICAL CHARACTERISTICS (PRE-IRRADIATION) NOTE 1

SYMBOL	PARAMETER	CONDITIONS	NOTES	$T_A = 25°C$ MIN	TYP	MAX	SUB-GROUP	$-55°C \le T_A \le 150°C$ MIN	TYP	MAX	SUB-GROUP	UNITS
V_{REF}	Reference Voltage	$\lvert V_{IN} - V_{OUT} \rvert = 5V$, $I_{OUT} = 10mA$		–1.225		–1.275	1					V
		$3V \le \lvert V_{IN} - V_{OUT} \rvert \le 30V$, $10mA \le I_{OUT} \le I_{MAX}$, $P \le P_{MAX}$		–1.200		–1.300	1	–1.200		–1.300	2, 3	V
$\frac{\Delta V_{OUT}}{\Delta V_{IN}}$	Line Regulation	$3V \le \lvert V_{IN} - V_{OUT} \rvert \le 30V$	2			0.02	1			0.05	2, 3	%/V
$\frac{\Delta V_{OUT}}{\Delta I_{OUT}}$	Load Regulation	$10mA \le I_{OUT} \le I_{MAX}$, $\lvert V_{OUT} \rvert \le 5V$ $10mA \le I_{OUT} \le I_{MAX}$, $\lvert V_{OUT} \rvert \ge 5V$	2 2			25 0.5	1 1			50 1	2, 3 2, 3	mV %
	Thermal Regulation	10ms Pulse				0.02	1					%/W
	Ripple Rejection	$V_{OUT} = -10V$, f = 120Hz, $C_{ADJ} = 0$			60							dB
		$V_{OUT} = -10V$, f = 120Hz, $C_{ADJ} = 10\mu F$	3	66				66				dB
I_{ADJ}	Adjust Pin Current					100	1			100	2, 3	µA
ΔI_{ADJ}	Adjust Pin Current Change	$10mA \le I_{OUT} \le I_{MAX}$ $3V \le \lvert V_{IN} - V_{OUT} \rvert \le 30V$				5 5	1 1			5 5	2, 3 2, 3	µA µA
I_{MIN}	Minimum Load Current	$\lvert V_{IN} - V_{OUT} \rvert = 30V$ $\lvert V_{IN} - V_{OUT} \rvert \le 10V$				5 3	1 1			5 3	2, 3 2, 3	mA mA
	Current Limit	$\lvert V_{IN} - V_{OUT} \rvert \le 15V$ H Package K Package	5 5	0.5 1.5			1 1	0.5 1.5			2, 3 2, 3	A A
		$\lvert V_{IN} - V_{OUT} \rvert = 30V$ H Package K Package	5 5	0.15 0.24			1 1					A A
$\frac{\Delta V_{OUT}}{\Delta Temp}$	Temperature Stability	$-55°C \le T_J \le 125°C$	3						0.6			%
$\frac{\Delta V_{OUT}}{\Delta Time}$	Long Term Stability	$T_A = 125°C$	3							1		%
e_n	RMS Output Noise	$10Hz \le f \le 10kHz$			0.003							%
θ_{JC}	Thermal Resistance (Junction to Case)	H Package K Package	3 3			15 3						°C/W °C/W

TABLE II ELECTRICAL CHARACTERISTICS (POST-IRRADIATION)

$T_A = 25°C$ unless otherwise noted.

SYMBOL	PARAMETER	CONDITIONS	NOTES	10KRAD(Si) MIN	MAX	20KRAD(Si) MIN	MAX	50KRAD(Si) MIN	MAX	100KRAD(Si) MIN	MAX	200KRAD(Si) MIN	MAX	UNITS
V_{REF}	Reference Voltage	$\lvert V_{IN} - V_{OUT} \rvert \le 5V$, $I_{OUT} = 10mA$		–1.225	–1.275	–1.225	–1.275	–1.225	–1.275	–1.225	–1.275	–1.22	–1.28	V
		$3V \le \lvert V_{IN} - V_{OUT} \rvert \le 30V$, $10mA \le I_{OUT} \le I_{MAX}$, $P \le P_{MAX}$		–1.2	–1.3	–1.2	–1.3	–1.2	–1.3	–1.2	–1.3	–1.2	–1.3	V
$\frac{\Delta V_{OUT}}{\Delta V_{IN}}$	Line Regulation	$3V \le \lvert V_{IN} - V_{OUT} \rvert \le 30V$,	2		0.02		0.02		0.02		0.02		0.02	%/V
$\frac{\Delta V_{OUT}}{\Delta I_{OUT}}$	Load Regulation	$10mA \le I_{OUT} \le I_{MAX}$, $\lvert V_{OUT} \rvert \le 5V$	2		25		25		25		25		25	mV
		$10mA \le I_{OUT} \le I_{MAX}$, $\lvert V_{OUT} \rvert \ge 5V$	2		0.5		0.5		0.5		0.5		0.5	%

NOTES:

- REMAINDER OF THE TABLE II ELECTRICAL CHARACTERISTICS (POST-IRRADIATION) IS ON PAGE 14.
- ELECTRICAL CHARACTERISTICS NOTES FOR PRE-IRRADIATION AND POST-IRRADIATION ARE ON PAGE 14.

TABLE II ELECTRICAL CHARACTERISTICS (POST-IRRADIATION)(Noted 4) (Continued)

SYMBOL	PARAMETER	CONDITIONS	NOTES	10KRAD(Si) MIN	10KRAD(Si) MAX	20KRAD(Si) MIN	20KRAD(Si) MAX	50KRAD(Si) MIN	50KRAD(Si) MAX	100KRAD(Si) MIN	100KRAD(Si) MAX	200KRAD(Si) MIN	200KRAD(Si) MAX	UNITS
I_{ADJ}	Adjust Pin Current				100		100		100		100		100	µA
ΔI_{ADJ}	Adjust Pin Current Change	$10mA \le I_{OUT} \le I_{MAX}$			5		5		5		5		5	µA
		$3V \le \lvert V_{IN} - V_{OUT} \rvert \le 30V$			5		5		5		5		5	µA
I_{MIN}	Minimum Load Current	$\lvert V_{IN} - V_{OUT} \rvert = 30V$			5		5		5		5		5	mA
		$\lvert V_{IN} - V_{OUT} \rvert \le 10V$			3		3		3		3		3	mA
	Current Limit H Package	$\lvert V_{IN} - V_{OUT} \rvert \le 15V$		0.5		0.5		0.5		0.5		0.5		A
		$\lvert V_{IN} - V_{OUT} \rvert = 30V$		0.15		0.15		0.15		0.15		0.15		A
	K Package	$\lvert V_{IN} - V_{OUT} \rvert \le 15V$		1.5		1.5		1.5		1.5		1.5		A
		$\lvert V_{IN} - V_{OUT} \rvert = 30V$		0.24		0.24		0.24		0.24		0.24		A

Note 1: Unless otherwise specified, these specifications apply for $\lvert V_{IN} - V_{OUT} \rvert = 5V$; and $I_{OUT} = 0.1A$ for the H package (TO-39) and $I_{OUT} = 0.5A$ for the K package (TO-3) package. Although power dissipation is internally limited, these specifications are applicable for power dissipations of 2W for the TO-39 and 20W for the TO-3. I_{MAX} is 0.2A for the TO-39 and 1.5A for the TO-3 package.

Note 2: Regulation is measured at a constant junction temperature using pulse testing with a low duty cycle. Changes in output voltage due to heating effects are covered under the specification for thermal regulation.

Note 3: Guaranteed by design, characterization or correlation to other tested parameters.

Note 4: $T_J = 25°C$ unless otherwise noted.

Note 5: I_{SC} is tested at the ambient temperatures of 25°C and –55°C. I_{SC} cannot be tested at the maximum ambient temperature of 150°C due to the high power level required. I_{SC} specification at 150°C ambient is guaranteed by characterization and correlation to 25°C testing.

TABLE III: POST BURN-IN ENDPOINTS AND DELTA LIMIT REQUIREMENTS

$T_J = 25°C$

	ENDPOINT LIMIT		DELTA		
PARAMETER	MIN	MAX	MIN	MAX	UNITS
V_{REF}	-1.200	-1.300	-0.010	0.010	V
I_{ADJ}		100	-10	10	µA
$\Delta V_{OUT} / \Delta V_{IN}$	-9.44	9.44	-4.0	4.0	mV

TABLE IV: ELECTRICAL TEST REQUIREMENTS

MIL-STD-883 TEST REQUIREMENTS	SUBGROUP
FINAL ELECTRICAL TEST REQUIREMENTS (METHOD 5004)	1*, 2, 3
GROUP A TEST REQUIREMENTS (METHOD 5005)	1, 2, 3
GROUP B AND D FOR CLASS S ENDPOINT ELECTRICAL PARAMETERS (METHOD 5005)	1, 2, 3

*PDA APPLIES TO SUBGROUP 1.

PDA TEST NOTE: The PDA is specified as 5% based on failures from Group A, Subgroup 1, tests after cooldown as the final electrical test in accordance with method 5004 of MIL-STD-883. The verified failures of Group A, Subgroup 1 and delta rejects after burn-in divided by the total number of devices submitted for burn-in in that lot shall be used to determine the percent for the lot.