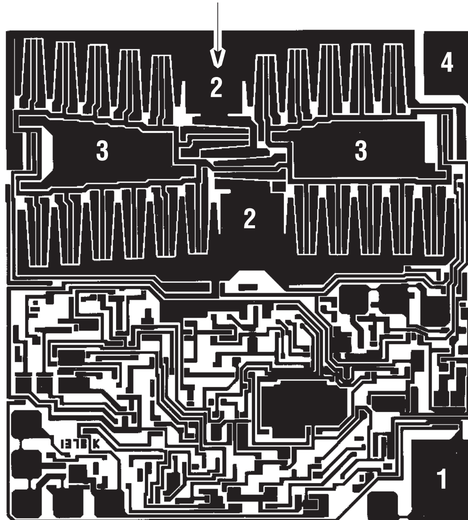
DICE/DWF SPECIFICATION

RH137
Negative Adjustable Regulator



85mils × 89mils

PAD FUNCTION

1. ADJUST
2. OUTPUT
3. INPUT
4. OUTPUT SENSE (CONNECT TO OUTPUT)

DIE CROSS REFERENCE

LTC Finished Part Number	Order DICE CANDIDATE Part Number Below
RH137K	RH137K DICE
RH137K	RH137K DWF
RH137H	RH137H DICE
RH137H	RH137H DWF

Please refer to LTC standard product data sheet for other applicable product information.
***DWF = DICE in wafer form.**

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DICE ELECTRICAL TEST LIMITS (Note 1)

SYMBOL	PARAMETER	CONDITIONS		T_A = 25°C MIN	T_A = 25°C MAX	UNITS
V_{REF}	Reference Voltage	$\|V_{IN} – V_{OUT}\|$ = 5V, I_{OUT} = 10mA 3V ≤ $\|V_{IN} – V_{OUT}\|$ ≤ 30V, 10mA ≤ I_{OUT} ≤ 200mA P ≤ P_{MAX}		–1.225 –1.200	–1.275 –1.300	V V
$\frac{\Delta V_{OUT}}{\Delta V_{IN}}$	Line Regulation	3V ≤ $\|V_{IN} – V_{OUT}\|$ ≤ 30V			0.02	%/V
$\frac{\Delta V_{OUT}}{\Delta I_{OUT}}$	Load Regulation	10mA ≤ I_{OUT} ≤ I_{MAX}, $\|V_{OUT}\|$ ≤ 5V (Note 2) 10mA ≤ I_{OUT} ≤ I_{MAX}, $\|V_{OUT}\|$ ≥ 5V (Note 2)			25 0.5	mV %
I_{ADJ}	Adjust Pin Current				100	µA
ΔI_{ADJ}	Adjust Pin Current Change	10mA ≤ I_{OUT} ≤ I_{MAX} 3V ≤ $\|V_{IN} – V_{OUT}\|$ ≤ 30V			5 5	µA µA
I_{MIN}	Minimum Load Current	$\|V_{IN} – V_{OUT}\|$ = 30V $\|V_{IN} – V_{OUT}\|$ = 3V			5 3	mA mA
	Current Limit	$\|V_{IN} – V_{OUT}\|$ ≤ 15V	H Package K Package	0.5 1.5		A A
		$\|V_{IN} – V_{OUT}\|$ = 30V	H Package K Package	0.15 0.24		A A

Note 1: Dice are probe tested at 25°C to the limits shown except for high current tests. Dice are tested under low current conditions which assure full load current specifications when assembled in packaging systems approved by Linear Technology. For absolute maximum ratings, typical specifications, performance curves and finished product specifications, please refer to the standard product RH data sheet.

Note 2: Testing is done using a pulsed low duty cycle technique. See thermal regulation specifications for output changes due to heating effects.

Information furnished by Linear Technology Corporation is believed to be accurate and reliable. However, no responsibility is assumed for its use. Linear Technology Corporation makes no representation that the interconnection of its circuits as described herein will not infringe on existing patent rights.

Rad Hard die require special handling as compared to standard IC chips.

Rad Hard die are susceptible to surface damage because there is no silicon nitride passivation as on standard die. Silicon nitride protects the die surface from scratches by its hard and dense properties. The passivation on Rad Hard die is silicon dioxide that is much “softer” than silicon nitride.

LTC recommends that die handling be performed with extreme care so as to protect the die surface from scratches. If the need arises to move the die around from the chip tray, use a Teflon-tipped vacuum wand. This wand can be made by pushing a small diameter Teflon tubing onto the tip of a steel-tipped wand. The inside diameter of the Teflon tip should match the die size for efficient pickup. The tip of the Teflon should be cut square and flat to ensure good vacuum to die surface. Ensure the Teflon tip remains clean from debris by inspecting under stereoscope.

During die attach, care must be exercised to ensure no tweezers touch the top of the die.

Wafer level testing is performed per the indicated specifications for dice. Considerable differences in performance can often be observed for dice versus packaged units due to the influences of packaging and assembly on certain devices and/or parameters. Please consult factory for more information on dice performance and lot qualifications via lot sampling test procedures.

Dice data sheet subject to change. Please consult factory for current revision in production.

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