CHANGE NOTIFICATION

Linear Technology Corporation
1630 McCarthy Blvd., Milpitas, CA 95035-7417
(408) 432-1900

June 26, 2014

Dear Sir/Madam: PCN# 062614

Subject: **Notification of Assembly Process Change for LTM4604/LTM4604A**

Please be advised that Linear Technology Corporation has made a minor change to the internal package construction to facilitate the use of one attach material for both die and components. The die attach material is changed from epoxy to solder, which is already used for attaching components in the same µModule device package. In order to use the solder die attach, the die attach paddle (DAP) has been modified by splitting the DAP into multiple pads for dice U1. Linear has been shipping several µModule devices using solder for die attach and component attach. In addition, the inductor (L1) value was changed from 0.6µH to 0.47µH to improve device performance and streamline manufacturing.

Besides these changes, no functional, parametric, mechanical, or datasheet specifications are affected and other component bill of materials remains unchanged. Similarly, there are no changes associated with the package footprint, PCB layout or product top marking, so the customer applications will be unaffected.

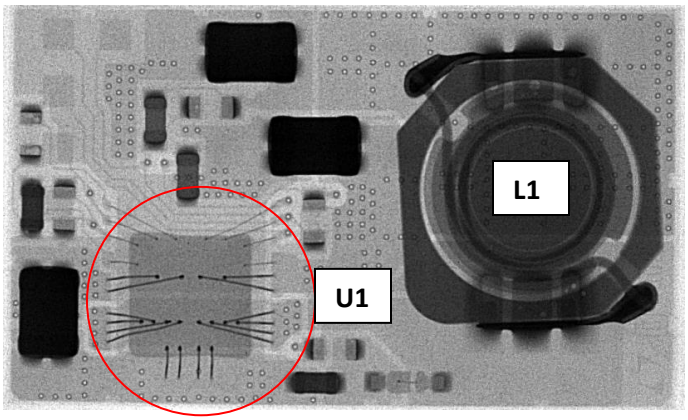
Parts incorporating the new substrate design and inductor have been fully characterized and tested for package level reliability. The changes were qualified by performing extensive characterization over the full operating voltage and temperature ranges and MSL3 preconditioning. Devices from the same µModule device product families have been subjected to 1000 cycles of temperature cycles and thermal shock. Products built using the improved design are targeted for shipment after August 26, 2014.

Should you have any further questions, please feel free to contact me at 408-432-1900 ext. 2077, or by E-mail JASON.HU@LINEAR.COM. If I do not hear from you by August 26, 2014, we will consider this change approved by your company.

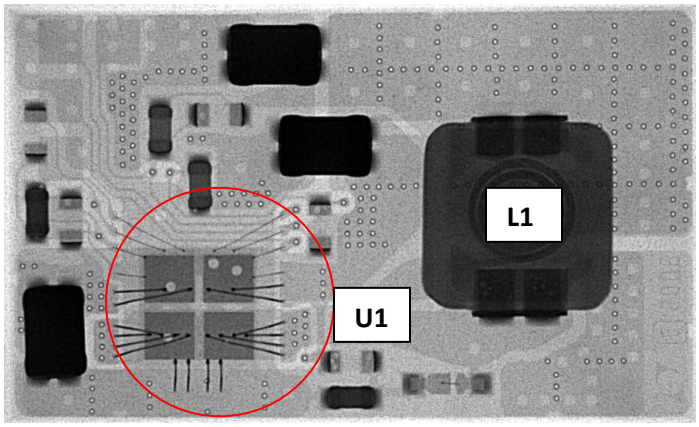
Sincerely,

Jason Hu
Quality Assurance Engineer

LTM4604/LTM4604A- Current and New Design



Before



After

PACKAGE RELIABILITY DATA
LTM4604 / LTM4604A Solder DA / New Inductor Qualification
6/24/2014

• HIGH TEMPERATURE BAKE at 150°C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HOURS AT +150°C	NUMBER OF FAILURES
LTM4604	50	1304	1304	50.00	0
	50			50.00	0

• TEMP CYCLE FROM -55°C to +125°C (1)

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	NUMBER OF FAILURES
LTM4604	77	1304	1304	77.00	0
LTM4604A	76	1304	1304	76.00	0
	153			153.00	0

• THERMAL SHOCK FROM -55°C to +125°C (1)

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	NUMBER OF FAILURES
LTM4604	77	1304	1304	77.00	0
	77			77.00	0

(1) Environmental stress are preceded by JEDEC Level 3 Preconditioning: 192h 30°C/60% R.H. plus 3x IR at 245°C

Form: 00-03-6209B. Rev 1