

## CHANGE NOTIFICATION



Linear Technology Corporation  
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June 06, 2014

Dear Sir/Madam:

PCN# 060614

### **Subject: Notification of Change to LTC2470/LTC2471/LTC2472/LTC2473 Die**

Please be advised that Linear Technology Corporation has made die changes to the subject part numbers to fix two known issues. The first fix addresses the following sparkle code issue. When sampling at the  $\frac{1}{2}$  scale transition (LTC2470/LTC2471) or at the point of zero differential input voltage (LTC2472/LTC2473) an unexpected sparkle code of all zeroes (0x0000h) would occur. This happened during the transition from 0x7FFFh to 0x8000h or vice versa. Additionally at the maximum code of 0xFFFF, it was possible to see a sparkle code of 0x8000h. All existing material has been impounded and new material with date codes 1408 onward is available for order.

Table 1. LTC2470/LTC2472 Output Data Format

SINGLE ENDED INPUT $V_{IN}$ (LTC2470)	DIFFERENTIAL INPUT VOLTAGE $V_{IN+} - V_{IN-}$ (LTC2472)	D15 (MSB)	D14	D13	D12...D2	D1	D0 (LSB)	CORRESPONDING DECIMAL VALUE
$\geq V_{REF}$	$\geq V_{REF}$	1	1	1	1	1	1	65535
$V_{REF} - 1LSB$	$V_{REF} - 1LSB$	1	1	1	1	1	0	65534
$0.75 \cdot V_{REF}$	$0.5 \cdot V_{REF}$	1	1	0	0	0	0	49152
$0.75 \cdot V_{REF} - 1LSB$	$0.5 \cdot V_{REF} - 1LSB$	1	0	1	1	1	1	49151
$0.5 \cdot V_{REF}$	0	1	0	0	0	0	0	32768
$0.5 \cdot V_{REF} - 1LSB$	-1LSB	0	1	1	1	1	1	32767
$0.25 \cdot V_{REF}$	$-0.5 \cdot V_{REF}$	0	1	0	0	0	0	16384
$0.25 \cdot V_{REF} - 1LSB$	$-0.5 \cdot V_{REF} - 1LSB$	0	0	1	1	1	1	16383
0	$\leq -V_{REF}$	0	0	0	0	0	0	0

The second fix addresses the previous silicon's sensitivity to slow power up ramp times. The new silicon with date codes 1408 onwards does not have any ramp rate requirements.

These changes were qualified by performing characterization over the full operating junction temperature range and rigorous engineering bench evaluations. In addition, the product successfully completed 500 hours of HTOL stress on 77 pieces at 125°C. Products built using the improved die are now available for customer samples. Product built using the new die will be shipped with a datecode of approximately 1408.

Should you have any further questions, please feel free to contact me at 408-432-1900 ext. 2077, or by email at [JASON.HU@LINEAR.COM](mailto:JASON.HU@LINEAR.COM). If I do not hear from you by August 6, 2014, we will consider this change to be approved by your company.

Sincerely,

Jason Hu  
Quality Assurance Engineer

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