LTC3882 ERRATA

This errata describes the conditions that cause an LTC®3882 device to operate differently than expected or as described in the data sheet.

REVISION HISTORY

ERRATA NUMBER	DESCRIPTION	PAGE
1	When V_{OUT} is Set Between 1.1V and 2.4V, IOUT_OC_WARN May Erroneously be Detected	1

ERRATA #1: IOUT_OC_WARN

The device may incorrectly detect an overcurrent warning condition when the current is within limits if V_{OUT} is set between 1.1 and 2.4 volts.

Conditions:

The following conditions, when present simultaneously, may expose this problem:

1. V_{OUT} command is set between 1.1 and 2.4 volts.

2. A large voltage transient occurs on V_{OUT} due to a large load transient or the part is turned on or off or margined high or margined low.

Impact:

If the output voltage is set between 1.1V and 2.4V and the output voltage moves, the ADC may detect a large current when no such current exists. This large current can trigger an overcurrent warning, possibly asserting $\overline{ALERT}$ low. The ADC error will have no impact on LTC3882 PWM control or overcurrent supervisor operation.

Root Cause:

An internal ADC calculation can cause errors when V_{OUT} is set between 1.1V and 2.4V and the output voltage is moving.

Workarounds:

Two workarounds are possible, depending on the system configuration and requirements. Additional workarounds may be possible. Contact Factory Applications for additional assistance if required.

Work Around 1:

Use the SMBALERT_MASK command 0x1B to set bit[5] for IOUT_OC_WARN (0x7B) so the condition does not cause $\overline{ALERT}$ to pull low if an overcurrent warning is detected. Specifically set the mask value for command 0x7B to 0x20 using command 0x1B.

Work Around 2:

Set the IOUT_OC_WARN_LIMIT to 20mV divided by IOUT_CAL_GAIN expressed in ohms. The overcurrent warning may exceed the overcurrent limit in this case, causing a design rule violation in the GUI. Ignore the design rule check and allow the large overcurrent warn limit. This will have no impact on overcurrent supervisor operation.

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