Migrating Designs to LP3470A Low Iq Voltage Supervisor for Improved Power Supply Monitoring

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LP3470A is a low-power consumption voltage supervisor that features programmable reset delay via an external capacitor and an open-drain output. The device monitors undervoltage faults at 2.63 V, 2.75 V, 2.93 V, 3.08 V, 3.65 V, 4.0 V, 4.38 V, and 4.63 V and is available in 5-pin SOT23 package.

How Does LP3470A Compare to the Older LP3470?

The new LP3470A is available in the standard SOT23 5-pin package with the same pinout and threshold voltages but has lower supply current, a wider temperature range, and a wider input voltage range compared to the LP3470. The LP3470A is an easy migration path for users seeking a pin-to-pin replacement with LP3470 but with better specifications as shown in Table 1.

The rest of the specifications between LP3470A and LP3470 are nearly identical. Please note that although both of these devices feature programmable delay via an external capacitor meaning the layout is the same, the capacitor value to reset delay relationship is different so be sure to refer to the reset delay equation in the LP3470A datasheet to determine the appropriate capacitor value. For example, using a 100 nF capacitor on LP3470 SRT pin provides a reset delay time of 200 ms whereas a 100 nF capacitor on the LP3470A SRT pin provides 61 ms.

What Applications Does LP3470A Benefit?

The three main performance benefits offered by LP3470A are low power, wide input voltage range, and wide temperature range. This device is perfect for monitoring batteries or for applications powered by batteries such as remote controls and wireless electronics due to the low supply current of only 300 nA. Because of the wide input voltage range, LP3470A can also monitor multiple batteries in series such as three 3.3 V batteries for a total of 9.9 V due to the recommended operating maximum input voltage of 10 V. Lastly, the wide temperature range allows LP3470A to be used in more industrial applications that require -40°C to 125°C.

Table 1. Performance Comparison Between LP3470A and LP3470

	LP3470A	LP3470
Input Voltage Range	0.95 V to 10 V	0.5 V to 5.5 V
Supply Current (Typical)	0.3 µA	16 µA
Operating Temperature Range	-40°C to 125°C	-20°C to 85°C

1 References

LP3470A Datasheet

1.1 Trademarks

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