May 11, 2017

Subject: Obsolescence of the LTM4676 µModule Regulator

This letter notifies you that, effective immediately, the LTM4676 µModule regulator is obsolete and replaced by the LTM4676A. The LTM4676A offers many improvements and is a pin-compatible replacement with the same fit, form and function.

Obsolete Part Numbers	Replacement Part Numbers
LTM4676EY#PBF	LTM4676AEY#PBF
LTM4676IY#PBF	LTM4676AIY#PBF
LTM4676IY	LTM4676AIY

Obsolete part numbers also include those with special suffixes such as SLs.

Below is a summary of improvements. Parametric values are in Table 1.

- **Reduced power up times**
- **Improved on-chip EEPROM robustness**
- **Reduced ADC update period**
- **Reduced TON_MIN**
- **Updated I^2C PMBus voltage thresholds compatible with bus power supplies as low as 1.8 volts**

Table 1- The LTM4676A Improvements over the Obsolete LTM4676

Parameters	**LTM4676A**	**LTM4676 Obsolete**
Turn-On Start-Up Time (t_{START}) TYP	**35ms**	153ms
Minimum On-Time ($T_{ON(MIN)}$) TYP	**45ns**	90ns
NVM Enhanced by ECC	**Yes**	No
ADC Update Period ($t_{CONVERT-*}$) TYP where * = various telemetry parameters	**90ms**	100ms
V_{IL} Logic Thresholds of the following TYP Pins: SCL, SDA, RUN_0, RUN_1, $GPIO_0$, $GPIO_1$	**0.8V**	1.4V
V_{IH} Logic Thresholds of the following TYP Pins: SCL, SDA, RUN_0, RUN_1, $GPIO_0$, $GPIO_1$	**1.35V**	2.0V
Output Voltage Range	**Ch0: 0.5V to 5.5V** **Ch1: 0.5V to 5.5V**	Ch0: 0.5V to 4.0V Ch1: 0.5V to 5.4V
Output Voltage Setpoint Accuracy Input Voltage Range (identical)	**±0.5%,** for all V_{OUT}≥1V ±5mV, for 0.6V≤V_{OUT}<1V 4.5V to 26.5V (new)	±1%, for all V_{OUT}≥0.6V 4.5V to 26.5V
Configuration File	**The configuration file needs to be updated for compatibility with the LTM4676A**	–

tSTART, the time required from application of VIN until the part is ready to start sequencing output rails, is reduced from a typical value of 153ms to 35ms. This may allow applications such as PCI-Express to power up faster after application of VIN. This change is transparent in all applications that require sequencing of multiple power rails using multiple LTC Power System Management (PSM) parts connected in the recommended manner.

TON(MIN), the PWM minimum on-time, is reduced from 90ns to 45ns to support large step down ratios at higher switching frequencies. This is the only change to the PWM characteristics of the product family.

TCONVERT-*, the ADC update period, is reduced from 100ms to 90ms, providing more timely telemetry of all monitored parameters (voltages, currents, temperatures).

I2C thresholds are reduced to support PMBus communication with other ICs using I/O interface supplies as low as 1.8 volts. The VIL and VIH specifications for the SDA, SCL, RUN0, RUN1, GPIO0 and GPIO1 pins are reduced from 1.4V and 2.0V, respectively, to 0.8V and 1.35V. The LTM4676A is fully compliant with PMBus 1.2. For more details, please refer to PMBus 1.2 revisions on the PMBus website http://pmbus.org/Specifications/OlderSpecifications and the SMBus Specification Version 2.0 at http://smbus.org/specs/smbus20.pdf.

Error Correcting Code (ECC) is added to the internal non-volatile memory to enhance its reliability. As a consequence of adding ECC, the area in the EEPROM available for fault log is reduced to 4 events. The read length of 147 bytes remains the same but the fifth and sixth events are a repeat of the fourth event if the part is reset. However, when reading the fault log from RAM, all 6 events of cyclical data are available.

Life Time Buy

Formal Announcement	5/11/2017
LTB Orders Accepted Starting	5/11//2017
Final Orders Accepted	11/30/2017
Final Shipments	5/30/2018

For questions or technical assistance, please feel free to contact a Linear Technology representative at (408) 432-1900.

Regards,

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