



Toshiba's new small surface mount LDO regulators lower power consumption

Highly efficient LDOs extend operating times for battery-driven devices

Düsseldorf, Germany, 20th March 2019 – Toshiba Electronics Europe GmbH has launched two new series of small surface mount LDO regulators for application in the power supply of mobile devices, imaging and audio-visual products. The 40 regulators in the TCR5BM series support a dropout voltage (V_{DO}) as low as 100mV and a maximum output current of 500mA, while 40 additional devices in the TCR8BM series extend options with a 170mV V_{DO} and 800mA output current. The TCR5BM and TCR8BM series are both available with VOUT options in the range 0.8V to 3.6V.

Both series are suited to applications that include power supplies for microcontrollers (MCU), RF devices, and camera CMOS sensors in mobile devices or imaging and audio-visual equipment, which increasingly require lower voltage supplies in the region of 1.0V.

By using a low on-resistance N-channel MOSFET fabricated with the latest generation process and external bias voltage, both series have significantly reduced the dropout voltage that causes power loss, to approximately 33% less than Toshiba's current products^[1]. These levels represent the lowest dropout voltages in the industry^[2].

In addition, with a 98 dB ripple rejection ratio, the new products deliver stable operation resistant to high frequency noise from the external environment and DC-DC converters, both of which are potential causes of improper operation. They also deliver a fast load transient response that prevents malfunctioning due to swift switching of IC operation modes.

Quiescent current (TCR5BM=19 μ A, TCR8BM=20 μ A) is about 50% lower than other high current LDO regulators in the market, enabling lower power consumption in applications and thereby delivering longer operating times for battery-driven devices.

Both series are housed in the small surface mount DFN5B package with a footprint of just 1.2 x 1.2mm.

Mass production started progressively from January 2019 and shipments begin today.

Follow the link below for more information on the new LDO regulator:

<https://toshiba.semicon-storage.com/eu/product/linear/lido-regulator.html>

Notes:

[1] In comparison with Toshiba's current TCR5AM series.

[2] Toshiba survey conducted March 20, 2019

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About Toshiba Electronics Europe

[Toshiba Electronics Europe GmbH](#) (TEE) is the European electronic components business of [Toshiba Electronic Devices and Storage Corporation](#) (Toshiba). TEE offers European consumers and businesses a wide variety of innovative hard disk drive (HDD) products plus semiconductor solutions for automotive, industrial, IoT, motion control, telecoms, networking, consumer and white goods applications. The company's broad portfolio encompasses integrated wireless ICs, power semiconductors, microcontrollers, optical semiconductors, ASICs, ASSPs and discrete devices ranging from diodes to logic ICs.

TEE has headquarters in Düsseldorf, Germany, with branch offices in France, Italy, Spain, Sweden and the United Kingdom providing design, manufacturing, marketing and sales. Company president is Mr. Tomoaki Kumagai

For more company information visit TEE's web site at www.toshiba.semicon-storage.com.

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