TOSHIBA

Toshiba launches a range of general-purpose system power ICs for automotive applications

Sophisticated devices supporting multiple output voltages and functional safety for ASIL-D applications

Düsseldorf, Germany, 10th December 2019 – Toshiba Electronics Europe ("Toshiba") today announced the launch of a range of general-purpose system power ICs with multiple-outputs. The new devices support functional safety according to ISO26262 for safety-critical automotive applications including those that require extremely high safety such as electric power steering systems (EPS) and braking systems where ASIL-D is required.

The series comprises four devices with various output voltages generated by a buck converter - 1.1V (TB9045FNG-110), 1.2V (TB9045FNG-120), 1.25V (TB9045FNG-125), and 1.5V (TB9045FNG-150). The four output voltages from each device can be used to power the core of an MCU, as well as being used for sensors and other interfaces.

A buck-boost converter generates 6V from the automotive battery and is capable of operating with input voltages as low as 2.7V to ensure constant voltage, even during cranking operations when the battery voltage drops significantly. The devices are suited

to input voltages as high as 18V and can operate over the temperature range -40 to +125ºC. They are housed in a tiny HTSSOP48-P-300-0.50 package, measuring just 6.1mm × 12.5mm × 1.0mm making them ideal for modern densely packed automotive applications.

The TB9045FNG series includes a range of fault detection features, essential to providing functional safety. This includes over voltage for the DC-DC converter and under voltage lockout (UVLO) for the battery power supply as well as thermal shutdown and a circuit to monitor the oscillator frequency. A watchdog timer is included to detect errors on the external MCU as well as the ability to detect latent faults that would indicate a potential failure. Reporting of any issues can be configured via the SPI interface using a dedicated register, allowing the IC to be used in a wide variety of systems.

To support designers, Toshiba provides a full suite of documentation including a functional safety FMEDA to assist with safety design and analysis of systems.

Volume production for the new power ICs is scheduled for November 2019 with a planned capacity of around 1 million units annually.

Follow the link below for more information on Toshiba's system power IC line-up:
https://toshiba.semicon-storage.com/eu/product/assp/detail.TB9045FNG-110.html
https://toshiba.semicon-storage.com/eu/product/assp/detail.TB9045FNG-120.html
https://toshiba.semicon-storage.com/eu/product/assp/detail.TB9045FNG-125.html
https://toshiba.semicon-storage.com/eu/product/assp/detail.TB9045FNG-150.html

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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. 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, 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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