04/2025

endrich NEWS

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INVITATION TO PCIM 2025 - EXPERIENCE INNOVATIONS FOR THE FUTURE OF ELECTRONICS

We cordially invite you to the PCIM Expo & Conference from May 6 to 8, 2025 in Nuremberg. At our stand 4-105 in hall 4, everything will revolve around the topics of power electronics, intelligent drive technology, renewable energy and energy management.

Semiconductors & connectors - strong connections for powerful systems

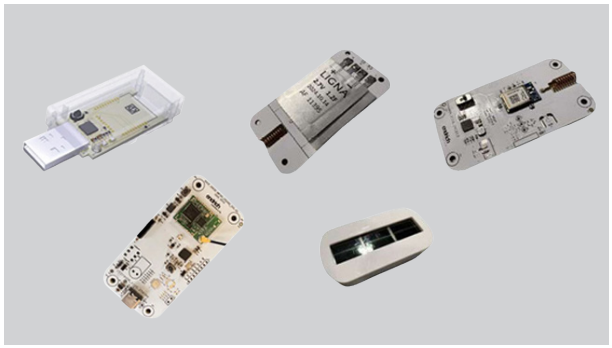
Experience the latest product developments in the areas of power supply, power semiconductors, thermal management, connectors and connection technology. We will show you a wide range of possibilities for reliable and powerful electronic systems.

Passive components - efficiency at the highest level

In the field of passive components, we present the latest developments in electrolytic, polymer and hybrid capacitors. These offer operating temperatures of up to +150°C, an extended service life and can be used as an MLCC alternative. In terms of current sense resistors, we will be showing variants with metal foil, metal paste and

full metal shunts for high-performance applications. We also present common mode chokes, filter coils and high current chokes with metal powder cores. Our range includes established solutions for automotive and industrial electronics from Panasonic, Sun, Susumu, ABC, PDC and Inpaq, among others.

IoT - the endrich IoT platform



A special highlight this year is the presentation of the latest developments of our Endrich IoT platform. The focus will be on the battery-free NeoMesh-on-LoRa® and NeoMesh node families, which are integrated into our proof-of-concepts such as e-Elevator, e-Fridge, e-Environment and e-IoT Solutions. We show how innovative technologies can be used in a practical and future-oriented way

Sensors - the key to intelligent networking

Sensors are at the heart of networked systems. Our wide selection of digital sensors enables easy integration into IoT solutions and ensures greater convenience, safety and efficiency. Our portfolio ranges from environmental, motion, pressure, temperature, touch and magnetic sensors to complete sensor systems that can be used in numerous applications.

Get your free trade fair ticket now!

Request your free day ticket to PCIM 2025: Simply send an e-mail to marketing@endrich.com with your first and last name, your e-mail address and the name of your company.

We look forward to your visit and the personal exchange in Nuremberg!

HIGH-EFFICIENT DC/DC POWER MODULE

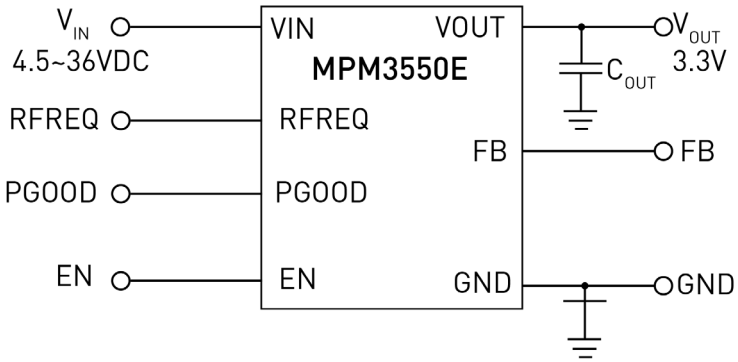
The MPM3550E from MPS is a high-density, non-isolated DC/DC power module designed for space-constrained applications. It delivers a compact solution capable of providing 5A of continuous output current with excellent transient response and stable performance across a broad range of input voltages and load conditions. The MPM3550E features an adjustable output voltage from 1 to 12V via an external feedback resistor, with a default output of 3.3V. Its ultra-high efficiency is achieved using synchronous rectification and advanced control techniques.

The module includes several standard features such as internal fixed soft start, remote enable control, and a power-good indicator. Comprehensive protection mechanisms are built in, including over-current protection (OCP), short-circuit protection (SCP), output under-voltage protection (UVP), input under-voltage lockout (UVLO), and thermal shutdown.

Integrating a switching controller, power switches, inductors, input and output capacitors, and all necessary support components, the MPM3550E comes in a compact 12 x 12 x 4.2mm package. This fully integrated design minimizes the need for external components, significantly simplifying board design, layout, and manufacturing processes, and enhancing overall system productivity.

FEATURES

- Integrated Inductor, Switches, Controller
- High-Efficiency Synchronous Mode Control
- Low Component Count and Small Size
- Ease of Design and Fastest Time to Market
- Wide 4.5V to 36V Operating Input Range
- Output Adjustable from 1.0V to 12.0V
- Guaranteed 5A Continuous Output Current
- Ultra-Fast Transient Response
- Internal Fixed Soft-Start Time
- External Frequency Selection Pin
- Power Good (PGOOD) Indicator
- Non-Latch OCP, SCP, UVP, and UVLO
- Thermal Shutdown Protection
- Remote Enable Control (EN)
- Available in an LGA-18 (12x12x3.82mm) Package
- Operating Temperature: -40°C to +125°C
- CISPR25 Class 5 Compliant



APPLICATIONS

- Automotive Systems
- Industrial Supplies
- Telecom and Networking Systems
- Distributed Power and POL Systems

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GAS SENSOR MODULES

A solution for digital alcohol and smoke detection

A gas detector is a device that detects the presence of gases in an area or air, often as part of a safety system. A gas detector can sound an alarm to operators in the area where the leak is occurring, giving them the opportunity to leave. This type of device is important because there are many gases that can be harmful to organic life, such as humans or animals.

Gas detectors can be used to detect combustible, flammable and toxic gases, and oxygen depletion. This type of device is used widely in industry and can be found in locations, such as on oil rigs, to monitor manufacturing processes and emerging technologies such as photovoltaic. They may be used in firefighting.

Conventional technologies commonly used to measure gas include combustible gas sensors, photoionization detectors, infrared point sensors, ultrasonic sensors, electrochemical gas sensors, and metal–oxide–semiconductor (MOS) sensors.
Havartek electrochemical alcohol detection module GSNV075030W0101-E0000 is a breath alcohol concentration detection module (effective range: 0.000mg/L ~2.000mg/L). The module adopts electrochemical alcohol sensor to quantitatively detect the alcohol concentration in exhaled breath.

With the temperature compensation, it has the advantages of high detection accuracy (resolution: 0.001mg/L by Breath alcohol concentration, 1mg/100mL by Blood alcohol concentration) and fast zeroing. The module receives host commands and outputs the digital results through the UART interface. The module has been calibrated before leaving the factory and is suitable for use in breath and fast screening breathalyzers products.

Harvatek smoke detector digital sensor GSWR037037W0101-E0000 is a smoke detector digital sensor which includes an integrated MCU as the master device with a serial communication interface which offers widespread, flexible and convenient use.

The sensor integrates dual-channel ISINK driver circuit and smoke detection AFE circuit. The sensor's small size advantage offers easy integration into product applications. Additional advantages include long service life, easy operation, no external drive circuit, low cost, etc. In summarising, this is a low-cost digital sensor especially designed for smoke detection applications and suitable for use in smoke alarms, smart homes, etc

HARVATEK

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IEWS

IMU MEMS MOTION SENSORS FOR AUTOMOTIVE APPLICATIONS

MEMS stands for **M**icro-**E**lectro-**M**echanical **S**ystems, miniaturized structures made by semiconductor device fabrication technology. Also called micromachined devices, MEMS are composed by a moving mass or membrane able to convert a physical stimuli to an electrical signal (i.e. capacitance change).

An accelerometer is a **passive** mass-spring-dumper system that measures linear external accelerations (±a) by a moving mass displacement which results in a change in capacitance. An accelerometer is a stand-alone device capable to measure AC and DC accelerations along three orthogonal axes.

A gyroscope is an **active** Coriolis sensor with an implemented ASIC that calculates the movement as an angular rate (Ω). It is a stand alone device capable to measure AC and DC angular rate along three orthogonal axes. Finally, an Inertial Measurement Unit (IMU) is a multi axis device capable to detect both, linear acceleration and rotational angular rate of a moving object.

TDK-Invensense MEMS Motion Sensors for Automotive Applications provide Automotive MEMS sensors which have reliability testing performed according to AEC–¬Q100 and provide PPAP and qualification data upon request. These are designed or specifically qualified and tested for the Automotive market with those unique needs in mind. These support the rapid growth of convenience, infotainment, telematics, Advanced Driver Assistance Systems ¬(ADAS), and other technological features for the Automobile.

TDK MEMS elements in combination with an **A**pplication **S**pecific **I**ntegrated **C**ircuit, or ASIC, create a System on Chip (SoC) transducer.

The newest TDK sensor solution for precise orientation and relative position detection, **PositionSense**, integrates TDK's lowest-power 6-axis IMU and TMR-based 3-axis magnetometer with on-chip sensor fusion software and calibration software to enable fast and accurate orientation tracking. **PositionSense** integrates seamlessly with TDK's industry-leading PDR (pedestrian dead reckoning) software for accuracy and power consumption, enabling applications such as geofencing and GNSS (global navigation satellite system) duty cycling. The new TDK 9-axis solution provides a best-in-class, compass solution and fully synchronized IMU capable of high accuracy and ultra-low power, making it ideal for geolocalisation, fitness and health applications. The TDK 9-axis (3-Axis accelerometer, 3-Axis magnetometer and 3-Axis gyroscope) enhances personal safety with reliable tracking in emergency situations, ensuring help can reach you promptly even in challenging environments.

FEATURES

- Grade 1 6-axis Motion Tracking device for Automotive safety applications with ASIL-B and ASIL-D rating
- More Types on request

APPLICATIONS

- Dead Reckoning:positioning systems when GPS/GNSS
- Vehicle To Vehicle Location: accurate location data
- Vision Systems: camera image stabilization
- Augmented Reality HUD: overlay projection stabilization

TDK

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THE S-POWER SUPERCAPACITORS

Driving eco-design in wireless electronics

The integration of S-Power into energy generators could eliminate the need for battery replacement and create more eco-friendly designs, leading to smarter and more sustainable wireless electronics.

The S-Power series was designed to provide an eco-friendly supercapacitor for wireless electronics. With excellent cycle and performance capabilities, it is well-suited for applications that require repeated rapid discharging and charging.

A supercapacitor, also known as an ultracapacitor or electric double-layer capacitor (EDLC), is an energy storage device that bridges the gap between conventional capacitors and batteries. Unlike batteries, which store energy chemically, supercapacitors store energy electrostatically. This enables rapid charging, making them ideal for applications that require quick energy replenishment.

Both supercapacitors and batteries are adapting to new and innovative form factors. Supercapacitors generally offer greater versatility due to their simpler and more robust construction. This allows them to be more easily integrated into flexible and thin-film technologies compared to batteries.

Superkondensatoren von Ligna Energy

APPLICATIONS

- Asset tracking systems
- Smartcards with biometric sensors
- IoT applications based on LoRa, BLE, and other similar wireless technologies
- Battery-free MESH sensor board with solar cell

FEATURES

- EDLC/Supercapacitor
- Non-toxic and eco-friendly
- Compact and thin
- Low leakage current
- Mountable on curved surfaces
- **Rated voltage:** 2.7 V, **Capacity:** 60 mF, **Size:** 20 x 20 x 0.4 mm for S-Power 2R
- **Rated voltage:** 2.7 V, **Capacity:** 1.2 F, **Size:** 30 x 42 x 0.5 mm for S-Power 2S

LIGNA ENERGY

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IEWS

ENHANCED SMOKE DETECTOR FLASH MCU WITH BUZZER DRIVER BA45F25363

Holtek has introduced the new BA45F25363 smoke detector specific flash MCUs, which are well suited for use in smoke detectors. These devices come with integrated functions such as a dual-channel smoke detector AFE and LED driver circuit, a 5V regulator and a 9V boost buzzer driver circuit. The flash program memory, data memory and EEPROM provide ample storage capacity. Various peripherals such as timer modules, A/D converters, communication interfaces, an internal LIRC and a temperature sensor are also integrated. The integrated features of the components improve smoke detection accuracy, reduce false alarms, enable blue LED control with the 5V regulator and support 2-pin or 3-pin buzzers with the 9V boost buzzer driver circuit. The devices are available in a variety of packages to meet the different requirements of smoke detection products.

FEATURES

- **Operating voltage:** 2.2V-5.5V
- **Flash memory:** 16K×16, **RAM**: 2048×8, **EEPROM:** 256×8
- **Multiple clock sources:** Internal/external oscillators (HIRC, LIRC, HXT, LXT)
- **Versatile peripherals:** 31 I/O pins, 12-bit ADC (16 channels), SPI/I2C, UART
- **Integrated functions:** Low voltage reset/detect, CRC, watchdog, PWM

APPLICATIONS

- Smoke Detector

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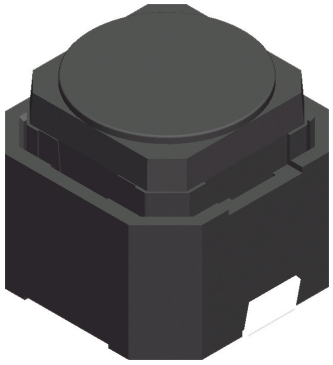
PRECISION AND PERFORMANCE IN TACTILE SWITCHING

Diptronics has lunched T6L Series with a powerful new solution engineered to meet the demands of modern applications for automotive sector. T6L is designed with high precision and reliability, ensuring superior tactile feedback and long-lasting performance in a variety of industries, including automotive, audio systems, and HVAC.

Diptronics T6L Series is the ideal switch for those looking for high-quality, versatile tactile switches that combine precision, durability, and an exceptional user experience.



KEY FEATURES

- **Long-Stroke Feel:** The T6L features a well-balanced long-stroke actuation, delivering a responsive tactile experience that meets user expectations for comfort and control.
- **Low Operation Sound:** T6L series ensures a quiet clicking sound and smooth clicking feeling which is suitable to use on car interiors such as audio, control panel or steering wheel.

APPLICATIONS

- Automotive Steering: Offering precise tactile response with clicking sound, the T6L series is a perfect fit for automotive steering wheel switches, enhancing both control and comfort for drivers.
- Audio Systems: T6L is engineered for audio systems with quiet operating sound and complex tactile feedback which provide customers comprehensive experience.
- HVAC & Overhead Consoles: T6L's reliable performance and minimal sound output make it an ideal choice for HVAC systems and overhead console applications, where clear feedback and user comfort are paramount.

DIPTRONICS

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