

03/2024

endrich NEWS

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Do you know how...



Wolfgang Endrich

...many laws there are? The economic situation is bad. One should not make a hasty judgement, because the legacy of the current government was full of holes. Putin was not taken seriously and

the annexation of Crimea was ignored. The railway system was neglected, as were the roads and bridges, and then came Covid19. Many things were different after that.

The starting conditions for the new government were really not rosy, but even the appointments to ministerial posts were - to put it mildly - unfortunate. When Ukraine was invaded in February 2022, it became clear that the priority in the appointments was unfortunately not expertise, but merit in party work and/or other reasons. Examples: A defence minister walks around the military training ground in high heels and when war breaks out she offers the Ukraine 5,000 steel helmets. Another minister is an expert in poetry, but his knowledge of bankruptcy law is not very well developed. Another person showed enormous gaps in his knowledge despite having studied law for many years.

The coalition argues and passes laws that have become a real hit with the public, such as the heating law. It became clear that our elected government lacked expertise and a feel for the needs and wishes of the people in many cases. Porcelain was broken, the population is highly insecure and

dissatisfied. Party political wishes in the social sector could not be fulfilled. Germany has become a prescriptive state in which everything is regulated. The energy turnaround is necessary because we cannot be indifferent to global warming, but without the understanding and approval of the population, the most beautiful party-political ideologies are of no use. Why did the nuclear power plants that would have saved us from energy price increases have to be shut down for ideological reasons during the energy crisis? Why is industry being burdened with a supply chain law that can only be complied with at great cost?

It does not help the countries that are affected. Every day we hear about new laws from Berlin or Brussels. An example from the housing sector: How many building regulations exist in Germany? The Association of Towns and Municipalities estimates 20,000, including 4,000 DIN standards alone. This is one reason why the construction industry is doing so badly at the moment. One solution to many of the problems that are placing an enormous burden on our economy in all areas would be to clear out and minimise the entire body of legislation in Germany.

This would mean that fewer officials would be needed to monitor compliance with these laws. Many authorities are hopelessly overstrained! Dismantling the legal system would dramatically reduce the burden on the federal treasury! People would feel like running a company or setting up their own business again. The mood in the country would improve very quickly and it would be an incentive for the industry to invest and develop new technologies.

Yours sincerely, Wolfgang Endrich

CORELESS CURRENT SENSORS FROM SINOMAGS

As a subsidiary of the Sinomags Group, Sensitec has a comprehensive product portfolio of current sensors. This portfolio meets the requirements of a wide range of industries and applications and includes sensors for charging infrastructure, onboard chargers, leakage current sensors for photovoltaic systems and broadband current sensors for modern drive technology.

The product portfolio is divided into two areas: Module-level based current sensors for THT mounting on PCBs or with cable connection and chip-level based sensors that can be assembled as SMD components on the PCB. In addition to TMR technology, Hall or flux-gate sensor elements are also used as the underlying sensor technology. SMD chip sensors especially do not require flux concentrators (coreless current sensors) and are now able to reliably measure currents in the mA range.



Picture: The comprehensive product portfolio of current sensors from Sensitec / Sinomags

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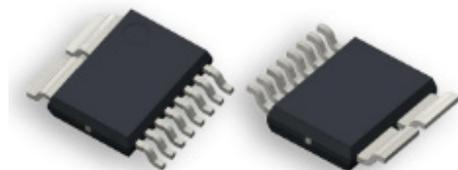
In addition, the SMD versions are available at a price range that also allows them to be used in price-sensitive applications. With SMD chip sensors, there are variants with an internal current path and variants in which the current path runs outside the housing. As no additional flux concentrator is used in either case, the sensor must be placed in the immediate proximity of the current conductor, which requires innovative concepts for stray field rejection and isolation. This is achieved, for example, by differential measurement at two points with separate TMR half-bridge chips.

The technical advantages of coreless current sensors compared to shunt solutions are the reduction in size of the measuring system due to the elimination of peripheral circuitry and heat sinks, as well as lower primary conductor impedances and therefore lower heat generation with galvanic isolation.

While the insulation to external conductors is easy to realize, the safe, reinforced insulation according to standard specifications is a challenge for the compact IC housing solutions. The STK-616-M series sensors use a multifunctional PCB chip carrier made of BT material as an insulator, shielding and wiring layer. A standard reflow soldering process can be used for processing.

The STK-616 series offers high product flexibility in coreless current sensors through additional functionalities such as OCD (Over Current Detection) and filtering, as well as variants for high frequency ranges with a bandwidth of up to 2 MHz. Sensors with an additional measuring range for AFCI (Arc Fault Circuit Interrupter) detection, such as the STK-616TMWD, are also part of the Sinomags Group's portfolio. This allows arcs to be detected as a cause of fire in PV installations, for example.

The latest product STK-616AM is equipped with extra-wide solder tags for the primary current, which also enables it to be used with higher currents of up to 100 A.



THERMAL MANAGEMENT SOLUTIONS FROM CELERA FIBRAS

About Celera Fibras: Celera Fibras, a leading player in thermal management solutions, is strategically positioning itself to capitalize on the burgeoning market demand, particularly in the electronics, lighting, and electric vehicle (EV) industries. With a focus on innovation and a commitment to research and development (R&D), the company is set to elevate its presence both nationally and internationally.

In a statement, Alex Souza, CEO at Celera Fibras, highlighted the pivotal role of thermal management in addressing the challenges posed by electrification, quantum computing, and 5G technology. Souza emphasized the heightened significance of this technological aspect, especially with the increasing miniaturization of devices.

MSG Sphere Las Vegas: Established in 2015 through the spin-off of a German firm that operates in the field of electrical insulation materials. Celera recently secured an international tender triumph, securing a prestigious contract for supplying LED panel solutions to the Sphere arena in Las Vegas – recognized as the structure with the largest LED-lit surface globally. Celera's prowess in heat dissipation technology extends to diverse sectors, including electronics,

aerospace projects, automation, medical devices, and data centers. Souza emphasized the critical role of thermal management in preventing overheating, reducing energy consumption, and improving system efficiency. The company employs various techniques such as heat sinks, fans, thermal interface materials, and liquid cooling systems tailored for different industries.

Investing significantly in R&D, Celera benefits from its proximity to the nanomaterial laboratory of Universidade Estadual de Campinas in São Paulo. With national and international patents under its belt, Celera recently received recognition for developing an innovative heat-transporting glue. Following successful patenting, the company is gearing up for commercial-scale testing, with plans to make the product available to device development companies starting January 2024, initially targeting the lighting and electric vehicle markets.

Celera Fibras stands at the forefront of innovation, poised to meet the evolving needs of industries navigating the challenges of advancing technologies. The company's commitment to excellence and cutting-edge solutions positions it as a key player in the dynamic landscape of thermal management.



NEWS

Thermal Interface Materials

Celera has the most suitable solution for the thermal profile of your application.

LEDGlue® is a fluid silicone adhesive, which has been developed to provide excellent thermal conductivity, besides the mechanical attachment of the electronic components

THERMALTape® is a double-sided adhesive tape with ultra-high adhesion strength which can be used to attach components and PCI to heatsinks, eliminating the use of mechanical fixing elements

FlexGRAF® is the ideal solution for applications such as COB LEDs, Tablets, Smartphones, where there is high demand for speed of dissipation, in limited spaces.

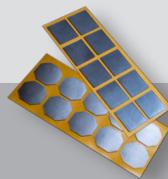
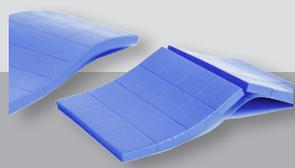
COOLPad® has been developed in order to meet the increasing demands of the electrical, electronic and automotive industries for materials with higher thermal performance and ease of assembly line application.

Heat - the enemy of electronics

Proper thermal management is crucial for high-quality, durable electronic products since heat is the leading cause of electronic component failure in over 50% of cases (Source: www.globalmarketmonitor.com).

Electronic Equipment Failure Causes



LEDGLUE®	THERMALTape®	FlexGRAF®	COOLPad®
Thermal Conductive Liquid Adhesives	Thermally Conductive Bonding Tape	High Performance Thermally Conductive Graphite Sheets	Silicon Thermal PADS from 1.5W/mk to 10.0W/mk
			

APPLICATION

- LED modules, general lighting
- Electronic components
- power devices and modules
- PCB
- industry
- Sensors

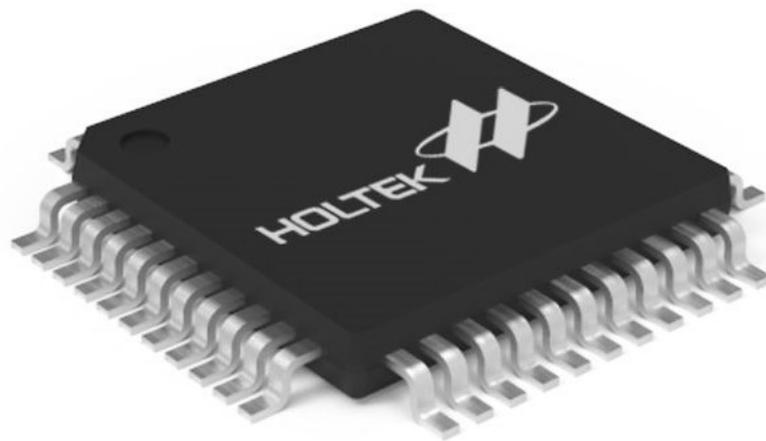
FEATURES

- Very high heat dissipation
- Very high operating temperature
- high flexibility and conformability
- Can be supplied as die-cut parts
- Excellent mechanical and chemical stability
- RoHS and REACH compliant

HT32F59041 ENHANCED 24-BIT A/D ARM® CORTEX®-M0+ MCU

The HT32F59041 from Holtek is a delta-sigma A/D converter with an impressive 24-bit resolution. This high resolution allows for precise detection of subtle differences in the measured signals, and the delta-sigma design further enhances accuracy.

A special feature of this device is the integrated PGA (Programmable Gain Amplifier), which allows flexible adjustment of the gain. This makes the HT32F59041 particularly suitable for applications requiring high-precision acquisition of analog signals.



APPLICATION

- controllers,
- power monitors,
- alarm systems,
- consumer products,
- handheld equipment,
- data logging applications,
- motor controllers

FEATURES

- 32-bit Arm® Cortex®-M0+ processor core
- 24-bit Delta Sigma A/D
- 64 KB Flash memory
- 8 KB SRAM memory
- High operating frequency up to 20 MHz
- programmable gain amplifier
- power supply 2.5 V to 5.5 V
- 48-pin LQFP package
- Operation temperature range from -40 °C to + 85 °C

NEWS

TIMING - WE HAVE THE HEARTBEAT OF YOUR APPLICATION FOR YOU!

In the dynamic landscape of precision engineering, where every microsecond counts, quartz crystals and oscillators emerge as the bedrock of cutting-edge timekeeping technology. The pivotal role these components play in synchronizing industrial processes and revolutionizing our understanding of timing accuracy is often overlooked, but it should not be. Leveraging the stable oscillation of quartz crystals, our industry has witnessed a paradigm shift in timekeeping precision. Quartz watches, long admired for their accuracy, owe their reliability to the consistent vibrations of these crystals, providing a robust foundation for applications that demand unflinching temporal precision.

In the industrial realm, the integration of quartz technology extends beyond watches, influencing sectors ranging from telecommunications to aerospace. The inherent stability of quartz oscillation has become instrumental in calibrating and synchronizing a multitude of critical processes, ensuring that our industrial operations unfold with impeccable accuracy. Complementing quartz in this symphony of precision are oscillators, the unsung

heroes orchestrating the rhythmic pulse of our timekeeping devices. Oscillators are more complex timing systems with a great variety of specifications and technologies ranging from temperature to voltage-controlled oscillators. Meanwhile, the digital age witnesses the rise of microelectromechanical systems (MEMS) oscillators, revolutionizing electronic synchronization with their compact yet powerful design. In an era where efficiency is paramount, MEMS oscillators have found their place as indispensable components in modern electronics. From network synchronization to data processing, these semiconductor-based oscillators exemplify the pinnacle of precision engineering, enabling industries to operate seamlessly in our interconnected world.

We at Endrich have the timing component that fits your application - from the classic quartz (oscillator) solution provided by our well-known partners Citizen, SMI, Chequers or TaiSaw to the state of the art MEMS based solution by the pioneer and world market leader SiTime – contact us and we will find the perfect match for your needs.



APPLICATIONS

- Automotive
- Aerospace
- Medical
- Consumer
- Metering
- Industry
- Smart Home

FEATURES

- Highest Precision
- Smallest Package Sizes
- All Industry Standard Certificates

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FROM APRIL 9-11, 2024 WE WILL BE AT THE EMBEDDED WORLD IN NUREMBERG

Dear readers,

We cordially invite you to the embedded world trade fair from April 9-11, 2024 in Nuremberg. At our booth 464 in hall 1 everything will revolve around IoT, displays and embedded systems.

This year, our highlights are "Intelligent Sensor Networks", "IoT Gateway Solutions" and "Environmental Parameter Sensing". Based on the Endrich IoT platform, we will be showing the latest solutions for the existing cellular IoT gateway with a sub-GHz sensor mesh network.

In the area of displays and embedded systems, we will be presenting the latest generation of transfective and reflective TFT modules, industrial touch monitors and our ARM®-based System-on-Modules (SoM).

The graphic features the Embedded World logo at the top left. Below it, the dates '9-11.4.2024' and location 'NUREMBERG | GERMANY' are displayed in blue boxes. To the right, the booth location 'Hall: 1 Stand: 1-464' and the Endrich logo are shown. The bottom section contains images of various IoT devices, a monitor displaying a fiery industrial scene, a tablet with a blue interface, and a green printed circuit board (PCB).

We are happy to take time for your individual needs! You can arrange an appointment in advance at: embedded@endrich.com

Book your ticket for the visit now!

To ensure that you receive your ticket on time, it is necessary to activate it in advance by registering.

Scan the QR-code below to access the Embedded World registration page:



Your personal voucher code: ew24517746

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