

10/2026

endrich NEWS

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Electronica in Munich from November 10–13, 2026

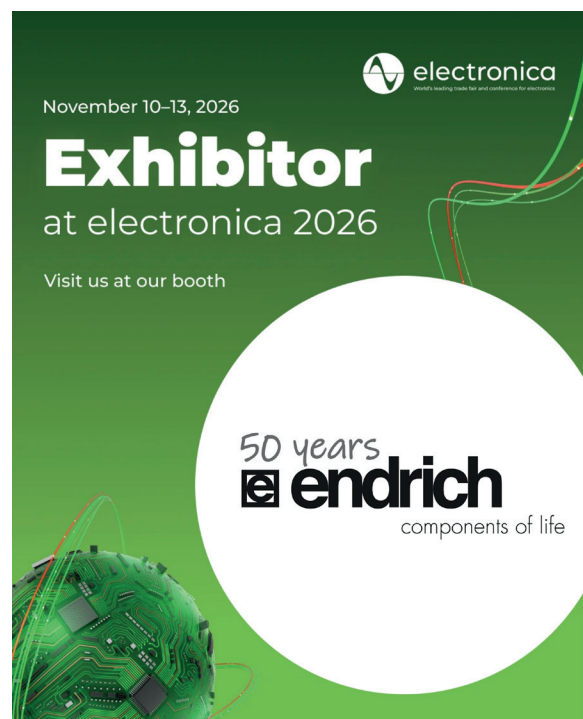
We cordially invite you to visit us again this year at electronica 2026 in Hall C3, Booth 301. Experience our e-IoT ecosystem and cutting-edge Edge AI technology live and in real time, from sensor to dashboard.

At the heart of our booth are the new “Real Market Areas” covering Smart City, Agriculture, Shopping, and Industrial. Here we show how individual building blocks come together to form a seamless, end-to-end system: sensor data is captured, analyzed, and displayed on dashboards in real time, making the data flow instantly easy to follow.

The highlight of our Vision AI demos is the intelligent refrigerator: it independently detects whether every product is in its right place and reports where gaps are emerging. This can significantly reduce manual shelf checks in supermarkets, for example. At the same time, it records which products are taken out and delivers valuable data for marketing. You can see which products are in demand and how customers are buying, and you can adjust your product range and promotions accordingly. And that's not all: from Smart City to Agriculture, we have much more in store for you.

In our Meet & Connect area and during our live presentations, we are happy to take the time to discuss your individual needs. Our team looks forward to talking with you, whether about specific projects, products, or ideas that are still in their early stages.

We look forward to your visit!

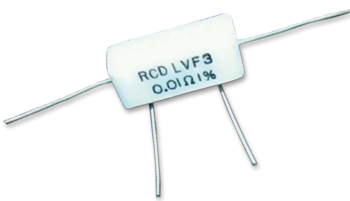


Passive components for demanding applications

The endrich passive components team presents a compact overview of our current technology portfolio in the areas of capacitors, resistors and inductors.

Capacitors

- PDC: MLCC manufacturing from ceramic powder to finished product; up to 10 kV, 330 μ F, and ± 1 % tolerance
- Suncon: SMD electrolytic capacitors and polymer hybrids with high ripple current capability, low ESR, and operation up to 150 °C
- Leaguer: SMD electrolytic capacitors, polymer hybrids, THT components, solid polymer electrolytic capacitors, Snap-In and supercaps – broad portfolio
- Walsin: Versatile MLCC portfolio, designed for high-volume applications

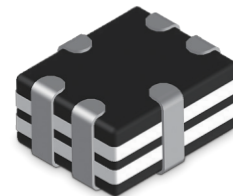


Resistors

- E&C: High-resistance solutions from megaohm to petaohm and high-voltage up to 750 kV; HC series in 0402 up to 150 G Ω
- Susumu: Thin-film precision, networks and RF products such as attenuators and termination resistors up to 50 GHz
- RCD: Specialty resistors – also available as custom solutions
- PDC / Walsin: Wide selection of power, surge, safety and custom resistors

Inductors

- ABC: SMD and THT inductors for DC-DC and filter applications; shielded and semi-shielded, as well as custom inductors and transformers
- Inpaq: RF and DC inductors, ferrite beads, filters and chokes; WIP series with high inductance values

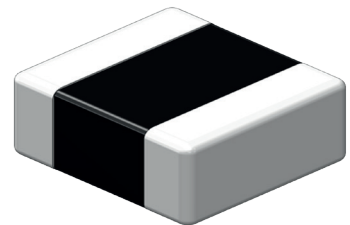


This overview shows the range of application-oriented solutions for passive components available through our portfolio. We welcome your project inquiries and second-source requests from customers seeking reliable, technically optimized components for automotive, industrial, and consumer applications.

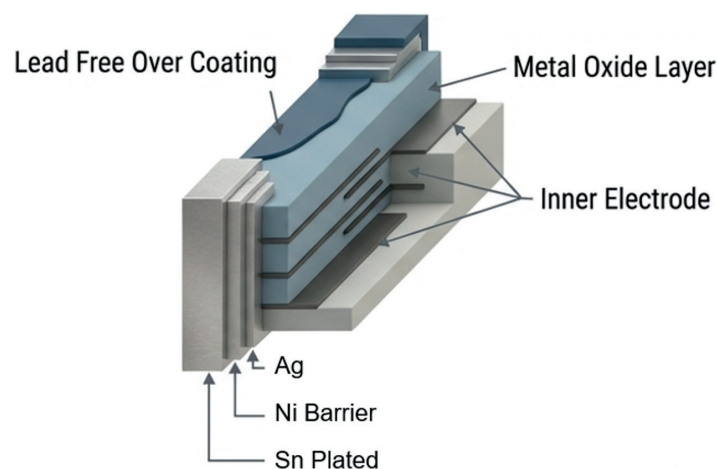
New MLVS2220 AP & ZP series

The manufacturer INPAQ Technology Co., Ltd. has released a new series of multilayer varistors – the products of the AP and ZP series. The standard AP devices are specified up to 2000 A.

The ZP devices for high surge currents, which offer approximately five times higher surge current capability than standard multilayer varistors of other manufacturers of the same size, were developed specifically for use in applications with particularly harsh environmental conditions. Thanks to improved energy distribution and power dissipation, these varistors offer excellent absorption of transient energy. They are available with a rated voltage of 14 – 60 V_{rms} in a lead-free coated 2220 SMD package with a surge current capability of 4500 A for high-energy operation.



A nickel (Ni) barrier layer is used at the terminations to preserve and optimize solderability while ensuring the long-term reliability of the electrical connections. By using optimized powder and a lower palladium (Pd) content, the products are more cost-effective than other solutions available on the market.



Structure of multilayer varistors with nickel (Ni) barrier layer

FEATURES

- Robust SMD chip made of zinc oxide ceramic
- Compact design per EIA 2220
- The lead-free insulating coating ensures an extremely low and stable leakage current
- High surge current capability up to 4500 A
- Fast response time (< 1 ns)
- Low clamping voltage
- REACH and RoHS compliant

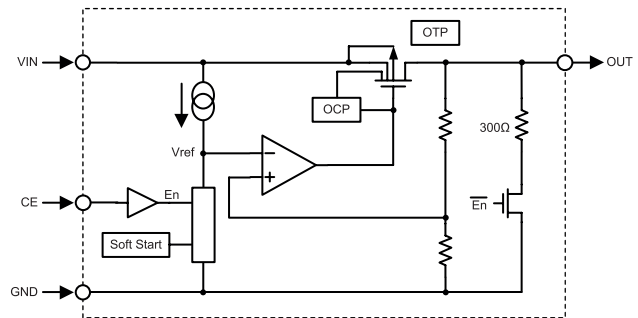
APPLICATIONS

- Communication equipment
- Industrial controls
- Consumer electronics
- LED lighting
- Drones
- AI systems

High-voltage LDO with low power consumption

The HT73Rxx-7 series by Holtek comprises low-power, high-voltage LDO regulators manufactured in advanced CMOS technology. Designed for a low dropout voltage and a very low quiescent current, these devices allow maximum input voltages of up to 30 V and provide fixed output voltages in the range of 3.3 V to 5.0 V.

The integrated soft-start function controls the slew rate of the output voltage to reliably prevent voltage overshoot at power-on. Equipped with a logic-compatible Enable pin (CE), the regulator supports fast discharge of the output via an internal 300 Ω resistor when the pin is pulled low. Furthermore, the IC allows the use of small, cost-effective 1 μ F ceramic capacitors at the output for space-saving layouts.



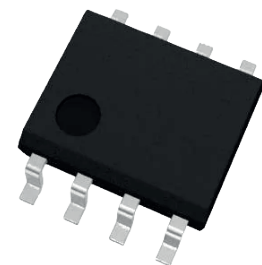
Comprehensive protection features ensure high reliability in demanding environments. An internal overcurrent protection prevents damage to the device, even in the event of a short circuit of the output to ground, while an integrated overtemperature protection shuts the regulator down as soon as the junction temperature exceeds 150 °C.

FEATURES

- Wide input voltage range: up to 30 V
- High output current: up to 250 mA
- Ultra-low quiescent current: 2.5 μ A (typ.)
- High output voltage accuracy: ± 2 % (fixed voltages from 3.3 V to 5.0 V)
- Integrated soft-start function (protection against overshoot)
- Enable pin (CE) with fast discharge (300 Ω resistor)
- Overcurrent and overtemperature protection (OTP at 150 °C)
- Low dropout voltage and low temperature coefficient
- Compatible with compact 1 μ F ceramic capacitors
- Available in compact SOT89 (3-pin) and SOT23 (5-pin) packages

APPLICATIONS

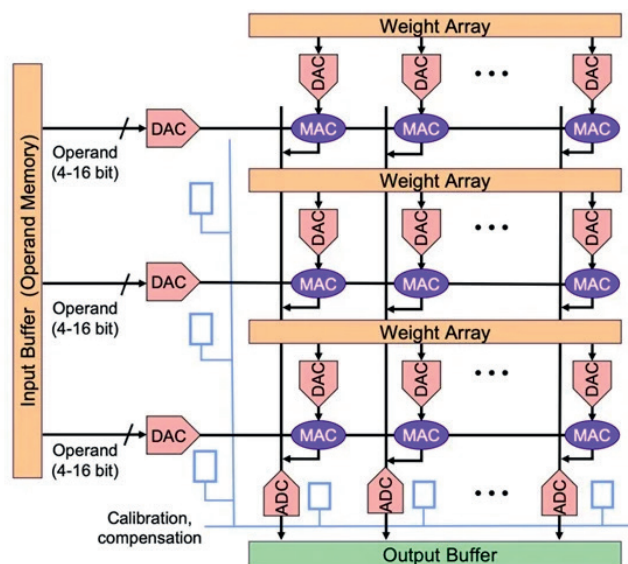
- Smart home devices
- Security equipment
- Medical technology and healthcare
- Battery-powered systems
- Industrial high-voltage applications



AI Chips: Power savings start at the data path

Ask engineers what makes an AI chip powerful and the buzzword that comes up most often is TOPS. But on modern silicon hardware, the actual multiply-accumulate (MAC) operation costs only a fraction of a picojoule. What's expensive isn't the computation, but the path the data has to travel to get there. Fetching a value from on-chip SRAM already costs 30 times as much as the multiplication itself; from off-chip DRAM, it costs 2000 to 3000 times as much. In typical AI workloads, over 90 % of total energy consumption therefore goes into shuttling data back and forth, not into the computation itself.

This is exactly where the GPX10 Pro comes in. Built on Ambient Scientific's proprietary DigAn® architecture, it merges memory and compute unit into a single analog in-memory block. Weights and activations directly control voltage or current in specially developed memory arrays. Ohm's and Kirchhoff's laws perform the multiplication and summation as pure physics, with no need for the costly detour of "fetch → compute → write back". Ten programmable MX8 AI-cores form a thin digital control layer that keeps the analog core precise, sequenced and production-ready.



GPX10 Pro at a glance

- 2560 MAC operations per cycle: ten MX8 AI-cores, 512 GOPS peak throughput
- 7 TOPS/W: outstanding energy efficiency through analog in-memory compute
- < 80 μ W in always-on detection mode: years of operation on a coin cell or purely on harvested energy (kinetic/RF)

Have a project where power budget and AI performance are pulling in opposite directions?

Talk to the Edge AI team at endrich. We are happy to think through the trade-offs between energy budget and AI performance together with you.

SiT1602 vs. SiT1605 and SiT1625: MEMS Oscillators

With the products SiT1605 and SiT1625, SiTime offers the next generation of its MEMS oscillators with significantly reduced jitter and lower power consumption.

Generation comparison: SiT1602 vs. SiT1605 vs. SiT1625

Feature	SiT1602	SiT1605 (Next Gen Industrial)	SiT1625 (Next Gen Automotive)
Frequency (ppm)	±20 ±25 ±50	±25 ±50	±25 (85 °C) ±30 (105 °C) ±50 (125 °C)
Jitter	~1.3 ps	~450 fs	~450 fs
Power consumption	~3.5 mA	2.5 mA	2.5 mA
Frequency range	52 standard frequencies from 3.57 to 77.76 MHz	44 standard frequencies from 4 to 125 MHz	44 standard frequencies from 4 to 125 MHz
Temperature range	-40 °C up to +85 °C	-40 °C up to +85 °C	-40 °C up to +125 °C
Automotive qualification	No	No	AEC-Q100

The new generation delivers enhanced signal performance while simultaneously reducing power consumption. Jitter is reduced from approximately 1.3 ps to 450 fs, while current consumption decreases from about 3.5 mA to 2.5 mA.

The latest-generation MEMS oscillators, SiT1605 and SiT1625, represent a consistent further development of the proven SiTime technology. This improved performance is made possible, among other things, by an optimized phase-locked loop (PLL).

Thanks to the significantly reduced phase jitter, the new devices are particularly suitable for modern applications:

- High-speed communication
- Ethernet
- USB

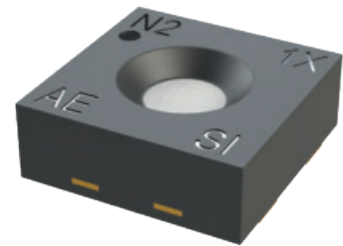
At the same time, the optimized power consumption results in higher energy efficiency, which is particularly beneficial in mobile and energy-efficient systems.

The SiT1625 extends the advantages of the new generation specifically to automotive applications and offers an extended temperature range up to +125 °C as well as AEC-Q100 qualification.



ENS212A: How the sensor stands out

In today's fast-evolving world of technology, precision and efficiency are essential. The ENS212A, a cutting-edge digital temperature and humidity sensor, was developed to set new standards in environmental sensing. With its AEC-Q100 grade 1 compliance, it is not only the sensor of choice for automotive applications but also enables the development of smart home devices, wearables, or precision-critical industrial applications.



The ENS212A stands out thanks to its advanced sensor technology. For temperature measurement, it uses a CMOS-based PTAT (Proportional To Absolute Temperature) bandgap circuit, which ensures stability and accuracy. For humidity, a capacitive polymer layer detects even the smallest changes and thus delivers precise measurements under real-world conditions.

Here are five practical reasons why the ENS212A is so convincing:

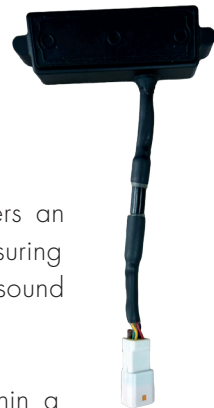
- **Pinpoint accuracy:** With an outstanding temperature accuracy of up to $\pm 0.15\text{ }^{\circ}\text{C}$ and a relative humidity accuracy of up to $\pm 1.5\%$, the ENS212A ensures precise and reliable readings in any environment. This level of accuracy is crucial for applications where even the slightest deviation can impact performance or safety.
- **Ultra-fast response time:** Thanks to its innovative design, the ENS212A adapts to temperature changes in less than one second and to humidity changes in less than three seconds. Whether it is a wearable device responding to changes in skin temperature or an HVAC system fine-tuning the indoor climate, the ENS212A responds in real time.
- **Energy efficiency at its core:** With an extremely low power consumption of just 40 nA in standby mode, the ENS212A is perfectly suited for battery-powered applications. It ensures a longer device lifetime without compromising performance.
- **Robust design, endless application possibilities:** The ENS212A operates over a wide range from $-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$ and 0 % to 100 % relative humidity and is designed to perform even under extreme conditions. From personal health trackers to industrial cold chains, its versatility knows no limits.
- **Compact and easy to integrate:** With a size of only $2.0 \times 2.0 \times 0.75\text{ mm}$, the ENS212A fits seamlessly into even the smallest designs. Its I²C interface makes integration into existing systems simple and hassle-free.

Universal HXE omnidirectional microphone module

Universal (Changzhou) Electronics introduces a new omnidirectional microphone module featuring excellent acoustic performance and an IP67 protection rating (waterproof and dustproof). It was developed specifically for high-quality audio recording in harsh environments.

Operating at a rated voltage of 12 V and drawing less than 40 mA, this module offers an outstanding energy efficiency ratio. It integrates advanced noise reduction technology, ensuring clear voice recognition even in demanding conditions with 80 dB of white noise when the sound source is 10cm away.

The product demonstrates exceptional environmental endurance. It operates reliably within a temperature range of -30 °C to 80 °C and has passed a rigorous 72 hour high-temperature and high-humidity operational test at 65 °C with 95 % relative humidity. Its IP67-rated enclosure provides complete dust protection and allows for temporary water immersion.



FEATURES

- Omnidirectional pickup with powerful noise reduction
- High protection rating: IP67 waterproof and dustproof
- Wide operating temperature range: -30 °C to +80 °C
- Comprehensive electrical protection (up to ±15 kV ESD)

APPLICATIONS

- Security monitoring and outdoor intercom systems
- In-vehicle communication and recording devices
- Industrial-grade voice interaction terminals
- Smart home and intelligent access control panels



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