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endrich NEWS

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Driving the Future of Intelligent Systems with Edge AI

Over the past few years, we have built a strong foundation in the field of IoT and connected devices, systems and data across industries. The next step is clear: transforming connected systems into intelligent systems. By combining our IoT expertise with advanced AI technologies, we enable solutions that not only collect data, but also understand it and trigger actions in real time.

Edge AI marks a fundamental shift, bringing intelligence to where data is generated and converting these insights into direct actions. Our focus remains pragmatic: solving real-world challenges with reliable, energy-efficient and distributed AI technologies.

Our aim is to provide full-stack edge AI solutions supported by a strong partner ecosystem.

We can integrate the following aspects:

- Hardware: Energy-efficient edge AI systems, including SoCs with integrated AI accelerators and standalone accelerators
- Software: Cross-platform deployment stacks, optimised AI models and lifecycle management
- Services: Consultancy, customisation and system integration

This range is complemented by training platforms, model optimisation, advanced sensor technology such as cameras and LiDAR, and ready-to-use systems – ensuring seamless integration and a complete solution from a single source.

At Embedded World 2026, we presented a proof-of-concept for ROI-based people counting.

The optimised model, derived from YOLOv8, was reduced from 48 million to 18 million parameters, resulting in a loss of accuracy of just 4%. Achieving 91 fps on an edge AI device with a power consumption of less than 10 W, we were able to demonstrate impressively how performance and efficiency can be successfully balanced.

With our 'System Integrity' business unit, we are expanding our IoT portfolio to include AI as a core competence. Our goal is clear: to help customers move beyond mere data collection and create actionable intelligence that delivers real value. Through a constantly growing partner ecosystem, we enable the faster and more efficient deployment of edge AI solutions, whilst simultaneously reducing complexity.

Would you like to integrate edge AI into your systems, or are you looking for a partner for scalable AI solutions? Get in touch – together, we can shape the future of edge intelligence.

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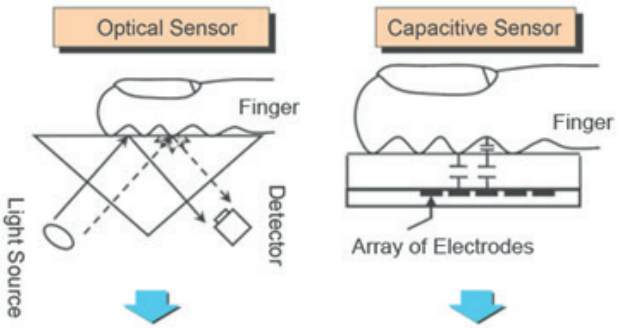
Fingerprint recognition: Your Bio-ID verification and authentication to secure access

Biometric security has gone from being something from futuristic movies to becoming a part of our daily lives. Optical, capacitive, ultrasonic, and thermal sensors offer different solutions for identifying fingerprints. The choice of sensor type depends on the level of security, speed and context of use. Secure fingerprint processing and storage is just as important as the sensor hardware.



The truth is, they all have their strengths and weaknesses. Optical scanners are fast and reliable and can live under displays, but they're fooled rather easily. Capacitive readers are just as fast and harder to fool, but can't be hidden underneath screens.

The choice of technology depends greatly on the context and needs:

- Optical: Time control, access systems, ATMs, financial devices, identification in public bodies
- Capacitive: Smartphones, tablets, laptops, smart locks, payment cards, online banking, and where miniaturization and speed are key
- Ultrasonic: Premium terminals, latest-generation mobile phones with full screens, high-security systems, and applications where authentication must work under difficult conditions
- Thermal: Restricted access applications in demanding environments, vehicles, financial systems and industrial IT equipment

Leveraging deep expertise in fingerprint recognition, GigaDevice delivers optimized, full-scenario solutions for the IoT landscape. By co-optimizing chip architecture and algorithms, we significantly reduce power consumption to meet the critical battery life demands of smart home devices, wearables, and financial terminals.

We simplify development with highly standardized interfaces and comprehensive software support, helping clients speed up time-to-market. Furthermore, our holistic end-to-end security framework—spanning sensors, chips, and firmware—safeguards every authentication event.

GigaDevice

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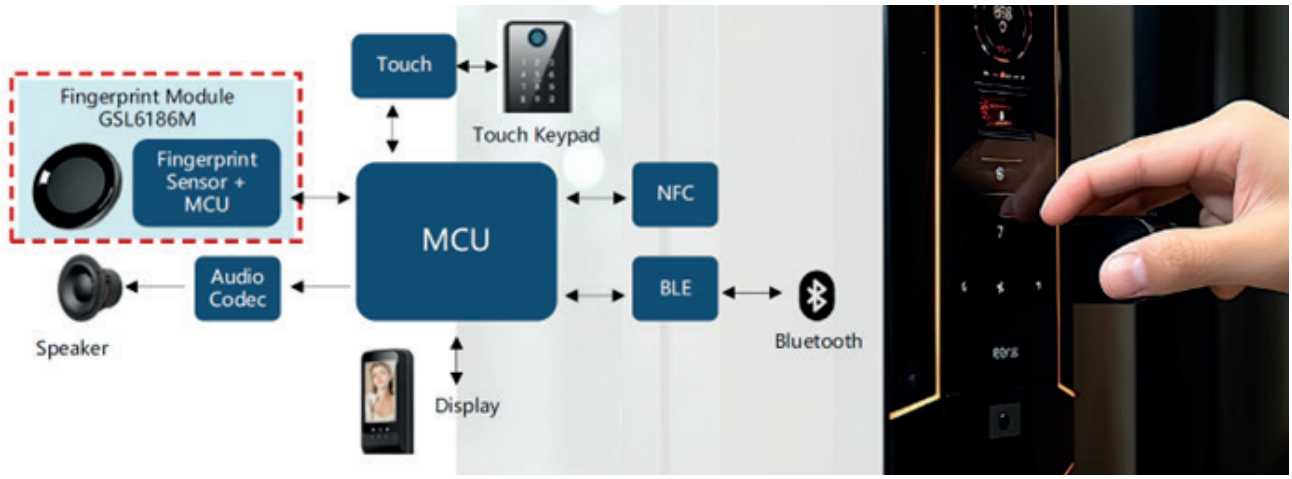
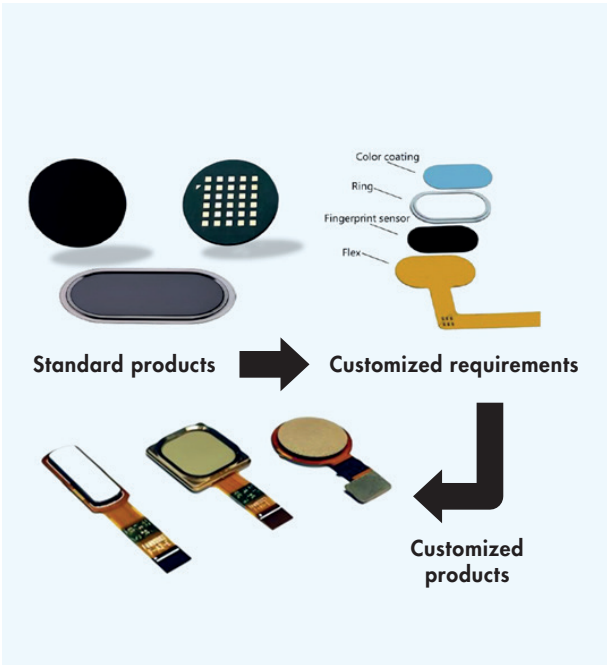
IEWS



GigaDevice's GSL6150H0 MoH fingerprint recognition solution is also equipped with a high-performance capacitive fingerprint recognition sensor and a self-developed biometric recognition algorithm.

GigaDevice's GSL6186 MoC fingerprint recognition solution uses SiP system-level packaging technology, integrates fingerprint algorithm operation acceleration module and storage module inside the chip, and combines excellent capacitive fingerprint hardware detection technology with fingerprint algorithm with proprietary intellectual property rights to achieve high performance for overall unlocking.



Dental intraoral camera

Outdoor

Smart lock

Smart ring

GigaDevice

The new ENS212A and how it stands out in the landscape of temperature and humidity sensors?

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

Here are five practical reasons why the ENS212A makes it all possible:

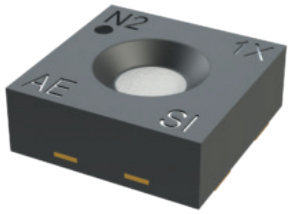
Pinpoint accuracy: With supreme temperature accuracy down to ±0.15 °C and relative humidity accuracy as fine as ±1.5 %, the ENS212A ensures precise and reliable readings in any environment. This level of accuracy is crucial for applications where even the slightest deviation can impact performance or safety.

Ultra-Fast response time: thanks to its innovative design, the ENS212A adapts to temperature changes in under one second and to humidity changes in less than three seconds.
Whether it's a wearable device responding to skin temperature shifts or an HVAC system fine-tuning indoor climates, the ENS212A responds in real time.

Energy efficiency at its core: With an ultra-low power consumption of just 40 nA in standby mode, the ENS212A is perfect for battery-powered applications. It ensures extended device life without compromising performance.

Robustdesign, endless applications: operating across a broad range of -40 °C to +125 °C and 0 % to 100 % relative humidity, the ENS212A is built to thrive in extreme conditions. From personal health trackers to industrial cold chains, its versatility knows no bounds.

Compact and easy to integrate: measuring only 2.0 x 2.0 x 0.75 mm, the ENS212A fits seamlessly into even the most space-constrained designs. Its I²C interface makes integration into existing systems smooth and hassle-free.



What sets the ENS212A apart is its advanced sensing technology. For temperature, it uses a CMOS-based PTAT bandgap circuit, ensuring stability and accuracy.
For humidity, a capacitive polymer layer detects even minute changes, delivering precise measurements in real-world conditions.

Are you ready to redefine what's possible? Let us guide you to the perfect solution for your needs.

ScioSense

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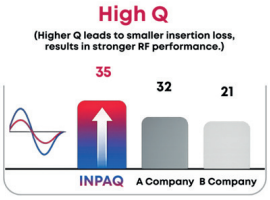
New automotive-grade RF inductors

The MCI-TM and MCI-MZ series represent INPAQ's latest generations of ultra-compact RF inductors. These ceramic inductors deliver exceptional RF performance with high Q-factors and wide frequency coverage. The proprietary ceramic material and coil structure enable reliable operation at high frequencies, making them ideal for next-generation connectivity systems including 5G, Wi-Fi 6E/7, and V2X communication. The MCI-MZ series is also automotive qualified.

Automotive-Grade Qualification

With AEC-Q200 certification, the MCI-MZ series significantly outperforms conventional inductors while ensuring reliable performance from -55 °C to +125 °C under extreme automotive conditions.

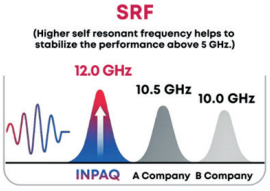


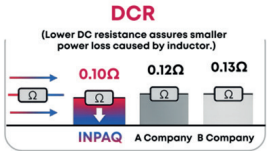
Leading Q-Factor

The new series delivers exceptional RF performance with a Q-factor of up to 35 at 2.5 GHz, significantly outperforming competitors while ensuring lower insertion loss, stronger signals, and extended range.

Extended Self-Resonant Frequency

With SRF up to 12 GHz, the new series significantly outperforms competitive products while ensuring stable operation above 5 GHz – essential for 5G NR and Wi-Fi 6E/7 applications.





Ultra-Low DC Resistance

With just 0.10Ω, the new series significantly outperforms competitors while minimizing power losses and heat generation, maximizing efficiency in high-performance RF circuits.

FEATURES

- Ultra-compact 0201 package (0.6 × 0.3 × 0.3 mm)
- High Q-factor (up to 35 at 2.5 GHz)
- Ultra-low DCR (down to 0.07 Ω)
- High SRF (up to 20 GHz)
- Wide frequency range (up to 20 GHz)
- Wide inductance range (0.6 nH to 75 nH)
- Excellent temperature stability (-55 °C to +125 °C)
- AEC-Q200 qualified (MCI-MZ series)

APPLICATIONS

- Automotive
- Telecommunication
- Wireless connectivity
- Industrial systems

PSA PASSIVE SYSTEM ALLIANCE INPAQ TECHNOLOGY CO., LTD.

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SGM70276xQ PMIC for camera systems

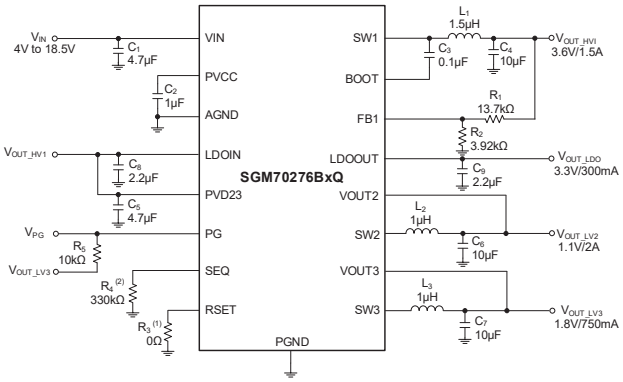
The SGM70276xQ PMIC from SGMicro is designed for automotive camera modules and generates four regulated power rails from a single supply input.

The device integrates three buck converters. HVBuck1 supports an input voltage range from 4 V to 18.5 V and delivers up to 1.5 A output current. LVBuck2 provides up to 2 A, while LVBuck3 delivers up to 750 mA. Both low-voltage Buck converters operate with an input voltage range from 2.7 V to 5 V.

In addition, the device integrates a high-PSRR low-dropout regulator (LDO) that provides a clean and stable supply for noise-sensitive circuits. The output voltage can be configured using an external resistor, enabling ten selectable output voltage options.

The SGM70276xQ is AEC-Q100 Grade 1 qualified, making it suitable for demanding automotive environments. The device is available in a green TQFN-3x3-16GL package.

SGM70276BxQ Typical Application Circuit



(1) The resistor is adjustable for different LDO output voltages.
(2) The resistor is adjustable for different power-on sequences.

FEATURES

- AEC-Q100 Qualified
- operating temperature range –40 °C to +125 °C
- Three peak-current-mode PWM buck converters
- Wide input voltage range (HVBuck up to 18,5 V)
- Fixed 2.1 Mhz switching frequency
- Integrated LDO regulator (2.7 V – 5 V input range)
- Under-voltage and over-voltage protection
- Thermal protection to +160 °C
- Compact green TQFN-3x3-16 package

APPLICATIONS

- Automotive camera modules
- Camera modules
- Monitoring modules

EWS

New centrifugal backwards fans

ECOFIT centrifugal backwards fans are currently available in diameters 133, 180, 192, 220, 225, 250, 280, 315 mm. They are AC (alternating current) and EC (electronically commutated) powered.

We are launching the 175 mm, 42 mm high impeller for ECOFIT centrifugal backward fans.

Ecofits 175 mm diameter impellers will gradually replace all the 180 mm diameter impellers fitted to existing centrifugal backward fans.

Old part number	Old designation	New part number	New designation
T37-B4	RREF5 180 x 35 R	Y25-A2	RREF5 175 x 42 R
B12-A0	2RREu15 180 x 35 R	Y25-A5	2RREu15 175 x 42 R
C25-A0	2RREu15 180 x 35 R	Y25-A6	2RREu15 175 x 42 R
D04-A6	2RREA3 180 x 35 R	Z35-A4	2RRE15 175 x 42 R

These new product series have a smaller diameter than 180 mm diameters impeller, but deliver comparable performance.

They enable you to maintain the required air flow while freeing up space in your applications. You'll be able to optimize the space in your equipment without neglecting the quality of its ventilation and cooling.

Ask us for detailed dimensional drawings to find out more about other dimensions.

Ecofits new 175x42 impellers can operate between -20 °C and +60 °C.

This centrifugal backward fan is suitable for a wide range of applications:

- HVAC (heating, ventilation, air conditioning)
- Filtration and cooling of professional machines and appliances
- Ventilation of on-board systems such as in the railway industry
- Cooling of power transformation systems, data centers
- Cabinet cooling
- Charging devices

The related data sheets and drawings contain full information on the performance and dimensions of the ECOFIT 175 x 42 R fans. This will enable you to choose the right fan for the space available in your unit, and for the flow-pressure point required.

Multiple options are also available to customize the fans to meet your exact ventilation needs. Please let us know your requirements and we will propose a customized solution.

Do you have a question? We're here to answer you and provide you with all the personalized you need. Just contact us.

ECOFIT

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GD25UF SPI Flash - Smarter Architecture

As modern semiconductor processes move toward 1.2 V operation for higher energy efficiency, the GD25UF series is designed to work directly within this voltage range.
It enables seamless integration with 1.2 V SoCs without requiring level shifters or complex power management, reducing component count, lowering BOM cost, and improving efficiency by avoiding power conversion losses.

KEY FEATURES

- Density range 8 Mb – 256 Mb for AI, HPC, IoT, and edge applications
- 1.2 V low-power operation for higher energy efficiency
- Up to 80 MB/s throughput, supports single / dual / quad / DTR Quad SPI
- Max frequency: 120 MHz (STR), 80 MHz (DTR)
- 50–70 % lower power consumption vs. 1.8 V Flash
- Ultra-compact WLCSP package for space-limited designs
- High reliability: 100K P/E cycles, 20-year data retention
- Wide temperature range: –40 °C to + up to 125 °C
- Multiple packages: SOP8, WSON8, USON8, WLCSP
- Mass production available for industrial, automotive, AI, and IoT systems

GigaDevice

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