02/2026

endrich NEWS

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WE WILL BE AT EMBEDDED WORLD IN NUREMBERG FROM 10 - 12 MARCH 2026

We warmly invite you once again to visit us at embedded world 2026. Experience an end-to-end IoT ecosystem showcasing Smart City applications live and in real time—from the sensor all the way to the cloud.

At the heart of our exhibit is how individual building blocks come together to form a reliable overall system: we demonstrate how sensors, wireless technologies, and selected partner solutions integrate seamlessly to enable a truly continuous data chain. Together with NeoCortec, Quarterwave, Ligna Energy, SouthChip Semiconductor Technology, and SiTime, we show how innovative technologies work hand in hand to bring an intelligent city environment to life. Live data and cloud visualizations make the data flow transparent and easy to understand at a glance.

A special highlight is our AI demonstration: relevant information is automatically detected, analyzed, and used as a data source for dashboards and real-world use cases. See how IoT and artificial intelligence work together to create smart, efficient solutions for the cities of tomorrow.

We are happy to take the time to address your personal concerns. It is best to make an appointment now at: embedded@endrich.com

You can reserve your ticket for the trade fair now. Activate it via registration so that it is available in good time.

We look forward to your visit!

Reserve your ticket now
www.messe-ticket.de/Nuernberg_SHOP/embeddedworld2026/Register

Your personal voucher code:
ew26567128

TIME-TO-DIGITAL CONVERTER FOR DOOR SCANNER CONTROL

Intelligent controllers of automatic doors scan the area in front of the door and identify the position and movement of objects approaching the door.

Harsh and alternating environmental conditions as well as strong variations in reflectivity of the surfaces make it difficult to separate the objects from the ambient. Scanning LiDARs with their high-pulsed lasers offer a robust solution for this task, and ScioSense time-to-digital converters offer a perfect solution for the precision time measurement needed to calculate the distance.

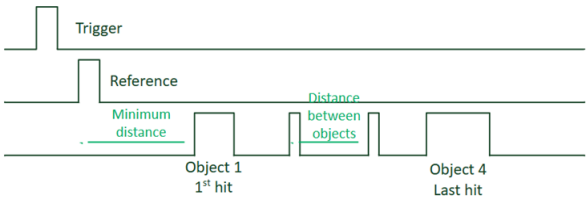

Figure 1: ToF Timing

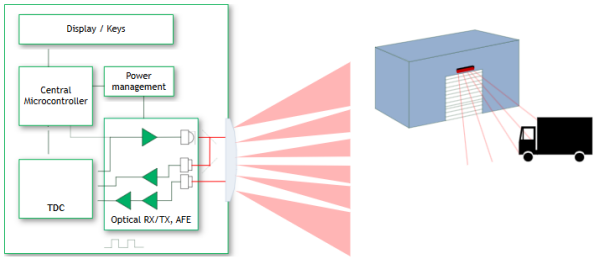

Figure 2: Scanner for industrial doors

A short laser pulse in the < 1ns range is sent out to moving mirrors scanning the area of interest, an avalanche photodiode receives the optical pulse and a TIA – comparator combination creates a trigger signal for a time-to-digital converter (TDC) that measures the time.

Usually, a small portion of the light sent is bypassed internally to be used as a reference. This way any delay variations over the temperature of the drivers and receivers can be eliminated. The velocity of light is very high: c = 299,792,458 m/s.

LiDAR systems measure in reflection, which means that the distance is calculated as Distance d = ToF/2 · c: a distance of 1 cm corresponds to 66 ps in time-of-flight. That given, the resolution for a TDC for LiDAR systems should be < 30 ps to resolve minimum 1 cm with 50% safety margin.

ScioSense offers TDC that can measure with 10 ps resolution, but it is also honest to mention that mainly other factors like the analog front end, the reflecting surfaces and even air turbulence will be the limiting factors for distance resolution.

Another important parameter is the pulse-pair resolution, the minimum time between two pulses the TDC can measure, not ignoring the second pulse. This is important in situations where the laser beam gets reflected from several objects in a row, e.g. a group of people standing in front of a wall. An intelligent system can interpret all of them, especially the first hit and the last hit. A reasonable target spec is to have a pulse-pair resolution in the range of 6.6 ns for resolving 1 m in distance.

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IEWS

ACOUSTICS AS THE INVISIBLE INTERFACE IN SMART HOMES

Smart Home systems are transforming the way people interact with their living environments. In addition to sensors, networks, and software, acoustic components play a key role as the interface between humans and technology. They enable intuitive operation, reliable delivery of critical feedback, and enhanced safety.

Microphones – Voice Control and Sound Detection

Microphones are the primary input devices in smart home environments. Voice assistants, intercom systems, and wall-mounted control panels often combine multiple microphones to reliably capture voice commands even in noisy surroundings.

USE CASES:

- Voice control of lighting, heating, blinds, and entertainment systems
- Two-way communication at front doors

Speakers – Audible Feedback and Information

Speakers provide users with immediate, audible feedback. They confirm commands, communicate system status, and issue warnings in critical situations. In many homes, speakers are integrated into smart speakers, ceiling speakers, or wall panels, and are increasingly used in hotel rooms and ship cabins as well.

USE CASES:

- Spoken system notifications (e.g., "The bedroom window is still open") and alerts in hazardous situations
- Multi-room music playback

Sounders – Clear Warning Signals for Safety

Sounders generate clearly defined acoustic signals that function independently of spoken language. They are used wherever immediate attention is required in emergency situations—such as waking, alerting, or evacuating occupants.

USE CASES:

- Smoke and carbon monoxide detectors
- Intrusion and burglary alarms

Vibration Motors – Haptic Feedback

Vibration motors extend acoustic communication by adding a tactile layer. They enable discreet feedback without creating audible disturbance in the environment.

USE CASES:

- Vibration alerts on smartwatches or wristbands for alarm notifications
- Haptic feedback (tactile confirmation of user input) in remote controls and touch panels

Conclusion

Acoustic components enable natural interaction, enhance safety, and improve overall living comfort. While intelligent processing operates in the background, microphones, speakers, sounders, and vibration motors ensure that this intelligence becomes perceptible, accessible, and easy to use for people.

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SGM61169 – HIGH-EFFICIENCY 6 A SYNCHRONOUS BUCK CONVERTER

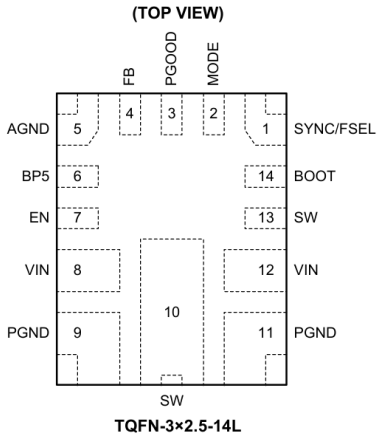
The SGM61169 is a compact, high-performance, 6 A synchronous step-down converter designed for demanding point-of-load applications. With a wide input voltage range of 4 V to 18 V and an adjustable output of 0.5 V to 7 V, it supports a broad range of industrial, medical and infrastructure power architectures.

At its core, the SGM61169 integrates innovative emulated current-mode (IECM) control with fixed-frequency operation and internal compensation, ensuring stable regulation and a fast transient response while simplifying the design process. Five selectable switching frequencies (500 kHz to 2.2 MHz) and external clock synchronisation enable designers to optimise efficiency, power density and EMI performance at the system level.

High efficiency is enabled by low RDS(on) integrated MOSFETs (25 mΩ/6.2 mΩ) and a precision 0.5 V reference with ±0.5% accuracy, delivering tight output regulation across load and line variations. System flexibility is further enhanced by selectable soft-start times, configurable current limits (6 A/3 A), monotonic start-up with pre-biased outputs and a power-good monitor, ensuring reliable sequencing and supervision.

FEATURES

- 4 V to 18 V input voltage range
- 0.5 V to 7 V output voltage range
- Internally compensated innovative emulated current mode (IECM) control with fixed frequency
- 0.5 V internal reference voltage
- ±0.5 % reference voltage accuracy
- 25 mΩ/6.2 mΩ low integrated MOSFETs
- 500 kHz, 750 kHz, 1 MHz, 1.5 MHz and 2.2 MHz selectable switching frequencies
- External clock synchronization
- Three selectable PWM ramp options for optimized control loop performance
- 0.5 ms, 1 ms, 2 ms and 4 ms selectable soft-start times
- Selectable current limits to support 6 A and 3 A operation
- Input under-voltage lockout (UVLO)
- (OVP), (UVP), (OCP), and thermal shutdown
- TQFN-3×2.5-14L package



TQFN-3×2.5-14L

APPLICATIONS

- Test and measurement instruments
- Medical imaging equipment
- Business exchange and server
- Wireless infrastructure
- Telecommunications infrastructure

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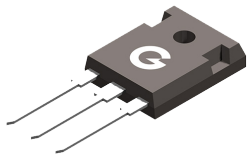
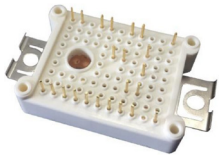
IEWS

IGBTS FOR A WIDE RANGE OF APPLICATIONS



The manufacturer Galaxy (Changzhou Galaxy Century Microelectronics Co.,Ltd.) offers a wide range of electronic components. One of their main product lines are discete IGBTs and IGBT modules. IGBTs are used in applications that require medium to high power, particularly for power control and conversion.

Key applications include motor drives (such as in electric cars and industrial motors), inverters (for power supplies, solar systems and UPS systems), inductive heating equipment, welding equipment and high-voltage direct current transmission systems.



Product family	BV	Ic@100°C	If@100°C	Tsc	Vcesat typ	Vf typ	Package
Discretes (standard)	650~1200 V	5~100 A	5~75 A	5~10 µs	1,5~1,9 V	1,6~3,5 V	TO-252,TO-220MF, TO-220, TO-263, TO-220, TO-247
Discretes (Automotive)	650~1200 V	50~75 A	40~75 A	5~10 µS	1,55~1,8 V	1,6~3,5 V	TO-247
Modules	650~1700 V	10~600 A					ECONOPACK2/3, ECONODUAL3, ECONOPIM3, EASY1B/2B, Q1/2, SOT-227, 34/62MM

FEATURES

- High-frequency operation
- Low switching losses
- Robust current surge capability
- Low conduction losses
- High short-circuit capability
- High reliability
- Customized development

APPLICATIONS

- Power supplies
- Inverters
- Welding machines/heating stoves
- Medium-frequency induction heating
- Energy storage/new energy buses/heavy trucks
- High voltage drives/SVG/APF

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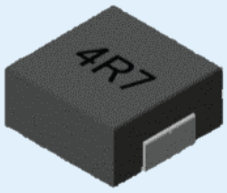
ABC-ATEC INTRODUCES AUTOMOTIVE-GRADE MOLDED POWER INDUCTORS

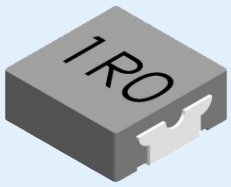
The AGA and AGC series use metal alloy and carbonyl iron powder materials, respectively. These power inductors offer not only compact packages but also high saturation current, low DC resistance, low buzz noise and excellent temperature stability over a wide temperature range.

The AMV and AMT series are optimized inductors in terms of structure. First, by introducing a wide terminal design, the products achieve extremely high reliability, capable of withstanding 30G vibration test. Another outstanding design is the use of alpha winding, which is a processing method in which both the start and end of the winding are located on the outer layer side of the coil.



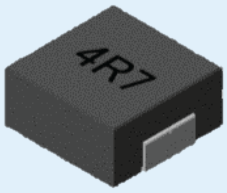
AGA SERIES

- High current
- Low RDC
- Metal alloy powder



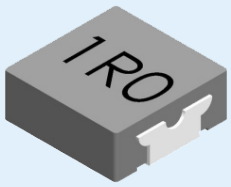
AMV SERIES

- Wide terminal
- Alpha winding
- Metal alloy powder



AGC SERIES

- High current
- Low RDC
- Carbonyl iron powder



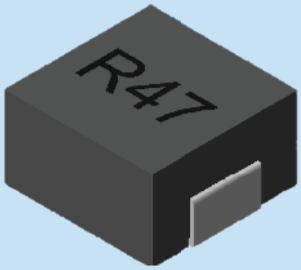
AMT SERIES

- Wide terminal
- Alpha winding
- Carbonyl iron powder

COMING UP NEXT

AHV0530 & AHV0630 SERIES

- Available sizes 0530 / 0630
- High withstanding voltage 125 V
- AEC-Q200 qualified



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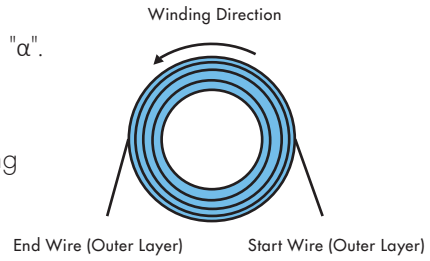
EWS

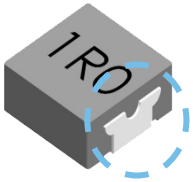
Family	Type	Dimension LxWxH (mm)	Inductance Range (µH)	RDC (mΩ) max.	Isat (A) typ.	Irms (A) typ.	Voltage V	High current Low RDC	Metal Alloy Powder	Carbonyl Iron Powder	Wide Terminal	Alpha Winding
AGA[1]	AGA0530-T	5.7 x 5.20 x 2.8	0.10 - 10	2.10 - 102	36 - 3.1	28 - 4.5	45	✓	✓			
	AGA0630-T	7.0 x 6.60 x 2.8	0.15 - 22	1.80 - 180	45 - 3.5	35 - 3.5	60					
	AGA1040-T	11.0 x 10.00 x 3.8	0.15 - 100	0.55 - 308	82 - 3.0	48 - 2.5	75					
	AGA1265-T	13.5 x 12.60 x 6.2	0.46 - 160	0.46 - 160	112 - 6.0	60 - 5.5	80					
AMV[2]	AMV0530-T	5.5 x 5.25 x 2.8	0.68 - 10	9.60 - 110	15 - 3.2	13.5 - 4.8	45					
	AMV0630-T	7.1 x 6.60 x 2.8	0.47 - 22	9.60 - 110	23 - 3.5	23 - 3.5	60		✓		✓	✓
	AMV1040-T	11.0 x 10.00 x 3.8	0.47 - 33	1.61 - 101	33 - 6.0	36 - 6.0	75					
	AMV1265-T	13.6 x 12.60 x 6.2	0.68 - 100	1.55 - 140	40 - 5.1	39 - 4.1	80					
AGC[1]	AGC0530-Q	5.7 x 5.20 x 2.8	0.10 - 22	2.53 - 242	65 - 3.1	25 - 2.5	45					
	AGC0630-Q	7.3 x 6.60 x 2.8	0.10 - 33	1.60 - 235	85 - 4.5	37 - 2.5	60	✓		✓		
	AGC1040-Q	11.0 x 10.00 x 3.8	0.10 - 22	0.40 - 65	95 - 8.5	48 - 6.5	75					
	AGC1265-Q	13.5 x 12.50 x 6.2	0.15 - 47	0.50 - 88	136 - 11.5	60 - 7.5	80					
AMT[1]	AMT0530-T	5.7 x 5.20 x 2.8	0.10 - 22	2.53 - 242	65 - 3.1	25 - 2.5	45					
	AMT0630-T	7.3 x 6.70 x 2.8	0.10 - 33	1.60 - 235	85 - 4.5	37 - 2.5	60					
	AMT1040-T	11.0 x 10.20 x 3.8	0.68 - 22	2.60 - 65	45 - 8.5	25 - 6.5	75			✓	✓	✓
	AMT1265-T	13.7 x 12.80 x 6.2	0.68 - 47	1.40 - 88	65 - 11.5	38 - 7.5	80					
AHV[1]	AHV0530-S	5.5 x 5.25 x 3.0	1.00 - 10	16.3 - 166	12.9 - 2.5	6.5 - 2.0	125	✓	✓			✓
	AHV0630-S	7.1 x 6.60 x 3.0	1.00 - 22	14.1 - 215.3	17.6 - 3.3	11 - 2.2	125					

[1] Operating Temp. Range: -55 to +155°C [2] Operating Temp. Range: -55 to +165°C

(α) Alpha winding

Alpha winding has its name because its shape resembles the Greek letter "α". It offers improved magnetic performance by optimizing the coil layout. This design optimized current handling and minimizes temperature rise, leading to better power density and reliability. Additionally, as the winding process greatly reduces the cross-over between copper wires, it further prevents the risk of short circuits.





Wide terminal

By increasing the width of the side terminal frame without affecting the package size, these molded power inductors are capable of withstanding 30G vibration test, which exceeds the acceleration 5G demand by the AEC-Q200 standard (MIL-STD-202 Method 204).

FEATURES

- High current, low RDC (AGA + AGC series)
- Metal alloy powder (AGA + AMV series)
- Carbonyl iron powder (AGC + AMT series)
- AEC-Q200 qualified (all)

APPLICATIONS

Suitable for DC/DC applications up to 50 VDC such as

- Automotive
- Industrial
- Telecommunications

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READERS CHOICE FOR DISTRIBUTOR OF THE YEAR 2026 – VOTE FOR US NOW

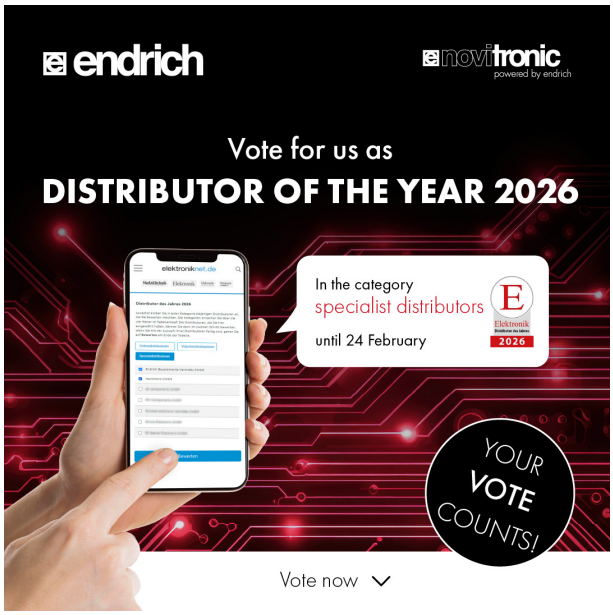
In this year's reader poll for Distributor of the Year by Elektronik magazine, the endrich group, with endrich and novitronic, has been nominated for Distributor of the Year 2026 in the Specialised Distributors category.

All votes cast are evaluated separately. This gives the endrich group the opportunity to impress multiple times with endrich and novitronic within the specialised distributors category and to demonstrate its expertise in various areas of application.

For us, this nomination is a special recognition of our daily work and our high standards of quality, service and partnership-based cooperation. It confirms the trust that our customers and partners have placed in us for many years and motivates us to continue on this path.

We thank you for your trust and many years of partnership-based cooperation.

We look forward to your support!



Scan the QR code and vote directly here
or at: www.elektroniknet.de/distribution/distributor-des-jahres

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