

02/2026

endrich NEWS

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WIR SIND AUF DER EMBEDDED WORLD IN NÜRNBERG - VOM 10.-12. MÄRZ 2026

Auch in diesem Jahr laden wir Sie herzlich ein, uns auf der embedded world 2026 zu besuchen. Erleben Sie ein durchgängiges IoT-Ökosystem, das Smart-City-Anwendungen live und in Echtzeit abbildet – vom Sensor bis in die Cloud.

Im Mittelpunkt steht die Frage, wie aus einzelnen Bausteinen ein belastbares Gesamtsystem entsteht: Wir zeigen, wie Sensorik, Funktechnologien und ausgewählte Partnerlösungen nahtlos zusammenspielen und so eine durchgängige Datenkette ermöglichen. Gemeinsam mit NeoCortec, Quarterwave, Ligna Energy, SouthChip Semiconductor Technology und SiTime demonstrieren wir, wie innovative Technologien ineinandergreifen, um eine intelligente Stadtumgebung zu realisieren. Live-Daten und Cloud-Visualisierungen machen den Datenfluss dabei transparent und sofort nachvollziehbar.

Ein besonderes Highlight ist unsere AI-Demonstration: Relevante Informationen werden automatisch erkannt, bewertet und als Datenquelle für Dashboards sowie konkrete Anwendungsfälle genutzt. So erleben Sie, wie IoT und Künstliche Intelligenz zusammenwirken, um smarte, effiziente Lösungen für die Städte von morgen zu schaffen.

Gerne nehmen wir uns Zeit für Ihre persönlichen Anliegen. Vereinbaren Sie am besten schon jetzt einen Termin unter: embedded@endrich.com

Sie können Ihr Ticket für die Messe bereits jetzt reservieren. Schalten Sie es über die Registrierung frei, damit es rechtzeitig verfügbar ist.

Wir freuen uns auf Ihren Besuch!



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www.messe-ticket.de/Nuernberg_SHOP/embeddedworld2026/Register

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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.

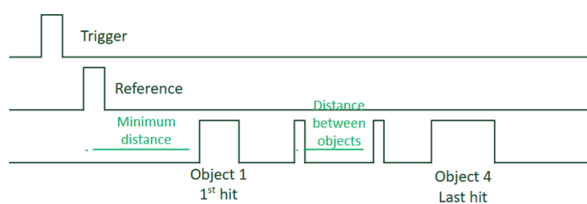


Figure 1: ToF Timing

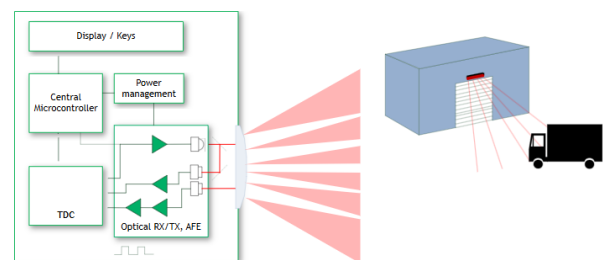


Figure 2: Scanner for industrial doors

A short laser pulse in the $< 1\text{ns}$ 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: $c = 299,792,458\text{ m/s}$.

LiDAR systems measure in reflection, which means that the distance is calculated as $\text{Distance } d = \text{ToF}/2 \cdot c$: 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 $< 30\text{ ps}$ 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.

NEWS

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.

SGM61169 – HIGH-EFFICIENCY 6 A SYNCHRONOUS BUCK CONVERTER

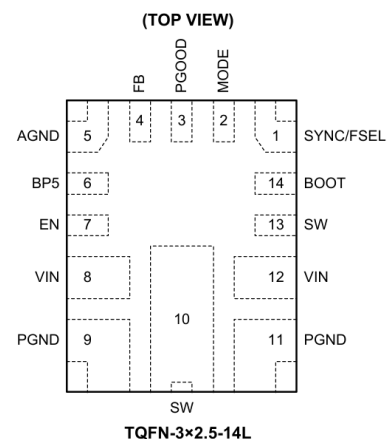
The SGM61169 is a compact, high-performance, 6 A synchronous step-down converter designed for demanding point-of-load applications. With a wide input voltage range of 4 V to 18 V and an adjustable output of 0.5 V to 7 V, it supports a broad range of industrial, medical and infrastructure power architectures.

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 $R_{DS(on)}$ integrated MOSFETs (25 m Ω /6.2 m Ω) and a precision 0.5 V reference with $\pm 0.5\%$ 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

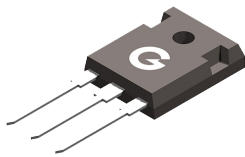
- 4 V to 18 V input voltage range
- 0.5 V to 7 V output voltage range
- Internally compensated innovative emulated current mode (IECM) control with fixed frequency
- 0.5 V internal reference voltage
- $\pm 0.5\%$ reference voltage accuracy
- 25 m Ω /6.2 m Ω low integrated MOSFETs
- 500 kHz, 750 kHz, 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 $\times$ 2.5-14L package



APPLICATIONS

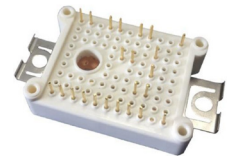
- Test and measurement instruments
- Medical imaging equipment
- Business exchange and server
- Wireless infrastructure
- Telecommunications infrastructure

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 discrete 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

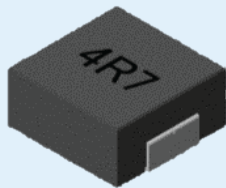
APPLICATIONS

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

ABC-ATEC INTRODUCES AUTOMOTIVE- GRADE MOLDED POWER INDUCTORS

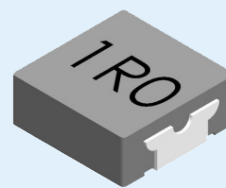
The AGA and AGC series use metal alloy and carbonyl iron powder materials, respectively. These power inductors offer not only compact packages but also high saturation current, low DC resistance, low buzz noise and excellent temperature stability over a wide temperature range.

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.



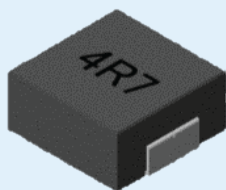
AGA SERIES

- High current
- Low RDC
- Metal alloy powder



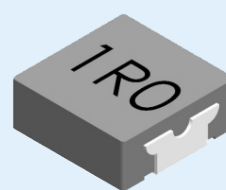
AMV SERIES

- Wide terminal
- Alpha winding
- Metal alloy powder



AGC SERIES

- High current
- Low RDC
- Carbonyl iron powder



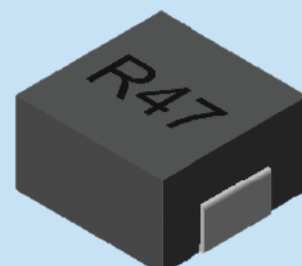
AMT SERIES

- 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



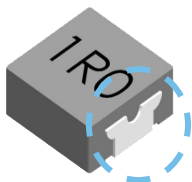
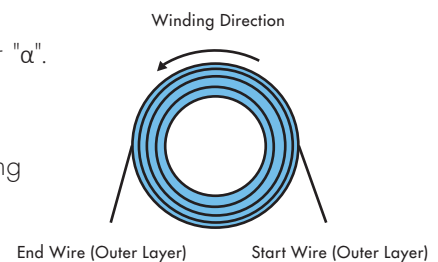
Family	Type	Dimension LxWxH (mm)	Inductance Range (μ H)	RDC (m Ω) max.	Isat (A) typ.	Irms (A) typ.	Voltage V	High current Low RDC	Metal Alloy Powder	Carbonyl Iron Powder	Wide Terminal	Alpha Winding
AGA ¹	AGA0530T	5.7 x 5.20 x 2.8	0.10 - 10	2.10 - 102	36 - 3.1	28 - 4.5	45	✓	✓			
	AGA0630T	7.0 x 6.60 x 2.8	0.15 - 22	1.80 - 180	45 - 3.5	35 - 3.5	60					
	AGA1040T	11.0 x 10.00 x 3.8	0.15 - 100	0.55 - 308	82 - 3.0	48 - 2.5	75					
	AGA1265T	13.5 x 12.60 x 6.2	0.46 - 160	0.46 - 160	112 - 6.0	60 - 5.5	80					
AMV ²	AMV0530T	5.5 x 5.25 x 2.8	0.68 - 10	9.60 - 110	15 - 3.2	13.5 - 4.8	45		✓		✓	✓
	AMV0630T	7.1 x 6.60 x 2.8	0.47 - 22	9.60 - 110	23 - 3.5	23 - 3.5	60					
	AMV1040T	11.0 x 10.00 x 3.8	0.47 - 33	1.61 - 101	33 - 6.0	36 - 6.0	75					
	AMV1265T	13.6 x 12.60 x 6.2	0.68 - 100	1.55 - 140	40 - 5.1	39 - 4.1	80					
AGC ¹	AGC0530Q	5.7 x 5.20 x 2.8	0.10 - 22	2.53 - 242	65 - 3.1	25 - 2.5	45	✓		✓		
	AGC0630Q	7.3 x 6.60 x 2.8	0.10 - 33	1.60 - 235	85 - 4.5	37 - 2.5	60					
	AGC1040Q	11.0 x 10.00 x 3.8	0.10 - 22	0.40 - 65	95 - 8.5	48 - 6.5	75					
	AGC1265Q	13.5 x 12.50 x 6.2	0.15 - 47	0.50 - 88	136 - 11.5	60 - 7.5	80					
AMT ¹	AMT0530T	5.7 x 5.20 x 2.8	0.10 - 22	2.53 - 242	65 - 3.1	25 - 2.5	45			✓	✓	✓
	AMT0630T	7.3 x 6.70 x 2.8	0.10 - 33	1.60 - 235	85 - 4.5	37 - 2.5	60					
	AMT1040T	11.0 x 10.20 x 3.8	0.68 - 22	2.60 - 65	45 - 8.5	25 - 6.5	75					
	AMT1265T	13.7 x 12.80 x 6.2	0.68 - 47	1.40 - 88	65 - 11.5	38 - 7.5	80					
AHV ¹	AHV0530S	5.5 x 5.25 x 3.0	1.00 - 10	16.3 - 166	12.9 - 2.5	6.5 - 2.0	125	✓	✓			✓
	AHV0630S	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

LESERWAHL ZUM DISTRIBUTOR DES JAHRES 2026 – STIMMEN SIE JETZT FÜR UNS AB

In der diesjährigen Leserwahl zum Distributor des Jahres von der Elektronik ist die endrich group mit endrich und novitronic in der Kategorie Spezialdistributoren für den Distributor des Jahres 2026 nominiert.

Alle abgegebenen Stimmen werden getrennt ausgewertet. Damit hat die endrich group die Möglichkeit, mit endrich und novitronic innerhalb der Kategorie Spezialdistributoren mehrfach zu überzeugen und ihre Kompetenz in unterschiedlichen Anwendungsbereichen unter Beweis zu stellen.

Die Nominierung ist für uns eine besondere Anerkennung unserer täglichen Arbeit sowie unseres hohen Anspruchs an Qualität, Service und eine partnerschaftliche Zusammenarbeit. Sie bestätigt das Vertrauen, das unsere Kunden und Partner uns seit vielen Jahren entgegenbringen und motiviert uns, diesen Weg konsequent weiterzugehen.

Wir danken Ihnen für Ihr Vertrauen und die langjährige partnerschaftliche Zusammenarbeit.

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