





Five Years Out

Transportation and the automotive industry. At its core, it's about how people get from point A to point B. But for Arrow, it's about how we help drive the next wave of innovation. Not since Henry Ford's assembly line has there been a more transformative time in the automotive industry.

From vehicle safety to driver convenience, every aspect is in transition. The in-car experience is becoming as much about the world outside as it is the driver. And those drivers will soon become passengers, with self-driving vehicles acting as both navigator and operator.

But the path to creating the future of transportation is one not easily traveled. Today's automakers and those who serve them will need the right partner to help them navigate unforeseen challenges. Untangle component complexity. Optimize global supply chain and inventory management. Connect heterogeneous systems in ways not thought of yet.

That's where Arrow can help.

We make bringing the right pieces of the integrated technology puzzle together possible. We curate the expertise and knowledge that drives competitive advantage. And we've created the underlying global infrastructure upon which the vehicles of tomorrow will be built. Join us in the world of Five Years Out, where we will help transform imaginative possibility into practical reality.

Global Reach. Localized Service.

As the world of transportation and the automotive industry evolves and adapts to 21st century innovation, the need for a reliable partner who understands the requirements, complexities and urgency of the industry is more critical than ever.

At Arrow, we know as well as you do that in a business designed to make things go, there is simply no time for line-downs or inferior products. Every piece, part, system and module must be qualified, integrated and available – and they must also offer world-class quality. In the right place. At the right time.

Across the continent or across the street, Arrow has experts in global supply chain logistics who know how to keep the transportation industry moving. Just as importantly, we have the systems in place to track and ensure the availability of high-quality automotive parts designed to stand the test of time. We understand the commercial and technical issues that make automotive businesses run. And we provide efficiencies of both time and money to streamline operations, maximize uptime and cut down on manufacturing overhead.



DESIGN
SOLUTIONS



AUTOMOTIVE
EXPERTISE



GLOBAL
SERVICING



MANUFACTURING
LOGISTICS



POST-SALE
SUPPORT

ARROW | Transportation

When you partner with Arrow, you partner with experts who speak the automotive language. We deliver the best global, secure, reliable source for keeping all aspects of your business traveling in the right direction.



Individualized, Expert Design-in Solutions

Whatever your vision, Arrow has the knowledge and automotive industry expertise to help you achieve greater safety, efficiency, connectivity and automation in the ever-evolving transportation industry.

We excel at working together to uncover design challenges and leverage existing components for your projects. And we have the knowledge and resources to confidently recommend and source the best parts for the job – components that meet local, regional and global standards.

Our dedicated automotive team has a deep knowledge of your industry and speaks the automotive language. We can help you evaluate new technologies and provide AECQ products and platform support, as well as Engineering Solutions Center support to guide your vision. You'll also have access to enVision™, our free online application for early design phase exploration and collaboration; SiliconExpert, our global components database; and, if desired, our unparalleled third-party network.

At Arrow, your success is our success.

Automotive Engineering

Our technology-driven strategy is centered on providing complete, impartial, end-to-end engineering solutions for our automotive customers. To achieve this level of service for our automotive customers, we focus on automotive dedicated field application engineering, we extend engineering support for complex ideas, detailed support and training, as well as freely accessible online engineering support.

Field Application Engineering

The dedicated automotive engineering team is experienced in applying standards and requirements from the automotive environment like PPAP, TS16949, LV/USCAR-Specs, AECQ as well as a variety of other soft standards & best practices.

- > Streamline design and enable Design2Cost opportunities
- > Supplier & technology benchmark
- > Provide components risk & lifetime overviews (BOM review)
- > Solution approaches of best practices for typical automotive design issues
- > Review schemes and give hands-on layout advice
- > Translate parameter needs into customized components
- > Roadmap insight
- > Provide access to automotive know-how network

Extended Engineering Support

To keep pace with the ever-growing complexity, providing field application engineering support is not enough. Complex and disrupting ideas for new automotive products require further support.

- > Engineering solution center for software and hardware support
- > Providing partial and full layout solutions
- > Seminars, workshops and multi-solution days
- > Hands-on training session on FPGA, and more
- > Automotive reference design
- > Automotive competence center

Online Engineering Support

While time to market is getting increasingly critical for automotive applications, support is often required within minutes. At arrow.com, we provide engineers free access to automotive know-how.

- > ORCAD/envision online design tool
- > Silicon expert
- > BOM management
- > Live engineering chat
- > Free datasheet, technical notes, reference designs & literature

Arrow's experienced team
targets today's opportunities
and difficulties to strengthen
Automotive Engineering
environments.

Delivering on a Global Scale

Global Sourcing

With offices, support teams and warehouses located around the world, Arrow simultaneously works face to face and on the ground with our automotive clients while harnessing the power of our international transportation resources and solutions. We can help you balance local nuances and needs with the power of global strategic partnerships. That's true global sourcing.

Arrow provides global, localized support through an extensive line card featuring over 688 of the best suppliers on the planet.

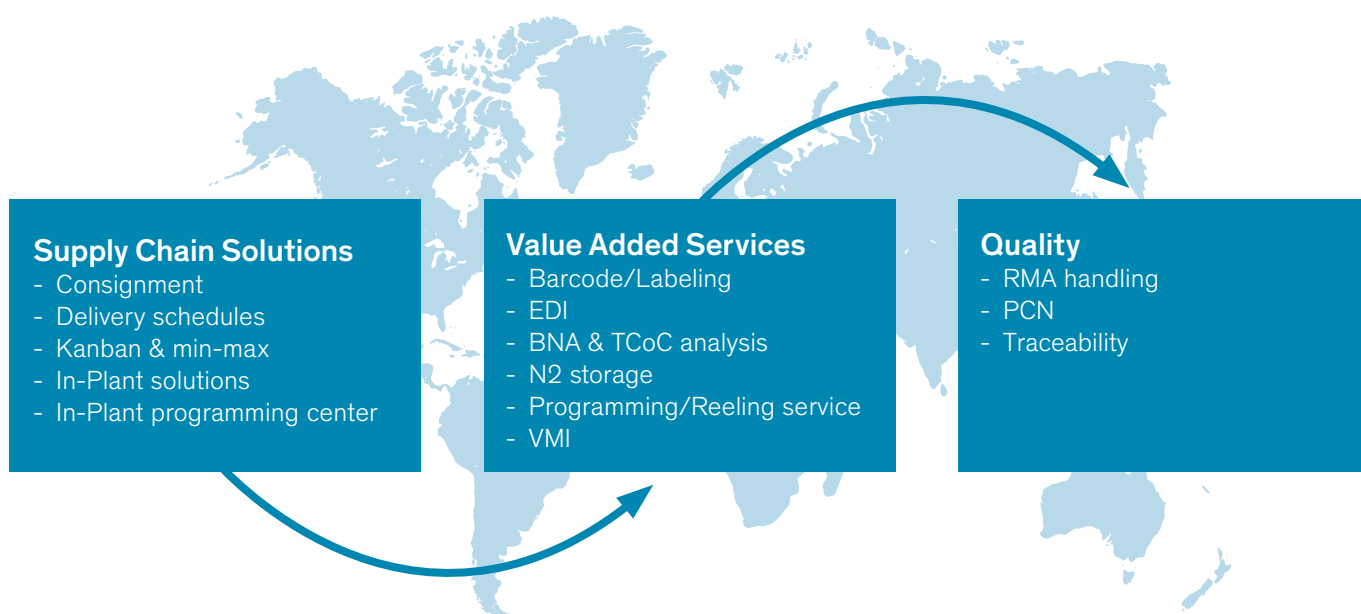
Manufacturing Logistics

The automotive industry demands seamless transitions and guaranteed quality at every single stage. That's where Arrow's qualified, well-planned logistics model comes into play. Arrow is able to connect the dots globally for our customers and suppliers. We create global logistics solutions that take region- or facility-specific nuances into account. We monitor the process and provide reports so you can react to the circumstances before it's too late. Our service programs and global warehousing give you accelerated access to inventory and streamline your global supply chain.

We help connect the dots globally, ensuring a smooth, integrated process no matter where you're located in the world. And our technology platforms allow teams to seamlessly communicate across borders to arrive at unified plans and solutions.

Our reliable, responsive and constantly-monitored global supply chain is designed to give you maximum operational efficiency.

Global Logistics – Arrow Supply Chain Portfolio





Why Arrow?

Partner with Arrow to streamline your journey to market and harness the future of transportation today.

Production and Manufacturing

Our services include

- > Vendor-managed inventory
- > In-plant stores
- > Consignment programs
- > Supply chain integration
- > Breaking tape and reel capabilities
- > Advanced Manufacturing Support Services (AMSS)
- > Global design and manufacturing assistance
- > Fee-based services

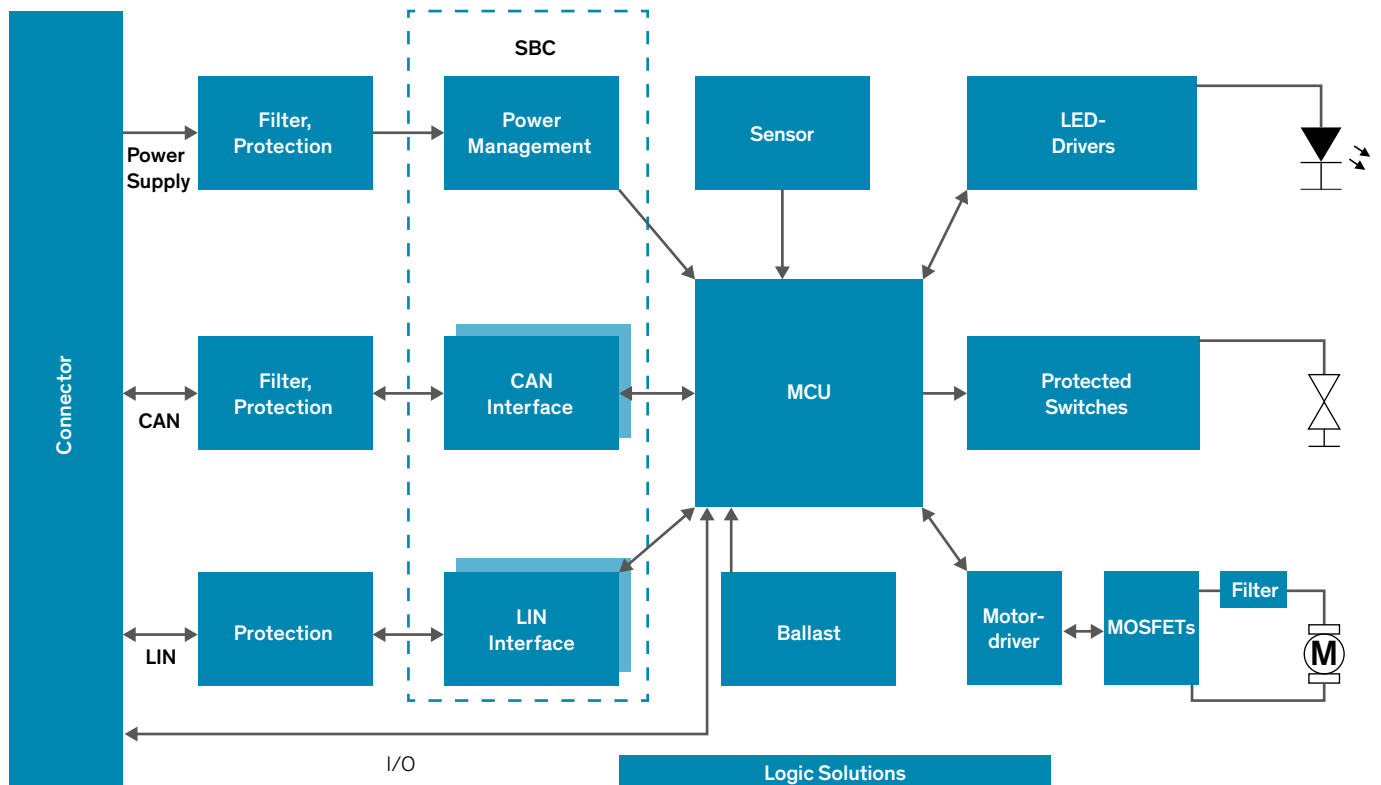
Global Supply Chain and Logistics

Arrow's renowned supply chain offers intelligent systems, flexibility and demand-responsiveness while delivering the value you have come to expect from a world-class distributor. Our staff, facilities and infrastructure are ready to meet your needs at every point.

Essential Partnerships

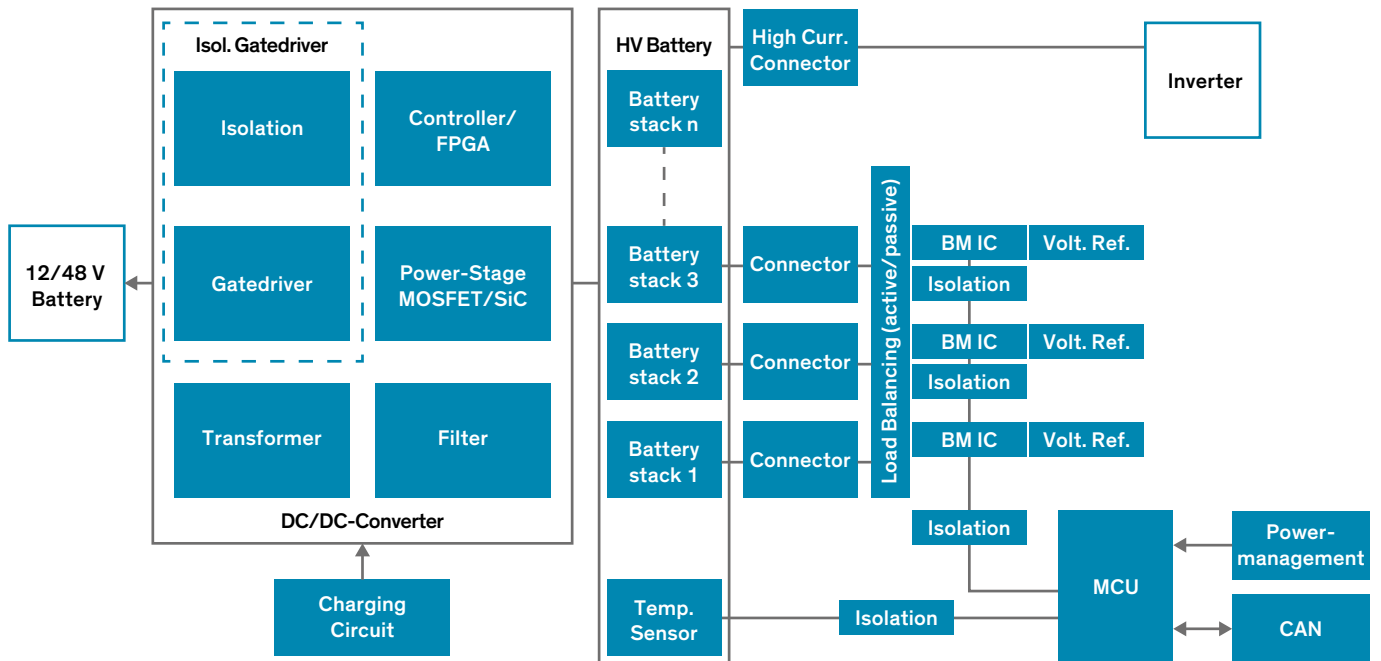
Leverage the world's most advanced suppliers through your relationship with Arrow. We can help you access the latest technologies and tools and meet all your specifications, including energy-efficient parts.

12 V General Body Node

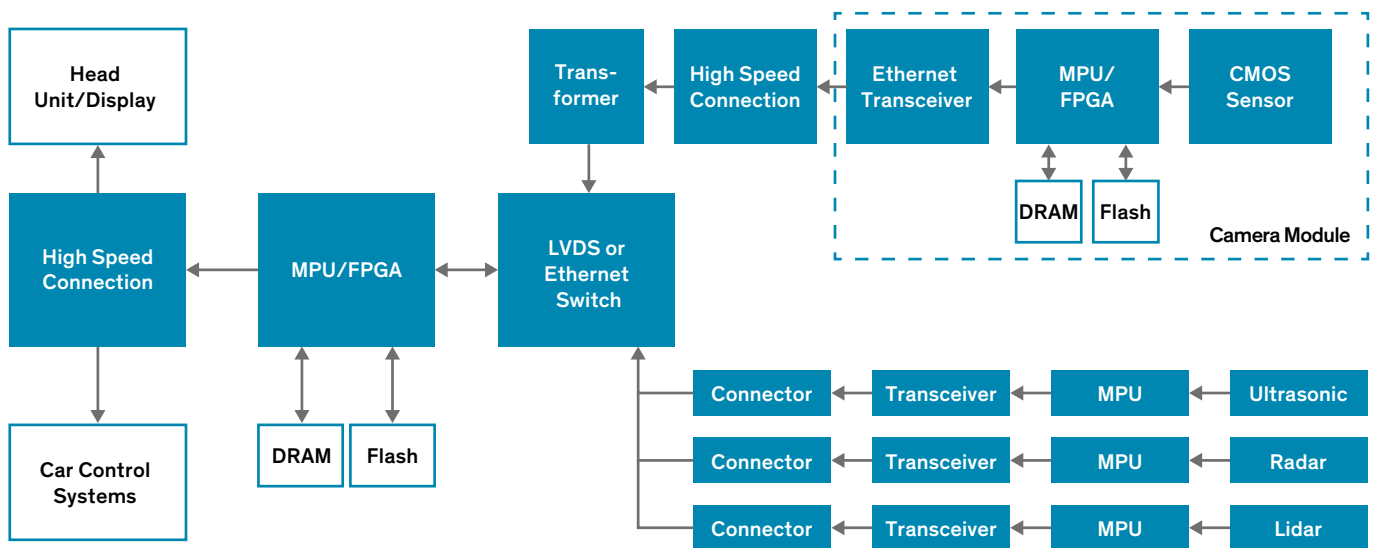


State-of-the-art connectivity: Individual links between typical automotive applications make essential technological solutions possible.

HV Battery Management Systems

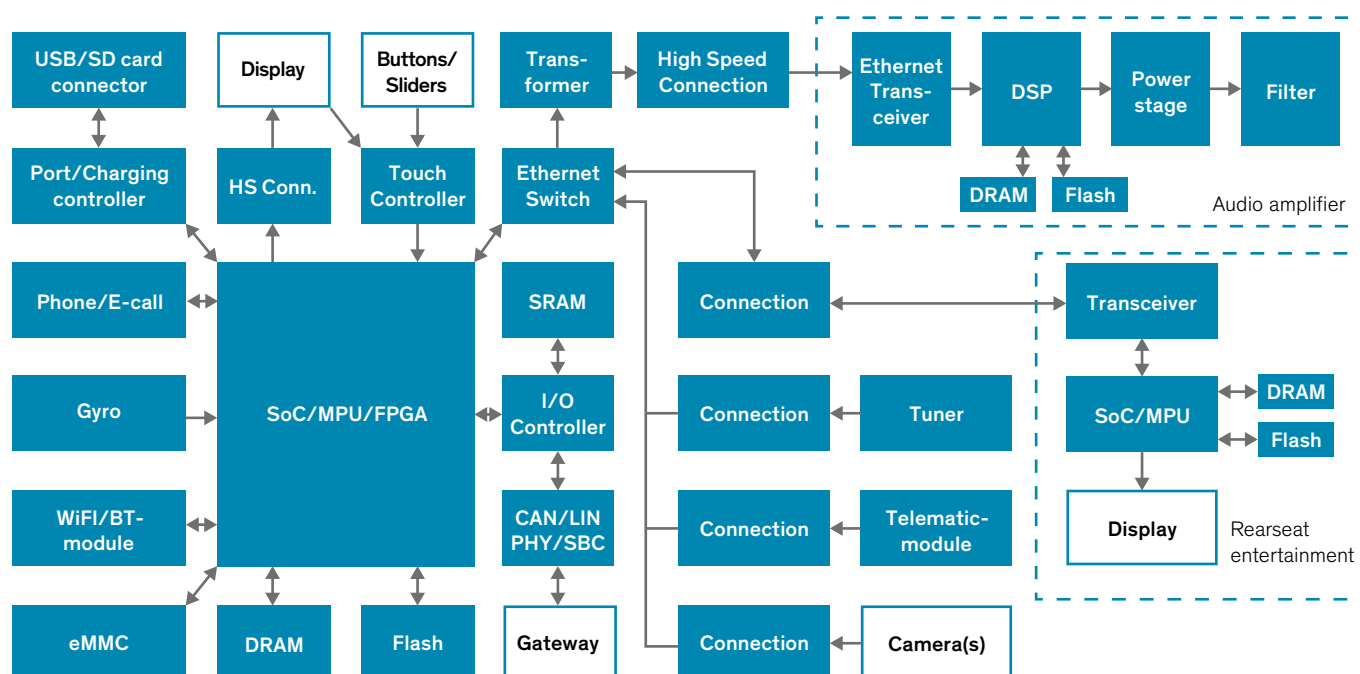


ADAS



Ways to reinvent infrastructure: Intertwining infotainment systems for an extended share of information within multiple electronic applications.

Infotainment System



USCAR approved, USB Type C Connectors for your next-generation applications

Amphenol ICC USB 3.1 Type C Gen 2 Connectors comply with USCAR standard. The single cable is a multi-functional solution for data, power, audio and video. USB 3.1 Type C delivers better EMI (Electromagnetic Interference) shielding with its robust and small slim form factor design. The reversible feature also enables quick and easy connections no matter which way it is inserted. It supports scalable power delivery up to 100 W, performance speed up to 10 Gb/s and is ready for next-generation applications. This product range is suitable for any application – especially in very thin platforms, automotive and industrial & instrumentation markets.

Automotive Application

- Infotainment system



ORDERABLE PART NUMBERS

- 10132328
- 10133475
- 10133476



Buy now.

Buy now.

LV214 Severity-2 standard Crimp-to-Wire Connector Platform delivers robust performance

Amphenol ICC Minitex MicroSpace™ Crimp-to-Wire Connector Platform's unique design enables LV214 Severity-2. It performs at 1.8, 1.5 and 1.27 mm pitch. Minitex MicroSpace™ will be available in single and double row versions, with top and side latch configuration. Key features include primary and secondary contact retention, coding polarization and a visual mismatch prevention system that eliminates application errors. This product range is suitable for automotive, car lighting, industrial & instrumentation markets and harsh environments.

Automotive Applications

- 12 V general body node
- HV battery management systems



ORDERING INFORMATION

- 10142396*
- 10142395*
- 10141272*

*denotes base part number. Please contact Arrow for complete part numbers.



AHEAD OF WHAT'S POSSIBLE™

analog.com/adas

24 GHz Automotive RADAR for Confident Advanced Driver Assistance Systems

Analog Devices offers the full signal chain of products for your 24 GHz automotive RADAR needs. Advanced Driver Assistance Systems demand high-quality, automotive-qualified RADAR solutions to meet OEM requirements. Low phase noise, digital beam forming and MIMO capability are among Analog Devices' 24 GHz automotive RADAR key features which enable the highest level of angular resolution and confident object detection. Recognizing automobiles and motorcycles in the blind spot, understanding angle of arrival and velocity of approaching traffic for Lane Change Assist and earliest detection of bicycles and oncoming trucks for Rear Cross Traffic Alert are all safety-relevant scenarios where sensor quality and data confidence matter most. As a long-term supplier and technology partner to the automotive industry, Analog Devices' zero-defect management system is an integral part of our design and manufacturing processes. ADI maintains certification in all major quality standards.

Automotive Application

- ADAS



ORDERABLE PART NUMBERS

- | | | | |
|-----------|----------|--------------|----------|
| - ADF5904 | Buy now. | - AD8285 | Buy now. |
| - ADF5901 | Buy now. | - ADSP-BF706 | Buy now. |
| - ADF4159 | Buy now. | | |

LAN 10/100 Base-T Transformer Model PT61018AAPEL-S

Bourns is introducing an additional model PT61018AAPEL-S LAN transformer. This is an IEEE 802.3 compatible, single-port and potted construction LAN 10/100 Base-T impedance-matching / isolation transformer module that includes common mode chokes for noise attenuation for Ethernet applications. The model PT61018AAPEL-S is AEC-Q200 qualified and is suitable for automotive infotainment applications and other market segments where higher reliability is required.

Features

- IEEE 802.3 ethernet compatible
- AEC-Q200 qualified, automotive grade

Automotive Applications

- ADAS
- Infotainment system



ORDERABLE PART NUMBER

- PT61018AAPEL  Buy now.

SMD High-Current, Shielded Power Inductor Series

Bourns inductive components product line is introducing four additional SMD power inductor series designed to meet the high quality standard for automotive applications. They include models SRP5015TA, SRP5030TA, SRP7050TA and SRP1770TA series.

Features





- Shielded construction
- Carbonyl powder core
- High saturation current
- AEC-Q200 qualified

Automotive Applications

- 12V general body node
- ADAS
- Infotainment system



ORDERABLE PART NUMBERS

- SRP5015TA  Buy now.
- SRP5030TA  Buy now.
- SRP7050TA  Buy now.
- SRP1770TA  Buy now.

New 4-Terminal, 0612 Size Current Sense Resistor Family

The model CST0612 series offers low resistance values of 0.5 mΩ to 2 mΩ and can handle a maximum power rating of up to 1 W. Current sense resistors are growing in popularity due to their high measurement accuracy and relatively low cost compared to other technologies. These resistors detect and convert current to an easily measured voltage which is proportional to the current through the device. Its metal alloy current sensing element allows for low thermal electromotive force (EMF) and temperature coefficient of resistance (TCR).

Features

- Four-terminal design
- Low inductance value (<1 nH)
- Metal alloy strip

Automotive Applications

- 12V general body node
- HV battery management systems



ORDERABLE PART NUMBER

- CST0612  Buy now.

Bourns TBU® High-Speed Protectors

Bourns TBU® high-speed protectors (HSPs) are circuit protection devices constructed using MOSFET semiconductor technology. When placed in series with a signal line, the TBU® HSP monitors the current flowing through the line. If the current exceeds a preset level, the TBU® HSP triggers, providing an effective barrier to high voltages and currents.

Features




- Superior circuit protection
- Blocks surges up to rated limits
- High-speed performance
- Small SMT package

Automotive Application

- Infotainment system



ORDERABLE PART NUMBERS

- TBU-CA  Buy now.
- TBU-DT  Buy now.
- TBU-PL  Buy now.

ChipGuard® Automotive MLA Series

The Bourns MLA series is designed to protect sensitive automotive electronics from the threat of ESD up to IEC 61000-4-2 level 4. Available in 0603, 0805 and 1206 type packages, these very fast bidirectional devices provide robust overvoltage protection and stable low leakage performance over a wide temperature range.

Features

- AEC-Q200 qualified
- Meets IEC 61000-4-2 standard
- High transient current capability
- High reliability

Automotive Applications

HDMI, CANbus, Ethernet and GPS for

- 12 V general body node
- HV battery management systems
- ADAS
- Infotainment system



ORDERABLE PART NUMBERS

- CGA0603MLA ☒ Buy now.
- CGA0805MLA ☒ Buy now.
- CGA1206MLA ☒ Buy now.

Model CDSOT23-T24CAN CANbus Protector

The Model CDSOT23-T24CAN is designed to provide ± 30 kV contact discharge ESD protection per IEC 61000-4-2 and 500 V surge protection per IEC 61000-4-5 (Level 1). The Model CDSOT23-24CAN improves the reliability of industrial CANbus systems and robustness against damage from ESD and other transient voltage events.

Features

- Single device for two I/O lines
- Low capacitance for high-speed CANbus
- IEC 61000-4-2 30 kV ESD
- IEC 61000-4-5 (Level 1, CWG 1.2/50) 500 V Surge

Automotive Applications

- 12 V general body node
- HV battery management systems
- ADAS
- Infotainment system



ORDERABLE PART NUMBER

- CDSOT23-T24CAN ☒ Buy now.

Reliable Kemet Capacitors for Automotive Applications

Being an automotive supplier from day 1 when the AEC committee was founded, Kemet has established various automotive product series. Board flexing safe ceramic MLCC's or Open Mode capacitors and, as a latest addition, ESD-capable X7R/0603 types are available. Electric charging and power train demanded new series, such as MLCC for high-voltage solutions against over-arc and KC-Link ceramic capacitors in COG material for high-temperature and high-frequency DC-link operation. Film capacitors have been upgraded to fulfill the AEC-Q200 for EMI reduction and power conversion applications.

Tantalum dielectrics with a polymer cathode material have started their entrance into the automotive environment with automotive qualification and extended performance against older techniques. They can be used reliably up to 80% of their rated voltage. Specifically, as an output capacitor for a DC/DC conversion circuit up to 48 V and some hundred kHz, the benefit comes through miniaturization and increased reliability.

If higher currents and capacity are required, additional aluminum electrolyte series are available either radial with polymer cathode material and up to 125° C or axial components with traditional liquid electrolyte that are capable up to 28 A ripple currents and 150° C. With NEC Tokin, a range of inductive and ferrite components are now available to reduce conducted and radiated noise. FlexSuppressor Sheets used > 1 GHz or metal composite inductor are part of that portfolio. Stay tuned!

Automotive Application

- ADAS
- Infotainment system



ORDERABLE SERIE

- T598 ☒ Buy now.

Infineon Automotive Motor Control

The number of electrical motors in cars is growing steadily. Nowadays on average there are about 30 motors distributed in an automobile. The number rises to about 70 motors in premium cars. This development is being caused by various factors: mechanical solutions are gradually replaced by smart electrically controlled motors, the number of electrical motors is increasing not only in premium cars but also in mid-range cars, and, finally, advanced safety features such as crash avoidance, driving assistants and autonomous driving in the future are driving the electrical motor market forward. This growing number of functionalities in cars requires reliable, cost-effective, smaller and flexible semiconductor solutions for Motor Control.

Infineon is steadily extending its portfolio of semiconductors needed for smart and modern motor control design, such as:

- MOSFETs
- Bridge Drivers
- Integrated Bridges
- Smart Power Controllers
- Microcontrollers
- Sensors and Power Supplies

TLE94x DC Motor Driver Family

Half-bridge driver ICs with 3, 4, 6, 8, 10 and 12 outputs

The TLE94xyz are protected half-bridge drivers designed for automotive motion control applications such as small DC motors for Heating, Ventilation and Air Conditioning (HVAC), as well as mirror adjustment and fold. The family offers 3-, 4-, 6-, 8-, 10-, and 12-fold integrated half-bridge drivers. All devices can drive DC motor loads up to 0.9 A per output in cascaded or parallel operation. They provide diagnosis of short circuit, open load, power supply failure and over-temperature for each half-bridge to ensure safe operation in HVAC or other systems.



Automotive Application

- 12 V general body node

www.infineon.com/multihalfbridges

ORDERABLE PART NUMBER

- TLE94x ☒ Buy now.

Infineon® Embedded Power ICs

ARM® Cortex® based System-on-Chip (SoC) solution for motor control

Infineon® Embedded Power ICs are specifically designed for motor control applications, where a small package form factor and a minimum number of external components are essential. Infineon® Embedded Power ICs integrate on a single die the microcontroller, the non-volatile flash memory, the analog and mixed signal peripherals, the communication interfaces along with the driving stages needed for either relay (TLE984x), half-bridge or full-bridge DC (TLE986x) and BLDC (TLE987x) motor applications. New TLE986x/ TLE987x variants qualified in accordance to the AEC-Q100 Grade 0 automotive qualification standard with extended operating temperature range up to 175 °C are available now.



Automotive Application

- 12 V general body node

www.infineon.com/embeddedpower

ORDERABLE PART NUMBERS

- TLE984x ☒ Buy now.
- TLE986x ☒ Buy now.
- TLE987x ☒ Buy now.

OptiMOS™ 5 40V & 80V MOSFETs

Infineon's automotive MOSFET portfolio offers benchmark quality, wide voltage range and diversified packages. The OptiMOS™ 5 PowerMOS technology is optimized to meet and exceed the energy efficiency and power density requirements of automotive BLDC and H-bridge applications. OptiMOS™ 5 40V product families IPZ40N04S5x-xxx / IPC100N04S5x-xxx in tiny TSDSON-8 (3.3×3.3 mm²) / TDSO-8 (5×6 mm²) packages combine this leading power MOSFET technology with leadless power packages for very compact & robust automotive system solutions. The new OptiMOS™ 5 80V MOSFETS IAUT300N08S5N012 and IAUT165N08S5N029 come in the HSOF-8 (TOLL 10×12 mm²) package with a continuous drain current of up to 300 A.



Automotive Application

- 12 V general body node

www.infineon.com/automotivemosfet

ORDERABLE PART NUMBERS

- IPZ40N04S5x-xxx / ☒ Buy now.
- IPC100N04S5x ☒ Buy now.
- IAUT300N08S5N012 ☒ Buy now.
- IAUT165N08S5N029 ☒ Buy now.

AURIX™ Microcontroller Family TC21x TC22x

The AURIX™ 32-bit microcontroller family is based on the Infineon Tricore™ high-performance core concept and provides a very high scalable family from single core to multi core. The latest diverse lockstep technology with clock delay reduces the software overhead significantly and enables fast time-to-market. Its rich scalability meets a variety of different motor control system demands.

More Features

- Dedicated peripheral set: LIN, CAN, SPI, FlexRay
- Advanced timer unit for totally flexible PWM generation and hardware input capture
- Redundant flexible 12-bit ADC
- ISO 26262 conformance to support safety requirements up to ASIL-D
- Innovative supply concept leads to best-in-class power consumption

Automotive Application

- 12 V general body node

www.infineon.com/aurix



ORDERABLE PART NUMBERS

- TC21x ☒ Buy now.
- TC22x ☒ Buy now.

Automotive LIN & CAN Transceivers

Infineon offers a broad product portfolio of automotive transceivers – all of which are perfectly suited and designed to withstand the harsh automotive environment – for the various automotive bus segments. Different transceiver types are used in accordance with the respective vehicle network architecture and the related ECU supply path. Infineon transceivers ensure reliable communication and help minimize the current consumption and associated CO₂ emissions at the vehicle level. Thanks to their high performance, ruggedness and reliable communication, Infineon's transceiver products offer the ultimate in value.

Automotive Applications

- 12 V general body node
- HV battery management systems
- ADAS
- Infotainment system

www.infineon.com/automotive-transceivers



ORDERABLE PART NUMBERS

- Single LIN: TLE7257SJ, TLE7258SJ, TLE7259-3GE
- High-speed CAN ISO 11898-2: TLE7250SJ/EL, TLE9250SJ/LE
- High-speed CAN ISO 11898-5: TLE6251-2G/-3G

☒ Buy now.

Microcontroller Supply (TLS820xx / TLS850xx) & Sensor Supply (TLS115xx)

With output currents ranging from 50 mA to 500 mA and various features (EN, RESET, Watchdog) to choose from, Infineon's high-performance LDO family has the right fit for any body or infotainment application. TLS820xx and TLS850xx families recommended for motor control applications offer a very low dropout voltage of only 70 mV and an extended input operating range down to 3 V. The TLS115xx is a monolithic integrated low-dropout voltage tracking regulator with high accuracy in small DSO-8 exposed pad and TSON-10 packages. The IC is designed to supply off-board systems, for example sensors in motor control applications. With supply voltages up to 45 V, the output voltage follows the reference voltage applied at the adjust input with very high accuracy. The reference voltage applied to the adjust input can be down to 2.0 V and output is able to drive loads up to 150 mA.



Automotive Applications

- 12 V general body node
- Infotainment system

www.infineon.com/voltage-regulators

ORDERABLE PART NUMBERS

- Microcontroller Supply TLS820xx / TLS850xx ☒ Buy now.
- Sensor Supply TLS115xx ☒ Buy now.

Hall Switch & Angle Sensors

The TLE4961-xM is an integrated hall effect latch designed specifically for highly accurate applications with superior supply voltage capability, operating temperature range and temperature stability of the magnetic thresholds. The TLE5012B, TLE5012BD are full 360° GMR based digital angle sensors with smallest angle error over lifetime and temperature, high update rate, high resolution and prediction mode to optimize delay times for the best dynamic applications. The TLE5009 is a full 360° GMR based analog angle sensor available in single and dual die version for safety-relevant applications in a hysteresis-free PG-TDSO-16 pin package.

Automotive Application

- 12 V general body node
- Infotainment system

www.infineon.com/sensors



ORDERABLE PART NUMBERS

- TLE4961 ☒ Buy now.
- TLE5012BD ☒ Buy now.
- TLE5012B ☒ Buy now.
- TLE5009 ☒ Buy now.

Bringing Intelligent Processing and Connectivity to Enable Smarter Vehicles



It's an exciting time for the automotive industry, as manufacturers capitalize on the latest innovations to transform tomorrow's vehicles into smarter cars.

Embedded Vision is becoming increasingly important in ADAS applications in order to see and gather data, using modern radar and cameras for object recognition, and stereo vision to measure distances and depths. Advanced infotainment systems are using displays to replace traditional instrumentation panels. Machine Learning is bringing intelligence to autonomous, self-driving and decision-making cars of the future, while Human Machine Interface (HMI) enables user-friendly interfaces in auto applications.

To address these emerging applications, Lattice's expanding portfolio of automotive-grade FPGAs, ASSPs and IP provides

co-processing, bridging and connectivity for smarter cars. The flexibility of FPGAs allows manufacturers to reduce time to market with future scalability at a fraction of the cost and power, while improving performance.

Embedded Vision Development Kit

- Stackable boards based on Lattice's CrossLink™ pASSP™, ECP5™ FPGA, and Si1136 ASSP devices
- All-inclusive kit with stereo vision support, and dual MIPI® CSI-2 to 1080p HDMI® demo
- Optimized for low power, low cost, embedded vision applications in Industrial, Automotive, and Consumer markets

Automotive Applications

- ADAS
- Infotainment system

ORDERABLE PART NUMBER

- LF-EVDK1-EVN  Buy now.



Electrolytic Capacitors



With over 40 years' experience, Lelon offers a diversified product line of electrolytic capacitors for various automotive applications.

Hybrid Polymer Capacitors

Ultra-low ESR, combined with high Ripple Current in smallest package; suitable for various applications: cooling fan controllers, DC/DC-Converter, HVAC and many more.

Axial Aluminum Electronics Capacitors

Highest possible Ripple Current with a high temperature exposure and best vibration endurance.

Suitable for application: Transmission controller, oil pumps, cooling fans, e.g. TUK – Axial / Solder Star E-Cap.

V-Chip (SMD) Lines

V-Chip SMD E-Caps offer a well-established and reliable solution for various applications in the automotive sector.

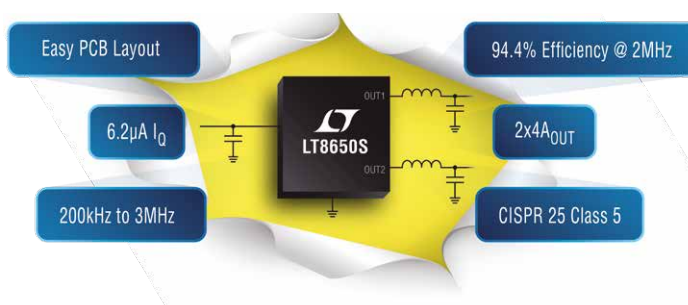
- VEU – long life of full range
- VUK – extremely high reliability & large capacitance
- VZH – low ESR with large capacitance
- VZS – ultra LESR with high CVs
- VZT – super ultra “LOW” ESR & 30% up w/ miniature size with VZS

Automotive Applications

- 12V general body node
- HV battery management systems
- ADAS
- Infotainment system

Silent Switcher 2 Unrivalled Ease-of-Use

The LT8650S combines high efficiency at high frequencies and an ultralow EMI design to deliver a very compact dual output 4 A (6 A peak) synchronous step-down solution. It delivers efficiency as high as 94.4 % (12VIN to 5VOUT) with a switching frequency of 2 MHz offering a very compact solution footprint. The LT8650S's unique Silent Switcher 2 architecture uses four internal input capacitors as well as internal BST and INTVCC capacitors to minimize the area of the hot loops. Additionally, its fast, clean, low overshoot switching edges enable both high efficiency operation, at high switching frequencies, and low EMI/EMC emissions. The internal construction uses copper pillars in lieu of bond wires and an integrated ground plane to further reduce EMI/EMC emissions. This improved EMI/EMC performance is not sensitive to PCB layout, simplifying design and reducing risk even when using two layer PC boards. The LT8650S can easily pass the automotive CISPR 25, Class 5 peak EMI limits with a 2 MHz switching frequency over its entire load range. Spread spectrum frequency modulation is also available to further lower EMI/EMC levels.



Automotive Applications

- 12V general body node
- HV battery management systems
- ADAS
- Infotainment system

ORDERABLE PART NUMBER

- LT8650S  Buy now.

Multicell Battery Monitors

The LTC6811 is a multicell battery stack monitor that measures up to 12 series connected battery cells with a total measurement error of less than 1.2 mV. The cell measurement range of 0V to 5V makes the LTC6811 suitable for most battery chemistries. All 12 cells can be measured in 290 µs, and lower data acquisition rates can be selected for high noise reduction.

Features

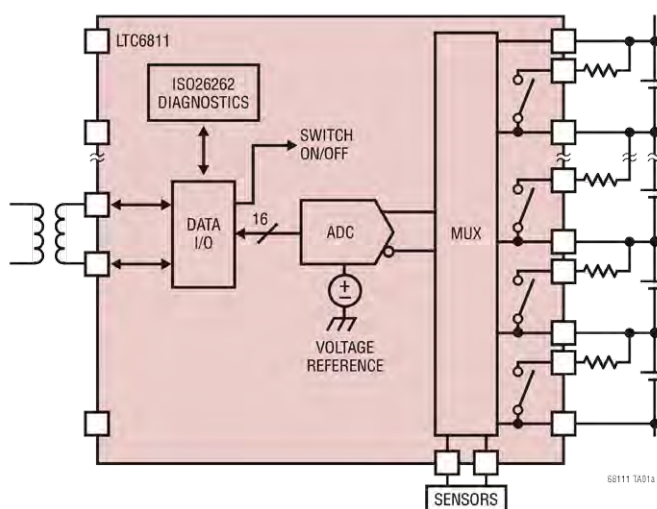
- Pin-compatible upgrade from the LTC6804
- Measures up to 12 battery cells in series
- 1.2 mV maximum total measurement error
- Stackable architecture supports 100s of cells
- Built-in isoSPI™ interface

Applications

- Electric and hybrid electric vehicles
- Backup battery systems
- Grid energy storage
- High power portable equipment

Automotive Applications

- 12V general body node
- HV battery management systems
- ADAS
- Infotainment system



ORDERABLE PART NUMBER

- LTC6811  Buy now.

MX150 Sealed Connector System



Molex's MX150 Sealed Connector System offers a reduced package size in comparison to USCAR 1.50 mm counterparts and is ideal for SAE and ISO-style wire in single and dual-row configurations up to 22.0A.

Designed with legacy MX150 1.50 mm low-insertion-force, the terminal system supports low-level signal and power applications, from on-engine automotive to off-road construction equipment. The design-to-cost approach provides a high-performance connector at a competitive cost via an integrated TPA lock on the hinge, minimal mould cost and low production cycle time.

Automotive Application

- 12 V general body node



ORDERABLE PART NUMBERS

- | | | | | | |
|---------|-------------------------------------|----------|---------|-------------------------------------|----------|
| - 33471 | <input checked="" type="checkbox"/> | Buy now. | - 34986 | <input checked="" type="checkbox"/> | Buy now. |
| - 33472 | <input checked="" type="checkbox"/> | Buy now. | - 34345 | <input checked="" type="checkbox"/> | Buy now. |
| - 33481 | <input checked="" type="checkbox"/> | Buy now. | - 34829 | <input checked="" type="checkbox"/> | Buy now. |
| - 33482 | <input checked="" type="checkbox"/> | Buy now. | - 34830 | <input checked="" type="checkbox"/> | Buy now. |
| - 33476 | <input checked="" type="checkbox"/> | Buy now. | | | |

CMX 120-circuit Header



High-density CMX 120-circuit right-angle headers are designed to meet the low and medium current requirements of space-constrained engine control units or transmission control units in automotive and commercial vehicles. Hybrid 120-circuit headers, with a unique CMX interfaced, utilise 0.64 and 1.50 mm tin-plated terminals to satisfy

compact, high-vibration applications. PBR material designed with standard header cut-out shape facilitates standard liquid process at module manufacturers. High-performance sealed meets IP67K, IP6K9K and 500 mbar immersion specifications once mated with the CMX connector.

Automotive Application

- 12 V general body node

ORDERABLE PART NUMBER

- 560045



ML-XT Sealed Connection System



Molex has designed a highly reliable sealed connection system to withstand the harsh environments that place greater demands on connectors and their seals. The ML-XT Sealed Connection System features a molecularly-bonded plug

housing and interfacial seal to protect against fluid ingress and prevent seal loss or misalignment during mating. Integrated covers safeguard the integrity of recessed rear seals by absorbing cable bend stresses to prevent leak paths. The superior sealing system complies with SAE J2030 standard and is proven to prevent system downtime. Meeting the needs of many applications, the ML-XT system is a cost-competitive solution that offers superior reliability for critical vehicle-wiring applications in harsh environments.

Automotive Application

- 12 V general body node

ORDERABLE PART NUMBERS

- | | | |
|---------|-------------------------------------|----------|
| - 93444 | <input checked="" type="checkbox"/> | Buy now. |
| - 93447 | <input checked="" type="checkbox"/> | Buy now. |
| - 93445 | <input checked="" type="checkbox"/> | Buy now. |
| - 93448 | <input checked="" type="checkbox"/> | Buy now. |



SRC (Sealed Rectangular Connector) System



Next-generation Sealed Rectangular Connectors (SRC), with single-handed blind-mate functionality use proven MX150 and MX150L terminals to offer a hybrid, high power-and-signal circuit-count system for harsh

applications in commercial vehicles. Flexible standard or mixed power/signal options are available. The MX150 and MX150L terminal systems provide cost savings by eliminating the need to purchase, handle and crimp individual wire seals. The proven terminal technology provides flexibility to increase circuit-count and allows for simple field repair and replacement of headers and connectors. Accessories available include a conduit interface with cable exit variations.

Automotive Application

- 12 V general body node

ORDERABLE PART NUMBERS

- | | | |
|---------|-------------------------------------|----------|
| - 93287 | <input checked="" type="checkbox"/> | Buy now. |
| - 93792 | <input checked="" type="checkbox"/> | Buy now. |
| - 85084 | <input checked="" type="checkbox"/> | Buy now. |



DuraClik Connector System



Molex's expanded line of DuraClik connectors with terminal retainer options provide superior electrical contact reliability, mating retention and space savings for high temperature applications. Meeting

automotive vibration requirements, DuraClik connectors feature wide solder tabs that are designed and tested to SAE Automotive standards and provide secure PCB retention that can withstand an upward pull force of 100 N (10 kgf). An enclosed contact design protects contacts against dust and debris, avoiding tangling during harness assembly. The DuraClik connector system features both Independent Secondary Lock (ISL) and Terminal Position Assurance (TPA) terminal retainers, providing up to 50 N of retention force and securing terminal positioning.

Automotive Applications

- 12 V general body node
- HV battery management systems

ORDERABLE PART NUMBERS

- 502351	<input checked="" type="checkbox"/>	Buy now.	- 560123	<input checked="" type="checkbox"/>	Buy now.
- 505152	<input checked="" type="checkbox"/>	Buy now.	- 502352	<input checked="" type="checkbox"/>	Buy now.
- 505151	<input checked="" type="checkbox"/>	Buy now.	- 560020	<input checked="" type="checkbox"/>	Buy now.
- 560125	<input checked="" type="checkbox"/>	Buy now.			

Mini50 Connection System

Achieving 50 % space savings over traditional USCAR 0.64 mm connectors, the Mini50 sealed single- and dual-row receptacle feature smaller terminals to fit more low-current electrical circuits in interior transportation-vehicle environments. Utilising smaller pin, terminal and wire sizes, the Mini50 wire-to-board receptacles allow device manufacturers to package circuits in tighter spaces, reducing costs. With the industry's only USCAR 050 approved interface, Molex's Mini50 harnesses provide reliable performance in a limited space, making them ideal for applications within the infotainment, lighting and HVAC systems.

Automotive Applications

- 12 V general body node
- HV battery management systems
- ADAS
- Infotainment system



ORDERABLE PART NUMBERS

- 34792	<input checked="" type="checkbox"/>	- 34897	<input checked="" type="checkbox"/>	- 34824	<input checked="" type="checkbox"/>
- 34793	<input checked="" type="checkbox"/>	- 34958	<input checked="" type="checkbox"/>	- 34959	<input checked="" type="checkbox"/>
- 34912	<input checked="" type="checkbox"/>	- 34961	<input checked="" type="checkbox"/>	- 560023	<input checked="" type="checkbox"/>
- 34825	<input checked="" type="checkbox"/>	- 34960	<input checked="" type="checkbox"/>		
- 34826	<input checked="" type="checkbox"/>	- 34791	<input checked="" type="checkbox"/>		

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Mizu-P25 Miniature Waterproof Connectors



Molex's Mizu-P25 wire-to-wire connector system is the first miniature sealed system in the market to achieve IP67 certification, which provides superior levels of dustproof and waterproof protection and ensures the

system's signal integrity will not be interfered with. Its compact size achieves space savings that make it ideal for applications that continue to pack complicated electronics into smaller spaces. A raised-body male terminal design also provides polarisation to prevent mismating.

Automotive Applications

- 12 V general body node
- ADAS



ORDERABLE PART NUMBERS

Miniature		Standard	
- 50147	<input checked="" type="checkbox"/>	- 50038	<input checked="" type="checkbox"/>
- 50148	<input checked="" type="checkbox"/>	- 5003	<input checked="" type="checkbox"/>
- 52266	<input checked="" type="checkbox"/>	- 52116	<input checked="" type="checkbox"/>
- 52213	<input checked="" type="checkbox"/>	- 52117	<input checked="" type="checkbox"/>

Picoflex Connectors

Molex's range of Picoflex headers and receptacles provide high power and signal in a space-saving, robust and reliable package for a diverse range of wire-to-board applications. Delivering high-density solutions, these connectors mate with industry standard 1.27 mm (.050") cable and are available in circuit sizes from 4 to 26. Featuring a mated height of 6.40 mm (.252") for vertical-mating configurations, Picoflex connectors are approximately 15 % smaller than traditional 1.27 mm connector systems. The high-reliability contact features a four-point interface with the cable and two points of contact between the header and receptacle. A strong one-piece upper housing provides excellent cable retention.

Automotive Applications

- ADAS
- Infotainment system

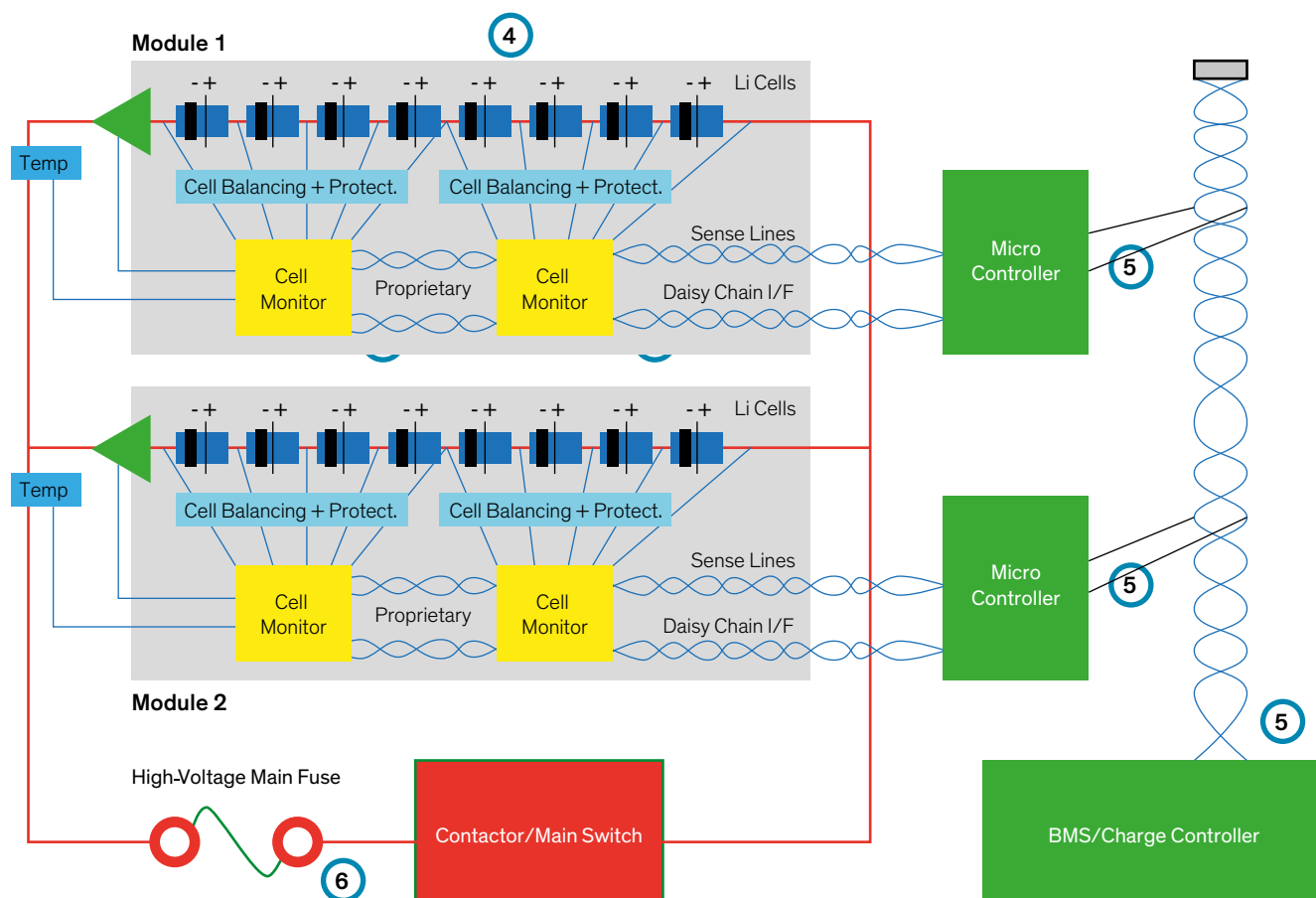


Littelfuse Safe Solution for EV/HEV Battery Management System

Since inventing the first automotive fuse in 1930, Littelfuse has collaborated with carmakers on circuit protection solutions that have become the industry standard in petrol and diesel engine automobiles. Because of the global focus on renewable and sustainable energy sources, the automotive market is beginning to make the transition to battery-powered Electric Vehicles. This transition adds complexity to the protection scheme by introducing

power electronics and communication buses to the powertrain. It will be extremely important to provide circuit protection to ensure safety in the event of short circuit and overload conditions as well as system reliability during voltage transients from the electrical system or ESD events from people interacting with the various inputs to the battery pack and its control modules.

High-Voltage Li Ion Battery Pack Protection



1 Sense Line Fuse to protect from shorting of Sense Lines
– 0437A and 0440A series

2 Cell Monitor IC Sense Line Input Overvoltage Protection
– SP3030 and SP4021(C) series

3 Overvoltage / ESD Protection for Daisy Chain I/F
– SP3030 and SP4021 (C) series

4 High Voltage TVS across Battery String for Transient Protection – TPSMA6L and TPSMB series

5 Overvoltage / ESD Protection for CAN Bus I/F
– SM24CAN and SPHV-C series

6 High Voltage / High Current fuse for power line protection
– OHEV and 0525 series

Nexperia: Extensive product portfolio with more than 10,000 active types
Diodes & Transistors, Logic Devices, ESD Protection, MOSFETs

Diodes & Transistors

- General-purpose diodes and transistors
- Resistor-equipped transistors (RETs)
- Low VCEsat, medium & high power transistors
- Zener, Schottky and switching diodes
- Low VF Schottky and PN rectifier

Automotive Applications

- 12 V general body node
- HV battery management systems
- ADAS
- Infotainment system



Logic Devices

- Automotive logic
- Buffers, drivers, transceivers
- Counters/frequency dividers
- Flip-flops, latches, registers
- Gates
- Logic voltage translators
- Specialty logic
- Switches, (de)multiplexers

Automotive Applications

- 12 V general body node
- HV battery management systems
- ADAS
- Infotainment system



ORDERABLE PART NUMBERS

Discrete Gate Driver

- PMD3001D  Buy now.
- PMD2001D  Buy now.
- PCV65  Buy now.
- PHPT61003NPK  Buy now.

ESD Protection

- ESD protection devices with standard and low capacitance for high-speed interfaces
- Surge protection (TVS) devices
- Common Mode & EMI filters
- Application-specific ESD solutions

Automotive Applications

- 12 V general body node
- HV battery management systems
- ADAS
- Infotainment system



ORDERABLE SERIES

- PESD1  Buy now.
- PESD2  Buy now.

MOSFETs

- Automotive MOSFETs
- Low RDS(on) Trench MOSFETs from 12 V to 200 V
- N/P-channel MOSFETs
- ESD protected types





LFPAK: The ultimate automotive MOSFET

Nexperia's range of LFPAK MOSFETs use innovative copper clip technology to deliver the ultimate robust and reliable products with best-in-class performance. With a broad portfolio in LFPAK56 (Power-SO8), LFPAK56D (two MOSFETs in a single package), and LFPAK33 (Power33 footprint), providing up to 80 % space-saving solutions for automotive applications.

Automotive Applications

- 12 V general body node
- HV battery management systems

ORDERABLE SERIES

- Series BUK7  Buy now.
- Series BUK9  Buy now.

Conductive Polymer Hybrid Aluminum Electrolytic Capacitors – V-ZE Series

ZE series optimises designs for performance, cost, low leakage current, life time and low ESR values. The products are AEC-Q200 compliant, can endure high humidity conditions rated at 85°C/90% over 2,000h while offering tiered ripple current ratings at 135°C and 145°C.

Automotive Applications

- 12 V general body node
- HV battery management systems
- ADAS
- Infotainment system

ORDERING INFORMATION

- EEHZE  Buy now.

	ZA	ZC	ZK	ZE
Temperature range	-55°C to 105°C	-55°C to 125°C		-55°C to 145°C
Voltage classes	25–80 V	25–80 V	25–35 V	25–63 V
Capacitance	10–330 µF	10–330 µF	33–470 µF	33–330 µF
Endurance	10,000 h @ 105°C	4000 h @ 125°C	4000 h @ 125°C	2000 h @ 145°C 4000 h @ 135°C
Ripple current (100 KHz / max. temp.)	0.75–2.5 A r.m.s.	0.5–2 A r.m.s.	0.66–2.8 A r.m.s.	Up to 2.0 A r.m.s.
ESR	down to 20 mΩ			

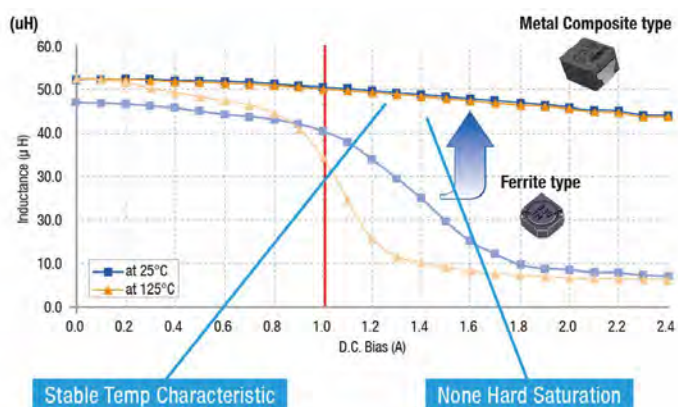
Power Choke Coil – High Performance and Low Profile in one

- Low DC-resistance, low AC-resistance
- Approx. 40% reduction in volume compared to Ferrite; solutions for downsizing (30–50% less mounting space)
- Current value: 4.0 A–35 A depending on inductance value and size
- Excellent heat and vibration resistance properties, suitable for high vibration up to 30 G
- Heat-resistance: 150°C / 2000 h
- Case size from 5 x 5 to 12 x 12

Automotive Applications

- 12 V general body node
- HV battery management systems
- ADAS
- Infotainment system

Inductance versus DC Bias Current



ORDERING INFORMATION

- ETQP series  Buy now.

Shunt Resistor

Battery management requires the continuous monitoring of current flow through the electrical circuit. The status of the battery is essential in automotive and industry market segments where rechargeable batteries are used. Using current sensing resistors provides a very accurate and cost-effective method to meet those needs compared to other technologies.

Current sensing resistors work by detecting and converting current to voltage. Our current sensing resistors feature very low resistance values and therefore only cause insignificant losses, which means they meet the low voltage drop and high accuracy requirements. A current sensing resistor is placed in series with the load and therefore all the current to be measured will flow through the resistor.

Features & Benefits

- Wide range of resistance values starting from 0.5 mR to 9 R
- Case size: 0402 to 2526
- AEC-Q200 qualified
- Large operating temperature (-65°C to 170°C)
- Linear temperature coefficient characteristics easy to compensate for metal plate shunt
- TCR ppm rate from 20°C to 120°C
- High power rating up to 5 W for 2526 for metal plate technology
- Case size

Automotive Applications

- 12 V general body node
- HV battery management systems

ORDERING INFORMATION SURFACE MOUNT RESISTORS

- Series ERJ  Buy now.

Light Touch Switches



Panasonic Light Touch Switches, which are often referred to as tact or tactile switches in the industry, are momentary push-on switches to be used with a small current (rated 20 mA and 15 Vdc). They provide a unique sharp and clear click operational feel, have low contact resistance, small bouncing noise, and high contact reliability and come in a wide selection of operating forces. As one of the top suppliers in the world, Panasonic also offers options such as super-thin, super-small, side-mounted, double action, long travel (stroke), over travel, as well as THT and surface mount options.

Features & Benefits

- Wide range of size and operating forces
- Very low contact resistance due to "silver contacts"
- High contact reliability
- Mostly temperature range from -40 up to +85°C
- Excellent tactile behavior
- Long life types available, up to 2 M cycles
- Variety of IP67 switches available

Automotive Application

- Infotainment system

ORDERING INFORMATION

- Series EV, EVP ☐ Buy now.

Pyrolytic Graphite Sheet (PGS)

PGS (Pyrolytic Graphite Sheet) is a thermal interface material, which is very thin, synthetically made, has high thermal conductivity, and is made from a highly oriented graphite polymer film. Ideal for providing thermal management/heat-sinking in limited spaces or to provide supplemental heat-sinking in addition to conventional means. It can be used in applications such as infotainment, HMI, headlights, battery management. This material is flexible and can be cut into customized shapes.

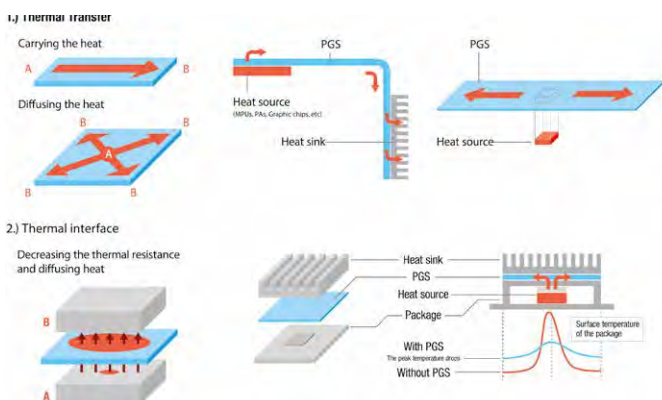
Features & Benefits

- Thermally conductive up to 1950 W/mK → up to 5 × better than copper and 8 × than aluminium
- Thin and lightweight – from 10 µm thick with a density of 2.13 g/cm³ to 100 µm thick with a density of 0.85 g/cm³ → excellent heat transfer in any narrow space
- Weight saving and downsizing
- High reliability compared with silicon solutions

Automotive Applications

- HV battery management systems
- Infotainment system

Function of PGS



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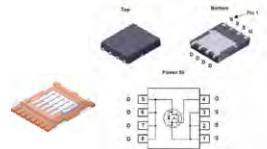
- EYGS ☒ Buy now.
- EYGA ☒ Buy now.
- Samples on request

80V MOSFETs for 48 V Systems

ON Semiconductor's 80V MOSFETs use high-performance silicon technology which features the lowest $R_{DS(on)}$ while maintaining low gate charge to give the best FOM available on the market. This lower FOM gives rise to faster switching speeds thus delivering better efficiency in 48V applications such as DC-DC conversion or motor drives. ON also offers packaging technologies for 80V MOSFETs which has the best thermal efficiency, lowest package inductance, highest reliability, and smallest footprint. These packaging technologies include Power56 and TO-Leadless. ON therefore provides the silicon technology with best in-class FOM ($R_{DS(on)} \times Q_g$) on the market and superior package technologies. These traits help enable designers to use smaller heatsinks resulting in less weight and improved fuel efficiency for vehicles.

Automotive Application

- HV battery management systems



ORDERABLE PART NUMBERS

- FDBL86361_F085	✓	- NVMFS6H800N	✓
- FDBL86363_F085	✓	- NVMFS6H801N	✓
- FDMS86369_F085	✓	- NVMFS6H818N	✓
- FDMS86380_F085	✓		



Interconnect Solutions for the Demands of V2X Connectivity

As V2X architectures have paved the way to a revolutionary level of vehicle connectivity and intelligence, Samtec has heavily invested in capabilities to support these demands. With over 40 product families capable of 28+ Gbps performance, and advanced microelectronics expertise, Samtec is uniquely positioned to provide innovative products and technologies to support the next generation of automotive communications. Samtec is proud to have been selected for use in the Qualcomm Snapdragon Automotive Solutions platform, and to be an Arrow partner in the acceleration of next generation infotainment, sensor fusion and embedded machine learning for automated driving.

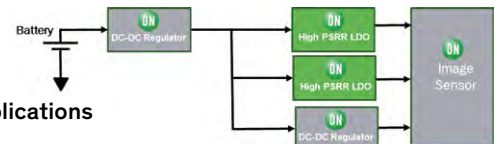
Samtec's automotive scope includes

- 40 product families capable of 28+ Gbps
- High reliability, high mating cycle solutions
- Glass core substrates for miniaturization and integration
- Advanced IC and sensor packaging
- Microelectronics design and consultation services

Samtec earned its ISO/TS 16949 certification in 2006 and has assembled a team of experts and systems designed specifically to support the unique challenges of automotive applications requiring interconnect solutions. With global manufacturing facilities, an

High PSRR LDO's for ADAS Power Supplies

ON Semiconductor's High Power Supply Rejection Ratio (PSRR) Low Dropout (LDO) Regulators are capable of supplying 250 mA to 500 mA of output current in a reduced footprint size. They are designed to meet the signal sensitivity requirements for analog power supply rails. Having the industry highest PSRR can ensure optimal image quality by attenuating the ripple generated from the Switched Mode Power Supply (SMPS) thus allowing the best sensor dynamic range and signal to noise ratio (SNR). In addition to the serializer and image sensor power, the trend is to reduce module and component size. To meet these demands, ON offers packages from 1 mm² to 4 mm² in area, in both non-wettable and wettable flank options. The parts recommended have low quiescent current, low noise, and high PSRR (98 dB).



Automotive Applications

- ADAS
- Infotainment system

ORDERABLE PART NUMBERS

- NCV8160AMX	✓	- NCV8705M	✓
- NCV8161AMX	✓	- NCV8154M	✓

extensive line of proven interconnect solutions, and full custom product development capabilities, Samtec is well positioned to support interconnect needs of many automotive applications.

Automotive Application

- ADAS

Buy now.



Q2™ High-Speed Shielded Ground Plane Strips



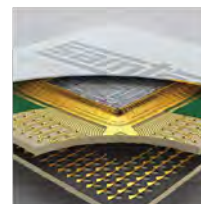
Edge Rate™ High-Speed Shielded Rugged System



SEARAY™ High-Density Open Pin Field Arrays



FireFly™ Optical Micro Flyover System™



Advanced IC Packaging & Microelectronics Expertise



Glass Core Technology Enabling Miniaturization

Get a Head Start on Your Automotive Applications with Certified, Industry-Approved Components

Highly reliable vehicles begin with highly reliable components. Bring your hybrid and electric vehicle designs to life with certified ICs, drivers, and sensors that provide superior levels of integration, mixed-signal capabilities, and performance. More than 360,000 EV/HEV cars use Silicon Labs ICs.

Hybrid and Electric Vehicles

Silicon Labs' sensors, microcontrollers, multi-channel digital isolators, isolated gate drivers, and isolated current sensors provide precision processing, reliable isolation, and AEC-Q100 qualified sensors to simplify electric motor system development.

Keyless Entry

Silicon Labs' tiny footprint solutions and expertise in RF and mixed-signal MCUs enable customers to deliver reliable and cost effective RKE systems to market.

Driver Interface

Silicon Labs offers a portfolio of AEC-Q100-qualified performance and value-driven 8-bit MCUs for touch and control applications including seat, door, and window control as well as physical button replacement.




Automotive Applications

- 12V general body node
- HV battery management systems
- ADAS
- Infotainment system

ORDERABLE PART NUMBERS

- 8-bit MCUs (C8051F588-AM, C8051F590-AM, EFM8BB10F2A, EFM8LB11, EFM8SB10)
- RF MCUs (4010-DASKF_434, Si4010-C2-GS, 4313-DAPB_LB)
- Sensors (Si7023-A20-YM1)
- Isolation (Si8640ET-IS, Si88240ED-IS, Si8283CD-IS, Si8271AB-IS)

 Buy now.

vishay.com



MOSFETs in 8 × 8 mm Footprint


The SQJQ402E offers high-temperature operation to +175°C to provide the ruggedness and reliability required for automotive applications such as motor drives, electric power steering, transmission control, and injector drives. The internal construction of the device's PowerPAK 8×8L package minimizes inductance and enables a low maximum on-resistance of 1.5 mΩ at 10V and 1.8 mΩ at 4.5V. Additional design features also provide very high continuous drain current capability up to 200A. The SQJQ402E signals the release of an extensive roadmap of MOSFETs that will allow designers to exploit the benefits of this package in a multitude of automotive applications.



Automotive Applications

- 12V general body node
- HV battery management systems

ORDERABLE PART NUMBER

- SQJQ402E  Buy now.

Power Metal Strip® Battery Shunt Resistor

36 W Device Features Low Resistance Down to 50 μΩ, Tin Plating to Aid in PCB Mounting


The new Automotive Grade Power Metal Strip® battery shunt resistor offers a 36 W power capacity in the 8518 case size with tin plating on the terminals. Featuring extremely low resistance values down to 50 μΩ, the Vishay Dale WSBS8518...14 will lead to increased accuracy and lower costs compared to Hall Effect current sensing solutions, while its tin plating assists with PCB mounting and provides increased protection against corrosion.



Automotive Application

- HV battery management systems

ORDERABLE PART NUMBER

- WSBS8518...14  Buy now.

SPC5 – 32-bit Power Architecture® Automotive MCUs

ST's SPC5 32-bit microcontrollers are designed using industry's standard Power Architecture® and ST's proprietary embedded Flash technology.

They combine a scalable range of single-, dual- and multi-core solutions (Power Architecture e200z0 to e200z4) with innovative peripheral sets that are optimized for car applications, such as engine management, chassis, safety, body control, advanced driver assistance, and for all applications requiring long-term reliability.




- Single- to multi-core architectures
- Technology range from 90 nm down to 40 nm
- Full performance up to 150° C
- 15 years product longevity
- High-end peripherals set, including ISO CAN FD
- Internal manufacturing (front-end and back-end) for security of supply

- Safety compliance to standards such as ISO 26262 (up to ASIL-D)
- Data security compliance to standards including SHE (Secure Hardware Extension) and EVITA (e-safety vehicle intrusion protected applications)
- Complete development environment (from free-of-charge IDE, code compiler and low-cost debugger solution up to high-end solutions supporting AUTOSAR designs).

Automotive Applications

- 12 V general body node
- HV battery management systems
- ADAS

ORDERABLE SERIES

- SPC56  Buy now.
- SPC57  Buy now.
- SPC58  Buy now.



VIPOWER™ Zero Series – Innovative Smart Power Switches for High-Current Applications

Low-Ohmic High-Side Drivers for Automotive High-Power Loads

ST's VIPOWER™ Zero series offers innovative and high-performance protected switches for driving high-power applications. This series covers today's growing demand for intelligent power devices able to drive and protect high-power loads such as those used in high-current fan motors, heaters and protected battery lines in electrical power distribution systems.

VIPOWER™ Zero series complements the granular M0-7 portfolio extending its automotive DNA to a wider range of applications, including those requiring the lowest on-state resistance.

Key Features

- AEC-Q100 qualified
- Complete family of low on-resistance protected solutions
- Output re-activation during reverse polarity
- State-of-the-art and adaptable protection strategy
- Sophisticated diagnostics
- Cold-cranking capability (device option)

Key Benefits

- Granular portfolio covering wide range of high-power applications
- Industry's lowest RDS(on) in the smallest footprint

- Device option with extended diagnostics capability covers a wide range of load currents
- Suitable for Start&Stop systems and applications required to work at very low battery voltage (device option)

Key Applications

- Power distribution (smart fuse boxes)
- Glow plugs
- High-power heaters
- Starter relays
- High-current DC motors
- Any high-power application

Automotive Applications

- 12 V general body node
- HV battery management systems
- ADAS

ORDERABLE SERIES

- VN7  Buy now.
- VND7  Buy now.
- VNQ7  Buy now.
- VNH7  Buy now.



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Small quantities available on 90% of products



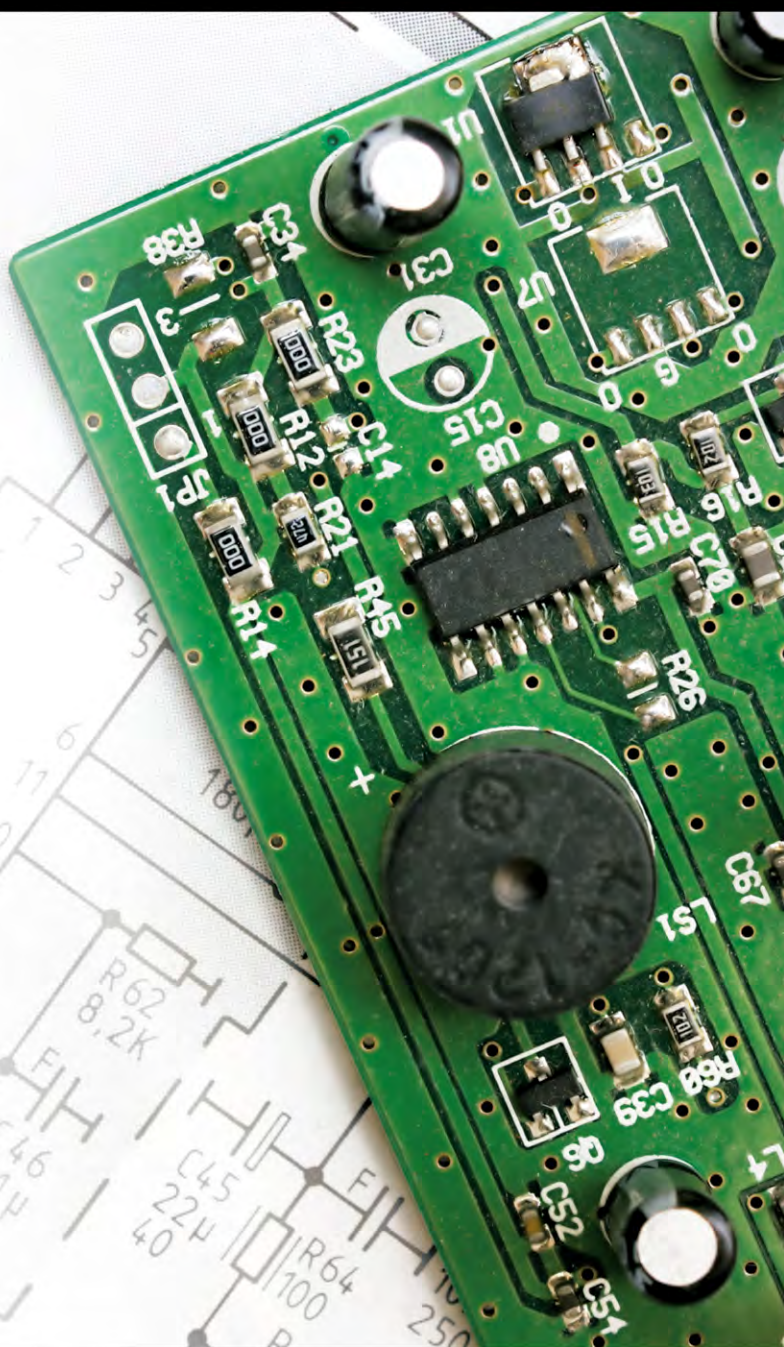
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Are You Five Years Out?

Most people live in the present. The world of now. But a handful of us work in a unique world that doesn't quite exist yet—the world of Five Years Out.

Five Years Out is the tangible future. And the people who live and work there know that new technologies, new materials, new ideas and new electronics will make life not only different, but better. Not just cheaper, but smarter. Not just easier, but more inspired.

Five Years Out is an exciting place to be. So exciting that, once you've been there, it's hard to get excited about the present. Because we know what's coming is going to be so much better.

Five Years Out is a community of builders, designers, engineers and imaginers who navigate the path between possibility and practicality. Creating the future of everything from cars to coffeemakers.

Are you one of them? Then you're probably working with us.



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