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It is estimated that 80% of all innovations in the automotive industry today are directly or indirectly enabled by electronics. With vehicle functionality improving with every new model this means a continuous increase in the semiconductor content per car.

With over 30 years’ experience in automotive electronics, ST is a solid, innovative, and reliable partner with whom to build the future of transportation.

ST’s Smart Mobility products and solutions are making driving safer, greener and more connected through the combination of several of our technologies.

**SAFER**

Driving is safer thanks to our Advanced Driver Assistance Systems (ADAS) – vision processing, radar, imaging and sensors, as well as our adaptive lighting systems, user display and monitoring technologies.

**GREENER**

Driving is greener with our automotive processors for engine management units, engine management systems, high-efficiency smart power electronics at the heart of all automotive sub-systems and devices for hybrid and electric vehicle applications.

**MORE CONNECTED**

And vehicles are more connected using our infotainment-system and telematics processors and sensors, as well as our radio tuners and amplifiers, positioning technologies, and secure car-to-car and car-to-infrastructure (V2X) connectivity solutions.

ST supports a wide range of automotive applications, from Powertrain for ICE, Chassis and Safety, Body and Convenience to Telematics and Infotainment, paving the way to the new era of car electrification, advanced driving systems and secure car connectivity.
Reducing CO₂ and particle emissions, while increasing engine performance and improving the overall driving experience requires ever more sophisticated semiconductor-based solutions. A combination of increased processing power, built-in security and safety features, and innovative power technologies are revolutionizing Internal Combustion Engine (ICE) powertrain applications.

ST provides silicon solutions for a broad range of Engine Management Systems (EMS), from motorcycles to multi-cylinder gasoline direct injection and common-rail diesel engines, as well as for transmission control and actuation. Our broad in-house technology portfolio enables a complete range of solutions, from cost-effective highly integrated systems to solutions meeting the most advanced high-performance application requirements.

Our product portfolio addresses your entire system solution, providing 32-bit automotive microcontrollers, standard low-side, high-side and bridge smart power devices for driving solenoids, DC motors and stepper motors. Dedicated ICs for actuator driving, charging and power management, together with one of the industry’s broadest ranges of Power MOSFETs and IGBTs complete the ICE powertrain offer.
SOLUTIONS

ST's key products and solutions for Powertrain for Internal Combustion Engines applications include:

- **VIPower and BCD Actuators and Motor Control**
- **Transceivers**
- **Power Management**
- **EOS and ESD Protection**
- **32-bit Automotive Microcontrollers**
- **Power Diode, MOSFET & IGBT**
- **Signal Conditioning**
- **Sensor Interfaces**

**FIND OUT MORE**

- **www.st.com/powertrain-for-ice**
- CNG Engine Control
- Alternator Regulator
- Electric Turbo Compressor
- Fuel Pump
- Motorcycle Engine Control
- Selective Catalytic Reduction
- Transmission
GASOLINE DIRECT INJECTION (GDI)

Governmental regulations, energy concerns and market requirements for very high performing vehicles brought the automakers to develop enhanced engine solutions. A key application combining fuel saving and high performances is Gasoline Direct Injection (GDI).

ST, with a strong portfolio of advanced technologies, can provide dedicated solutions for all the gasoline direct injection application needs. Our highly integrated System Basis Chips (SBC) combine all the required functions, including voltage regulation, bus interface, high/low side drivers, etc.

Gasoline Direct Injection (GDI) based on System Basis Chips
Gasoline Direct Injection (GDI) based on Discrete solution

Control Unit

- Octal configurable HS/LS Driver L9733
- Configurable pre-driver L9945
- MOSFET/IGBT pre-driver A6387
- IGBT STB / STGD
- Ignition coils
- O₂ sensor heater

Gate driver L9907
- 40V MOSFET STB / STD

Configurable pre-driver L9945
- 40V MOSFET STB / STD
- up to 8x

GDI Injector pre-driver L9781
- 40V MOSFET STB / STD

Integrated H-Bridge L9960T
- Turbo waste gate
- EGR

Integrated H-Bridge L9960
- 2x Swirl
- 40V MOSFET STB / STD

Lambda interface L9780
- 40V MOSFET STB / STD

Power Supply Protection SMxTY
- Monolithic PM L99PM62/72
- Voltage regulator
- High-speed CAN transceiver

VRS interface
- Sensors power supply
- CAN Transceiver SPC57 K Line
- CAN Transceiver SPC58 E Line
- Sensors interface L9966
- Dataline ESD Protection ESDCAN0x
- Dataline ESD Protection ESDLINx
- Crankshaft sensor
- K-Line BUS

Additional components:
- MIL Shut-off valve, Gasoline pump relay, Starter relay, AC Relay
- Solenoids, Fan switch
- 12V
- 40V MOSFET STB / STD
- HP fuel pump
- Lambda probe heater

FIND OUT MORE

www.st.com/gasoline-direct-injection
GASOLINE MULTI-POINT INJECTION

Gasoline multi-point fuel injection (MPI) is the most widely used powertrain system for spark ignition engines. This system, where fuel is injected at low pressure in the inlet air manifold, is a proven, robust and simple technology.

To control and optimize performance, a wide range of semiconductor solutions are required that are specifically designed for automotive applications.

We have a wide and comprehensive offer including SPC5 32-bit microcontrollers and specifically designed System Basis Chips (SBC) that combine voltage regulators for the various DC rails, bus interface ICs for the most common standards including CAN, ISO 9141 K-line, Variable Reluctance Sensors (VRS) and high- and low-side drivers.

Gasoline Multi-point

FIND OUT MORE
www.st.com/gasoline-multi-point-injection
DIESEL DIRECT INJECTION

The diesel engine is one of the most efficient types of internal combustion engine. Advanced fuel injection technologies based on high-pressure common rail systems and optimized exhaust gas after-treatment systems help reduce noise and particle emissions while maintaining high performance and efficiency.

The use of electronic control plays an increasingly central role in optimizing performance at the appropriate cost point while helping ensure compliance with emission regulations and provide greater fuel efficiency.

We have a complete offer with specifically designed System Basis Chips (SBC) that combine voltage regulators for the various DC rails, bus interface ICs for the most common standards including CAN, ISO 9141 K-line, Variable Reluctance Sensors (VRS) and high- and low-side drivers. The SPC5 32-bit microcontroller family can provide the processing power and connectivity.

Diesel Direct Injection based on System Basis Chips
Diezel Direct Injection based on Discrete solution

12 V

Power Supply Protection SMxTY

Monolithic PM L99PM62/72

Voltage regulator

HS CAN transceiver

VRS interface

Sensors interface L9966

Serial EEPROM M95512-A125

Monolithic PM L99PM62/72

Gate driver L9907

MOSFET 60-80-100V

ON/OFF valve oil pump displacement ON/OFF EGR bypass

2x MOSFET STB/STD

Pressure Regulator

Octal configurable HS/LS Driver L9733

8 channels

Configurable pre-driver L9945

40V MOSFET STB/STD

O2 sensor heater

Control Unit

SPC57 K Line

SPC58 E Line

Gate driver L9907

MOSFET 60-80-100V

ON/OFF valve oil pump displacement ON/OFF EGR bypass

2x MOSFET STB/STD

Pressure Regulator

Glow-plug control L9524C

40V MOSFET STB/STD

Glow plug

4x MOSFET STB/STD

Injectors

HP fuel pump

Turbo waste gate

EGR

Integarted H-Bridge L9960T

2x

Throttle valve

Integarted H-Bridge L9960

2x

O2 sensor

Lambda probe heater

Lambda interface L9780

40V MOSFET STB/STD

www.st.com/diesel-direct-injection
LPG ENGINE CONTROL

The growing demand for engines with reduced fuel costs or tax and mobility incentive schemes implemented in many countries has pushed car manufacturers to develop systems running on alternative fuels. Gasoline internal combustion engines running on Liquid Petroleum Gas (LPG) are based on proven technologies and typically have lower emissions and lower fuel costs than gasoline and diesel vehicles.

LPG is often used in bi-fuel vehicles, where it can be used alternatively with gasoline or diesel. We have a wide and comprehensive offer including SPC5 32-bit microcontrollers and specifically designed System Basis Chips (SBC) that combine voltage regulators for the various DC rails, bus interface ICs for the most common standards including CAN, ISO 9141 K-line, Variable Reluctance Sensors (VRS) and high- and low-side drivers.

LPG Engine Control based on System Basis Chips

![Diagram showing LPG engine control system components and their interconnections.]
LPG Engine Control based on Discrete solution

12 V

Control Unit

SPC57 K Line

SPC58 E Line

12 V + –

Power Supply Protection SMxTY

Monolithic PM L99PM62/72

Voltage regulator

HS CAN transceiver

K-Line ISO9141 Transceiver L9637

VRS interface

K-Line BUS

Crankshaft sensor

Data line ESD Protection ESDCAN0x

Data line ESD Protection ESDLINx

Data line ESD Protection ESDCAN0x

CAN Transceiver L9616

Sensors power supply

Sensors interface L9966

Sensors

Octal configurable HS/LS Driver L9733

8 channels

Configurable pre-driver L9945

40V MOSFET STB / STD

MOSFET/IGBT pre-driver A6387

IGBT STGB / STGD

Ignition coils

4x

40V MOSFET STB / STD

40V MOSFET STB / STD

40V MOSFET STB / STD

4x

Injector pre-driver L9781

HP fuel pump

Integrated H-Bridge L9980T

Turbo waste gate

Throttle valve

Lambda interface L9780

Limit sensor

Lambda probe heater

Canister Variable valve timing

MIL Shut-off valve, Diesel pump relay Starter relay AC relay

Solenoids

Fan switch

FIND OUT MORE

www.st.com/lgp-engine-control
CNG ENGINE CONTROL

The growing demand for engines with reduced fuel costs or tax and mobility incentive schemes implemented in many countries has pushed car manufacturers to develop systems running on alternative fuels. Gasoline internal combustion engines running on Compressed Natural Gas (CNG) are based on proven technologies and typically have lower emissions and lower fuel costs than gasoline and diesel vehicles.

CNG is often used in bi-fuel gasoline vehicles, where it can be used alternatively with gasoline.

ST offers dedicated solutions for controlling powertrains in CNG and dual fuel vehicles.

CNG Engine Control based on System Basis Chips

Diagram showing the components and connections of the CNG engine control system, including power supply, sensors, control unit, and various devices and transceivers.
CNG Engine Control based on Discrete Solution

12 V

CAN bus

Monolithic PM L99PM62/72

Voltage regulator

HS CAN transceiver

Configurable pre-driver L9945

Octal configurable HS/LS Driver L9733

MOSFET/IGBT pre-driver A6387

40V MOSFET STB / STD

0₂ sensor heater

Ignition coils

MIL Shut-off valve, Gasoline pump relay CNG valve relay CNG injectors relay CNG lamp Starter relay AC relay

Switches fan

Turbo waste gate

Throttle valve

Lambda probe heater

Crankshaft sensor

K-Line BUS

Dataline ESD Protection ESDCAN0x

K-Line ISO9141 Transceiver L9637

Sensors power supply

Canister Variable valve timing

Serial EEPROM M95512-A125

Dataline ESD Protection ESDLINx

CAN Transceiver L9616

Sensors interface L9966

Control Unit

SPC57 K Line

SPC58 E Line

Configurable pre-driver L9945

40V MOSFET STB / STD

4x

Canister

Variable valve timing

MOSFET/IGBT pre-driver A6387

IGBT STGB / STGD

40V MOSFET STB / STD

Ignition coils

4x

4x

0₂ sensor

CNG Injectors

Turbo waste gate

Throttle valve

Lambda probe heater

Control Unit

SPC57 K Line

SPC58 E Line

Configurable pre-driver L9945

40V MOSFET STB / STD

0₂ sensor heater

MIL Shut-off valve, Gasoline pump relay CNG valve relay CNG injectors relay CNG lamp Starter relay AC relay

Switches fan

Turbo waste gate

Throttle valve

Lambda probe heater

12 V

CAN bus

Monolithic PM L99PM62/72

Voltage regulator

HS CAN transceiver

Configurable pre-driver L9945

Octal configurable HS/LS Driver L9733

MOSFET/IGBT pre-driver A6387

40V MOSFET STB / STD

0₂ sensor heater

Ignition coils

MIL Shut-off valve, Gasoline pump relay CNG valve relay CNG injectors relay CNG lamp Starter relay AC relay

Switches fan

Turbo waste gate

Throttle valve

Lambda probe heater

Crankshaft sensor

K-Line BUS

Dataline ESD Protection ESDCAN0x

K-Line ISO9141 Transceiver L9637

Sensors power supply

Canister Variable valve timing

Serial EEPROM M95512-A125

Dataline ESD Protection ESDLINx

CAN Transceiver L9616

Sensors interface L9966

Control Unit

SPC57 K Line

SPC58 E Line

Configurable pre-driver L9945

40V MOSFET STB / STD

0₂ sensor heater

MIL Shut-off valve, Gasoline pump relay CNG valve relay CNG injectors relay CNG lamp Starter relay AC relay

Switches fan

Turbo waste gate

Throttle valve

Lambda probe heater

FIND OUT MORE

www.st.com/cng-engine-control
Increasingly strict motorcycle emission regulations require engine manufacturers of both traditional and emerging markets to replace carburetors with electronically-controlled injection systems. Improved fuel efficiency and reduced emissions as well as driving performance – all at an appropriate cost point – are the key challenge for motorcycle manufacturers, especially those building smaller motorcycles and scooters.

We offer dedicated solutions for motorcycle engine management. These include SPC5 32-bit microcontrollers and specifically designed System Basis Chips (SBC) that combine voltage regulators for the various DC rails, bus interface ICs for the most common standards including CAN, ISO 9141 K-line, Variable Reluctance Sensors (VRS) and high- and low-side drivers.

FIND OUT MORE

www.st.com/single-cylinder-motorcycle-engine
MOTORCYCLE BI-CYLINDER

Solutions for bi-cylinder motorcycle engine management. SPC5 32-bit microcontrollers for the control unit and specifically designed System Basis Chips (SBC) that combine voltage regulators, bus interfaces, Variable Reluctance Sensors (VRS), low-side drivers and O₂ sensor heaters.

FIND OUT MORE

www.st.com/two-cylinder-motorcycle-engine
Solutions for multi-cylinder motorcycle engine management. SPC5 32-bit microcontrollers for the control unit and specifically designed System Basis Chips (SBC) that combine voltage regulators, bus interfaces, Variable Reluctance Sensors (VRS), low-side drivers, \( \text{O}_2 \) sensor heaters and IGBT pre-drivers.

**MOTORCYCLE MULTI-CYLINDER**

**FIND OUT MORE**

www.st.com/multi-cylinder-motorcycle-engine
ALTERNATOR REGULATOR

Found in every Internal Combustion Engine (ICE) vehicle, the alternator – and its associated control electronics – is becoming increasingly important as a key component due to the growing number of electrically actuated functions and their impact on overall power requirements.

ST has an extensive range of efficient and reliable control solutions that can be integrated using any of the various protocols used by different OEMs. Our offer covers from basic multi-function IC solutions up to advanced ECU IC controlled solutions.

12 V

FIND OUT MORE

www.st.com/alternator-regulator
TRANSMISSION CONTROL / ELECTRIC TRANSMISSION

An Automated Manual Transmission (AMT) is an advanced control system for gear shifting that eliminates the need for a clutch pedal while still letting the driver decide when to change gears. This electronically actuated and synchronized clutch and gearbox can help improve driving experience – especially in city traffic – as it completes the clutch and gear-shift operations more quickly and accurately than a human.

A complete electric transmission solution including SPC5 32-bit microcontrollers for control units, an SBC with High-side pre-drivers, Motor Driver ICs and STripFET™ Full-Bridge power devices.

FIND OUT MORE

www.st.com/electric-transmission
HIGH-END HYDRAULIC TRANSMISSION

A complete high-end Hydraulic Transmission solution including SPC5 32-bit microcontrollers for control units, an SBC with High-side pre-drivers, Motor Driver ICs and STripFET™ Full-bridge power devices.

FIND OUT MORE

www.st.com/high-end-hydraulic-transmission
CVT AND LOW-END HYDRAULIC TRANSMISSION

A complete Continuously Variable Transmission (CVT) and low-end Hydraulic Transmission solution including SPC5 32-bit microcontrollers for control units, an SBC with high and low-side pre-drivers, Motor Driver ICs and STripFET™ Full-bridge power devices.

FIND OUT MORE
www.st.com/cvt-and-low-end-hydraulic-transmission
SELECTIVE CATALYTIC REDUCTION (SCR)

Selective Catalytic Reduction (SCR) is a chemical process converting nitrogen oxides (NOx) into diatomic nitrogen and water as well as a small amount of carbon dioxide. This process is facilitated by the addition of automotive-grade urea – known as Diesel Exhaust Fluid (DEF) or commercial brands like AdBlue and Bluetech – to convert hazardous NOx emissions from diesel engines into harmless nitrogen and water.

The SCR block controls a pump that draws DEF from its tank and injects it, with an appropriate dosing valve, into the diesel exhaust gases. To optimize fuel efficiency, a gas sensor is located after the catalytic reduction process and its information is fed to the diesel engine ECU that combines this information with the engine status and gives to the SCR unit accurate information regarding the right amount of DEF liquid to release.

We have a range of three-phase gate drivers and Power MOSFETs for the commonly used brushless DC (BLDC) motors, as well as SPC5 32-bit microcontrollers and dedicated power management ICs with voltage regulators and CAN and LIN Interface ICs to simplify the design of high-efficiency solutions.

FIND OUT MORE

www.st.com/selective-catalytic-reduction-scr
FUEL PUMP

Tackling the challenge of achieving improved fuel efficiency, reducing CO₂ emissions and increasing the reliability of vehicles means looking at every possible source of energy loss and rethinking the way the associated sub-system is built. This is why electric fluid pumps are replacing mechanical systems as they can help reduce losses from hydraulic friction.

Electric fuel pumps are most often implemented with brushless DC (BLDC) motors and ST has a complete range of three-phase gate drivers and Power MOSFETs to power them. SPC5 32-bit automotive-grade microcontrollers plus dedicated voltage regulators and power management ICs simplify the design of high-efficiency solutions.

FIND OUT MORE

www.st.com/fuel-pump
GLOW PLUG CONTROL

A glow plug is a pencil-shaped piece of metal with a heating element at the tip. Despite its simple design and electronic content, it plays a fundamental role in diesel injection systems by igniting the fuel even when the engine is insufficiently hot for normal operation, thus reducing the cranking time to start the engine.

ST has a range of solutions based on our proprietary VIPower™ silicon technology that enable compact and robust glow plug control unit design.

FIND OUT MORE
www.st.com/glow-plug-control
To keep its technology edge, ST maintains a strong commitment to innovation, with approximately 7,400 people working in R&D and product design and spending about 16% of its revenue in R&D. Among the industry’s global technology leaders, ST owns and continuously refreshes a substantial patent library (~17,000 patents; ~9,500 patent families and ~500 new patent filings per year).

The Company draws on a rich pool of chip-manufacturing technologies, including advanced FD-SOI (Fully Depleted Silicon-on-Insulator) CMOS (Complementary Metal Oxide Semiconductor), differentiated Imaging technologies, RF-SOI (RF Silicon-On-Insulator), BiCMOS, BCD (Bipolar, CMOS, DMOS), Silicon Carbide, VIPower™, and MEMS technologies.

ST believes in the benefits of owning manufacturing facilities and operating them in close proximity to its R&D operations.

ST has a worldwide network of front-end (wafer fabrication) and back-end (assembly, test and packaging) plants. ST’s principal wafer fabs are located in Agrate Brianza and Catania (Italy), Crolles, Rousset, and Tours (France), and in Singapore. These are complemented by assembly-and-test facilities located in China, Malaysia, Malta, Morocco, the Philippines, and Singapore.

**VIPower™**

VIPower™ is a technology developed by ST and in production since 1991. Vertical Intelligent Power technologies provide control, protection and diagnostics for medium/high power automotive loads. The technology combines Vertical Double Diffused MOS Power devices with their own temperature and current sensors and CMOS and HV components for Power-Analog-Mixed design.

VIPower™ technology is the perfect choice for the control of automotive exterior and interior lighting, DC motors for seat adjustment, door locks and window lifts, resistive heaters and any kind of power load that needs control and sensing as well as power. VIPower™ products are replacing a host of electro-mechanical solutions, and providing lower power, lower chip count and lower pin-count solutions.

VIPower™ technology will play a key role in the move towards electric vehicles. The smart 48V networks used in Mild and Full Hybrid cars require intelligent power switches to drive high- and low-sided loads and electric motors, with very low losses and high current sense accuracy, all monitored via the connections to the ECUs microcontroller.
BCD (BIPOLAR-CMOS-DMOS)

BCD (BIPOLAR-CMOS-DMOS) is a key technology for power ICs. BCD combines the strengths of three different process technologies onto a single chip: Bipolar for precise analog functions, CMOS (Complementary Metal Oxide Semiconductor) for digital design and DMOS (Double Diffused Metal Oxide Semiconductor) for power and high-voltage elements.

This combination of technologies brings many advantages: improved reliability, reduced electromagnetic interference and smaller chip area.

BCD has been widely adopted and continuously improved to address a broad range of products and applications in the fields of power management, analog data acquisition and power actuators. For EV charging BCD is ideal for battery management systems.

1200V AEC-Q101 qualified technologies for EV charging

High voltage rectifier and thyristor technologies are the keys to develop robust, immune AC line connected systems exhibiting high power density. ST has developed a set of automotive grade technologies for full rectification functions in the low frequency (AC line) or high frequency ranges (DC-DC conversion). AEC Q101 qualified, these rectifier diode and thyristor series are available to design robust converters compatible with the most stringent electromagnetic norms such as burst or surge voltages.

TRANSIL™

TRANSIL™ is a key planar technology for Automotive TVS series designed to protect automotive sensitive circuits against surges as defined in ISO 7637-2 and ISO 16750 tests A and B also called load-dump (battery lines), ISO7637-3 (data lines) and ESD as defined in ISO 10605. Protection is also provided against other perturbations generated by elements like ignition, relay contacts, alternators, injectors, SMPS, etc.

This technology is compatible with high-end circuits where low leakage current and high junction temperatures are required to provide reliability and stability over time.

STPOWER

Leading-edge power technologies for both high- and low-voltage applications combined with a full package range and innovative die bonding technologies exemplify ST’s innovation in power transistors of the STPOWER™ family.

ST offers a wide portfolio of power MOSFETs ranging from -100 to 1700V, IGBTs with breakdown voltages ranging from 300 to 1250V and power bipolar transistors ranging from 15 to 1700V.

Improved thermal design of ST’s power electronics systems, and our silicon-carbide (SiC) MOSFETs ensure automotive robustness with the industry’s highest temperature rating of 200 °C.

Our extensive STPOWER™ product portfolio combined with state-of-the art packaging and protection solutions enable designers to create products with high reliability, efficiency and safety.
PRODUCT SELECTORS, SAMPLES, EVALUATION BOARDS

ST provides a set of Smart Selectors tuned to the needs of the Automotive Industry. Once the appropriate products have been selected, a wide range of samples and evaluation boards are available to help you get started and reduce your development times. In addition to boards, ST provides schematics, BOM and Gerber files to facilitate your hardware design and demonstration software packages are available too.

VIPOWER™ Smart Selector

VIPOWER’s Smart Selector is designed to help and assist users to choose the best VIPOWER™ high/low-side switch or H-bridge device for their Automotive application.

All you need to do is select a few parameters related to your specific application, and the selector provides the relevant device. Parameters include nominal voltage (12V for automotive cars or 24V for trucks), a topology (high-side, low-side or h-bridge), the number of channels and type of load to drive (bulbs, motors, etc.). The selection can be further refined by setting source type (DC or PWM), temperature and PCB type.

VIPOWER-FINDER

VIPOWER-FINDER is the application available for Android™ and iOS™ that allows you to explore the ST VIPOWER product portfolio using portable devices. You can easily define the device that best fits your application using the smart or the parametric search engine. You can also find your product thanks to the efficient part number search engine.

Key Features
- Smart, parametric or part number search capability for product
- Technical datasheet downloading and off-line consulting
- Ability to share technical documentation via social media or via email
- Available on Android™ and iOS™ app stores

FIND OUT MORE

www.st.com/vipower-smartselector

www.st.com/vipower-finder

www.st.com/twistersim

FIND OUT MORE
Easyboards

The Easyboard concept was created to give customers the chance to evaluate products without committing to the expense, time and resources typically needed to design a custom circuit board. Easyboards are simple and low-cost evaluation tools that connect a ViPower™ product to a load. This allows a straightforward evaluation of the device and all the application functionalities, including the auto-protection capability for hazardous conditions. Each evaluation board includes a ViPower™ device soldered onto a small 2-layer PCB with heavy copper and thermal vias, to support maximum device current and customer-configured thermal relief strategies.

Easyboards come with the following part numbers:
- EV-VNx7xxx: ViPower M0-7 High Side Switches single, dual and quad channels for 12 V battery lines
- EV-VNx5Txxx: High Side Switches for 24V systems
- EV-VNH7xxx: Motor Control solutions

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Dynamic Electro-Thermal simulator for devices in ViPower technology

TwisterSIM is a unique electro-thermal simulator that helps shorten the design solution cycle by enabling, in a few clicks, complex engineering evaluations with accurate simulations like load compatibility, wiring harness optimization, fault condition impact analysis, diagnostic behavior analysis and dynamic thermal performance.

A built-in Interactive selector provides a short list of suitable devices based on first level system requirements. It assists you in detailing your actual system configuration with layout, load and driving profile customization to build an accurate model of the final application.

TwisterSIM supports a large selection of Low/High-side driver/switches and H-bridges for Motor Control.

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FIND OUT MORE

www.st.com/automotive-evalboards

www.st.com/twistersim
SPC5 AUTOMOTIVE MCU EVALUATION TOOLS:
EASIER EVALUATION AND FASTER DEVELOPMENT

A complete range of hardware evaluation and emulation tools supports the SPC5 family of automotive microcontrollers. Discovery and Premium development boards are available to support your development from preliminary evaluation through to advanced solution development.

ST Discovery boards, available for each product line, enable a quick and easy way to evaluate the microcontroller’s main features. The expansion connector makes it easy to plug-in application and extension modules for rapid prototyping.

ST Premium boards, available for all lines and packages, provide user access to the device’s complete feature set and functionalities for advanced development. The SPCS motherboards, used in combination with adapters, enable full access to all of the MCU’s signals and peripherals (such as CAN, SPI, LIN, FlexRAY and Ethernet).

The offer is complemented by a series of emulation solutions for high-speed tracing, monitoring and bypassing. A full range of state-of-the-art tools and software from major third parties are also available for the SPCS family.

FIND OUT MORE
www.st.com/auto-sp5-mcu-evaltools
A new development flow and toolset dedicated to the Automotive & Transportation market delivering to engineers the best and easiest way for quick evaluation and rapid prototyping in a common, integrated and flexible environment supporting complete ECU-like development.

AutoDevKit is an Eclipse plug-in running under SPC5Studio Integrated Development Environment.

KEY FEATURES

• Focus in developing your application without bothering about hardware and software implementation details
• Assemble and re-assemble hardware and software components without compatibility issues
• Expand and customize your application adding new components, scaling your microcontroller for cost optimization, changing the compiler, adding a real-time operating system and other Eclipse-compatible plugins

FIND OUT MORE

Find out more at [www.st.com/autodevkit](http://www.st.com/autodevkit)
Software download [www.st.com/autodevkitsw](http://www.st.com/autodevkitsw)
Join our Community at [https://community.st.com/autodevkit](https://community.st.com/autodevkit)