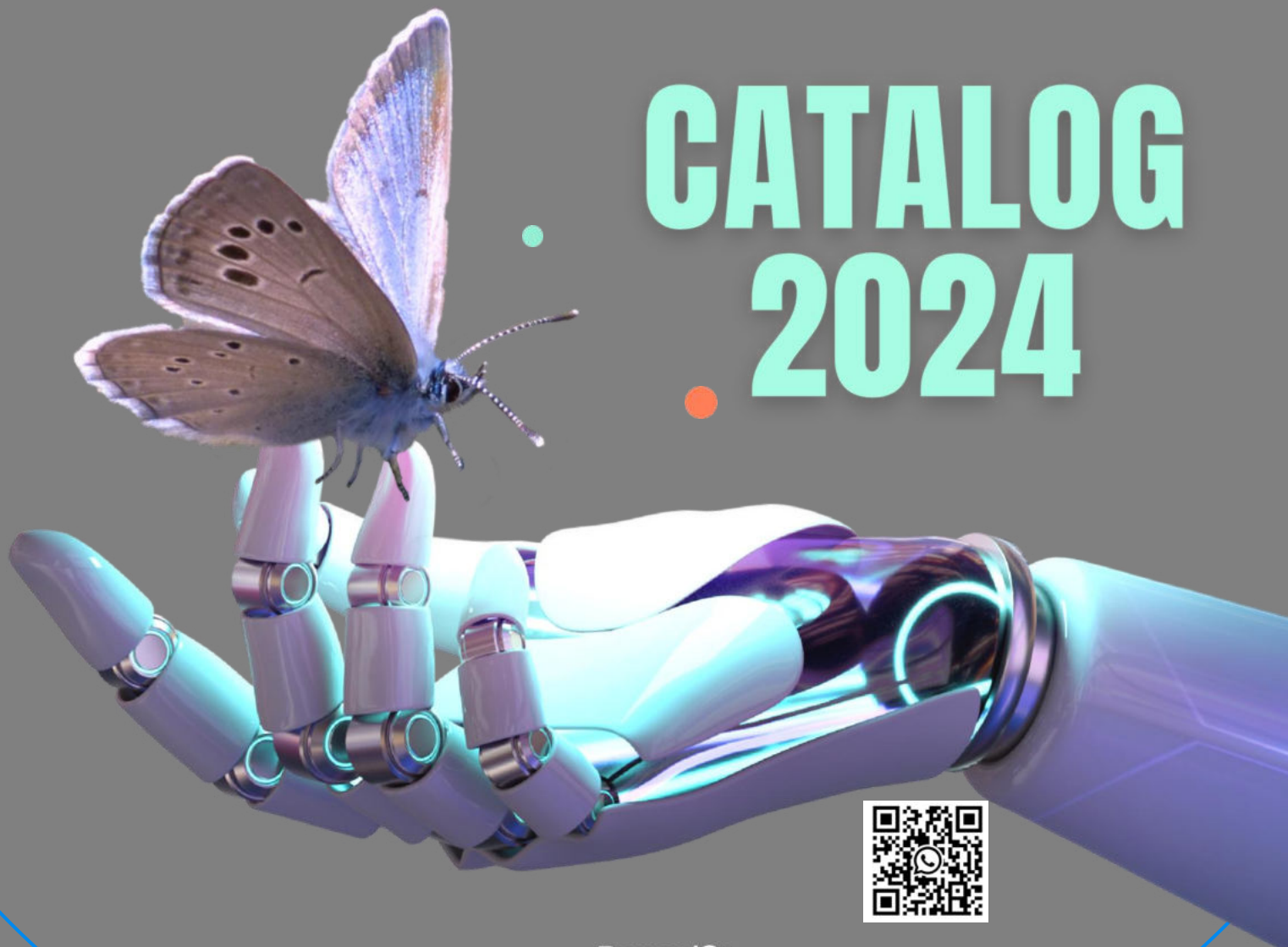


**RELEC**  
ELECTRONICS



# CATALOG 2024



- 一, *Power ICs*
- 二 *MCU (Micro-controller)*
- 三 *Memories*
- 四 *Sensors*
- 五 *Batteries management*
- 六 *Motor control ICs*

## 1. POWER ICs

### ● MOS OR MOSFET FOR AUTOMOBILE:

Our Infineon automotive MOSFETs are used to drive motors in a wide range of applications such as pumps, fans, ventilation, seat adjustment, or sunroofs. They are also used in safety-critical applications such as electric power steering (EPS), electric braking, and injection systems. Furthermore, they act as switches in On board chargers, HV/LV DC/DC converters, battery management systems, and inverters.



### TYPES OF AUTOMOTIVE MOSFET

#### IPP80N03S4L-03

Parameter:  $V_{DS,max} = 30V$   $R_{DS(on)}@10V,max = 2.7 m\Omega$   $I_D@25^\circ C,max = 80A$



#### IAUAN04S7N004n

Parameter:  $V_{DS,max} = 40V$   $R_{DS(on)}@10V,max = 0.39 m\Omega$   $I_D@25^\circ C,max = 280A$



#### AUIRF3710ZS

Parameter:  $V_{DS,max} = 100V$   $R_{DS(on)}@10V,max = 18m\Omega$   $I_D@25^\circ C,max = 59A$



#### IPB65R050CFD7A

Parameter:  $V_{DS,max} = 650V$   $R_{DS(on)}@10V,max = 50m\Omega$   $I_D@25^\circ C,max = 45A$



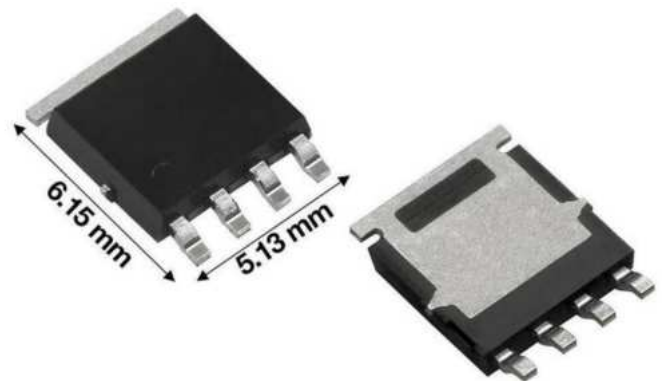
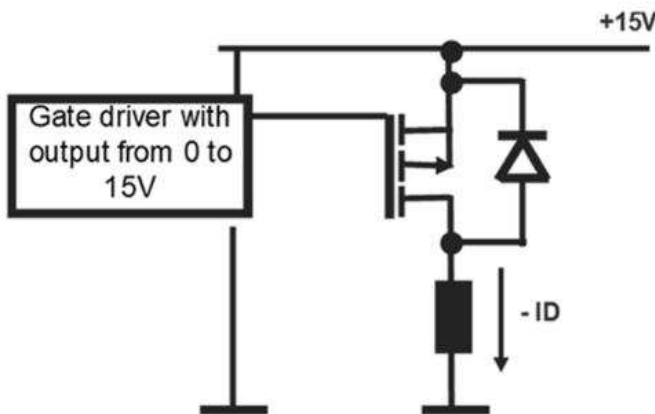


IPB80R290C3A

Parameter:  $V_{DSmax} = 800V$   $R_{DS(on)}@10V_{max} = 290m\Omega$   $I_p@25^{\circ}C_{max} = 17A$



● MOS OR MOSFET FOR OTHER INDUSTRIES



You'll find a variety of power MOSFETs for industrial applications across the Infineon portfolio, including P-channel MOSFETs as well as N-channel MOSFETs that include 12 V-40 V, 45 V-80 V, and 85 V-300 V classes. Our product portfolio also includes the 500 V-950 V CoolMOS™ N-channel power MOSFET, the -250 V to 600 V small signal/small power MOSFET, the 60 V-600 V N-channel depletion mode MOSFET, the 20 V-60 V complementary MOSFET, and the 400 V-2000 V silicon carbide MOSFET. They are applied to lighting, TVs, audio equipment, servers, telecom infrastructure, solar, EV charging, DC-DC converters, and many more.



ISK018NE1LM7

Parameter:  $V_{DSmax} = 15V$   $R_{DS(on)}@10V_{max} = 2.15m\Omega$   $I_p@25^{\circ}C_{max} = 129A$



IRF5801

Parameter:  $V_{DSmax} = 200V$   $R_{DS(on)}@10V_{max} = 2200m\Omega$   $I_p@25^{\circ}C_{max} = 0.6A$



IPB65R045C7

Parameter:  $V_{DSmax} = 650V$   $R_{DS(on)}@10V_{max} = 45m\Omega$   $I_p@25^{\circ}C_{max} = 46A$



IPLK80R2K0P7



Parameter:  $V_{DSmax} = 800V$   $R_{DS(on)}@10V_{max} = 2000m\Omega$   $I_D@25^{\circ}C_{max} = 3A$



IPW95R310PFD7



Parameter:  $V_{DSmax} = 950V$   $R_{DS(on)}@10V_{max} = 310m\Omega$   $I_D@25^{\circ}C_{max} = 17.5A$



● IGBT(INTEGRATED A MOS AND A TRANSISTOR)

The image contains several technical diagrams and photographs related to IGBTs:

- Structure of IGBT:** A cross-sectional diagram showing layers from top to bottom: Emitter, Gate, Metallization, SiO<sub>2</sub>, Source layer, Body layer, Drift layer, Buffer layer, and Injection layer. It also shows the doping concentrations for each layer.
- IGBT Module:** A photograph of a large, multi-terminal power module.
- VI Characteristics of IGBT:** A graph showing the relationship between collector current (I<sub>C</sub>) and collector-emitter voltage (V<sub>CE</sub>). It includes curves for forward and reverse bias, and labels for avalanche breakdown voltage and reverse breakdown voltage.
- Conductivity Modulation in IGBT:** A diagram illustrating the physical mechanism of conductivity modulation in the drift layer.
- IGBT Operation:** A schematic diagram showing the internal structure and the flow of carriers (electrons and holes) during operation.
- Symbol of N-channel IGBT:** A standard electronic symbol for an N-channel IGBT.
- Equivalent Circuit:** A simplified circuit model of an IGBT.
- Physical Packages:** Several photographs of discrete IGBT packages, including TO-18, TO-18E, TO-220, TO-247, and TO-263 types.

Infineon's IGBT product portfolio provides a broad variety of different devices for a wide range of applications in the fields of automotive, traction, energy transmission, industrial, and consumer systems. These solutions offer very low power losses in the forward and blocking state, only require low drive power, and have a high efficiency.

From 600 V to 1600 V, Infineon offers a wide range of IGBT voltage classes to meet the different voltage requirements of a wide range of applications. These devices are suitable for systems like general-purpose inverters, solar inverters, EV charging equipment, UPS, induction heating systems, major household appliances, welding equipment, and SMPS. Discrete IGBT packages from Infineon include surface mount device (SMD) packages and through-hole (TO) packages. Automotive-qualified IGBT discretes are also available.







AUTOMOTIVE IGBT

AURG4PC40S-E



Parameter:  $V_{CEmax} = 600V$   $I_{CPI15max} = 120A$   $P_{totmax} = 160W$   $I_C@25^{\circ}C_{max} = 60A$























	<p style="text-align: center;"><b>AIKQ200N75CP2</b></p> <p>Parameter:  <math>V_{CE,max} = 750V</math> · <math>I_{Cpu1s,max} = 600A</math> · <math>P_{tot,max} = 1071W</math> · <math>I_c@25^{\circ}C_{max} = 200A</math></p>	
	<p style="text-align: center;"><b>AIGW50N65H5</b></p> <p>Parameter:  <math>V_{CE,max} = 650V</math> · <math>I_{Cpu1s,max} = 150A</math> · <math>P_{tot,max} = 270W</math> · <math>I_c@25^{\circ}C_{max} = 80A</math></p>	
	<p style="text-align: center;"><b>AUIRG4PH50S</b></p> <p>Parameter:  <math>V_{CE,max} = 1200V</math> · <math>I_{Cpu1s,max} = 99A</math> · <math>P_{tot,max} = 200W</math> · <math>I_c@25^{\circ}C_{max} = 57A</math></p>	

## 2. MCU (Micro-controller)

A microcontroller unit (MCU) contains a CPU, memory, and input/output peripherals on a single integrated circuit (IC) chip and works as a standalone small computer. This allows for a reduction in power consumption, more compact designs, and cost savings. Additionally, microcontrollers can provide functional safety and security for embedded systems.

Increasingly, it is becoming critical that microcontrollers are equipped with advanced security features to avoid security compromises and prevent malware attacks. For this reason, the new generation of 32-bit MCUs provides robust protection for a range of embedded system applications













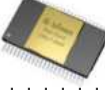

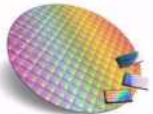



	<p style="text-align: center;">32-bit AURIX™ TriCore™ Microcontroller:TC2XX, TC3XX, TC4X</p>	
	<p style="text-align: center;">32-bit PSoC™ Arm® Cortex® Microcontroller</p>	
	<p style="text-align: center;">32-bit TRAVEO™ T2G Arm® Cortex® Microcontroller</p>	

	32-bit XMC™ Industrial Microcontroller Arm® Cortex®-M	
	Sensing controller	
	MOTIX™ MCU   32-bit motor control SoC (system-on-chip)	
	Microcontroller Safety Products PRO-SIL™/ ISO26262	
	FM3 32-bit Arm® Cortex®-M3 Microcontroller (MCU) Families	
	FM4 32-bit Arm® Cortex®-M4 Microcontroller (MCU) Families	
	FM0+ 32-bit Arm® Cortex®-M0+ Microcontroller (MCU) Families	

### 3. MEMORIES

With nearly 40 years of experience in discrete memory semiconductors, we lead the industry with best-of-breed memory products, solutions, and technologies. We introduced our first random access memory in 1982, and have grown from that auspicious beginning to a broad range of products spanning NOR Flash, pSRAM, SRAM, nvSRAM, and F-RAM with densities ranging from 4 Kbit to 4 Gbit. With unmatched quality and long-term supply agreements, as well as a strong commitment to future investment in new technologies, we will continue to lead the industry for decades to come.

Our differentiated portfolio of volatile and non-volatile memories features: the SEMPER™ family of safe, secure, and reliable NOR Flash, the EXCELON™ family of ultra-low power, high-performance, reliable F-RAM products, and our HYPERBUS™ interface-based HYPERFLASH™ NOR Flash and HYPERRAM™ pSRAM memories.

	NOR Flash	
	F-RAM (Ferroelectric RAM)	
	nvSRAM (non-volatile SRAM)	
	PSRAM (Pseudostatic DRAM)	
	SRAM (Static RAM)	
	Flash+RAM MCP Solution	
	Radiation hardened & high reliability memories	
	Wafer & Die Memory Solutions	
	Embedded Flash IP Solution	

#### 4. SENSORS

The XENSIV™ family represents one of the broadest and most trusted ranges of sensor types on

[goo.by/spdtrr](http://goo.by/spdtrr)

the market. The sensor technology portfolio includes magnetic sensors which can maximize product lifespan and efficiency with truly contactless technology; high-precision coreless current sensor technology which offers significant space and BOM savings over traditional solutions; state-of-the-art MEMS automotive microphones designed according to the latest AEC-Q103-003 quality standard; and pressure sensors which integrate sensing and signal processing into a single chip. Other XENSIV™ sensors include CO<sub>2</sub> sensors, radar sensors, and ToF 3D image sensors.

	Magnetic sensors	
	Current sensors	
	MEMS microphones	
	Pressure sensors	
	CO <sub>2</sub> sensor	
	Radar sensors	
	ToF 3D image sensors	







## 5. POWER MANAGEMENT

Infineon OPTIREG™ PMIC products are power management integrated circuits consisting of [goo.by/spdtrr](http://goo.by/spdtrr)



integrated, multi-rail supply solutions for demanding automotive systems in segments like chassis, safety, ADAS, powertrain, and drive train.

This PMIC chipset has efficient, reliable and safe voltage regulation, including pre- and post-regulator architectures, and DCDC-, linear, and tracking regulators. Besides power supply, additional monitoring and supervision functions enable reliable and easy design of the safety concept for ECUs.

	<p>LDO(Linear Voltage Regulator (LDO))</p>	
	<p>DC-DC Converters</p>	
	<p>AC-DC Power Conversion</p>	

## 6、 MOTOR CONTROL ICs

- MOTIX™ drivers: Select from the most attractive and complete MOSFET motor driver portfolio for BDC and BLDC low voltage applications for body, chassis, and powertrain applications from 12 V – 48 V batteries such as our MOTIX™ multi MOSFET drivers or our motor gate drivers as well as servo and stepper motor drivers
- MOTIX™ bridge: Fully integrated unique half-bridges (NovalithIC™), full bridges, and multi half-bridges from Infineon are the most cost-effective solution for low power BDC motor drives < 300 W and provides ease-of-use power stages at minimum PCB space
- MOTIX™ SBC: Enabling a unique level of system integration including supply, transceivers and motor driver for BDC and BLDC. The MOTIX™ Motor System IC is a tailored solution for automotive body applications increasing the value for customers and MOTIX™ 6EDL7141 for industrial BLDC motor control.

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