

NOVOSENSE



NOVOSENSE
Company Brochure



NOVOSENSE
Product Selection Guide



NOVOSENSE
Automotive Solution



NOVOSENSE
Renewable Energy & Power
Supply Solution



NOVOSENSE
Industrial
Control Solution



NOVOSENSE
Home Appliance
Solution

NOVOSENSE Microelectronics

✉ sales@novosns.com

🌐 www.novosns.com

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Release Date: October, 2025

NOVOSENSE
Home Appliance Solution



NOVOSENSE: Highly Robust and Reliable
Analog and Mixed Signal Chip Provider



2013
Establishment



1200+
Employees
(as of first half of Y2025)



~USD 214 million
Revenue
(first half of Y2025)



A provider for
all-category analog &
mixed signal chips



A leading chip
provider for automotive
applications



A leading provider
for digital isolators
and sensors

NOVOSENSE Microelectronics (NOVOSENSE, SSE Stock Code 688052) is a highly robust & reliable analog and mixed signal chip company. Since its establishment in 2013, the company has been focusing on sensor, signal chain, and power management, providing comprehensive semiconductor products and solutions, which are widely used in automotive, industrial, information communication and consumer electronics markets.

With the mission of “Sense & Drive the Future, Build a Green, Smart and Connected World with Semiconductors”, the company is committed to providing chip-level solutions to link the digital world and the real world.

For more information and sample application, please visit: www.novosns.com

Key Advantages of NOVOSENSE
Home Appliance Solutions

More energy-saving

Efficient motor drive technology for lower power consumption and greener living.

Smarter control

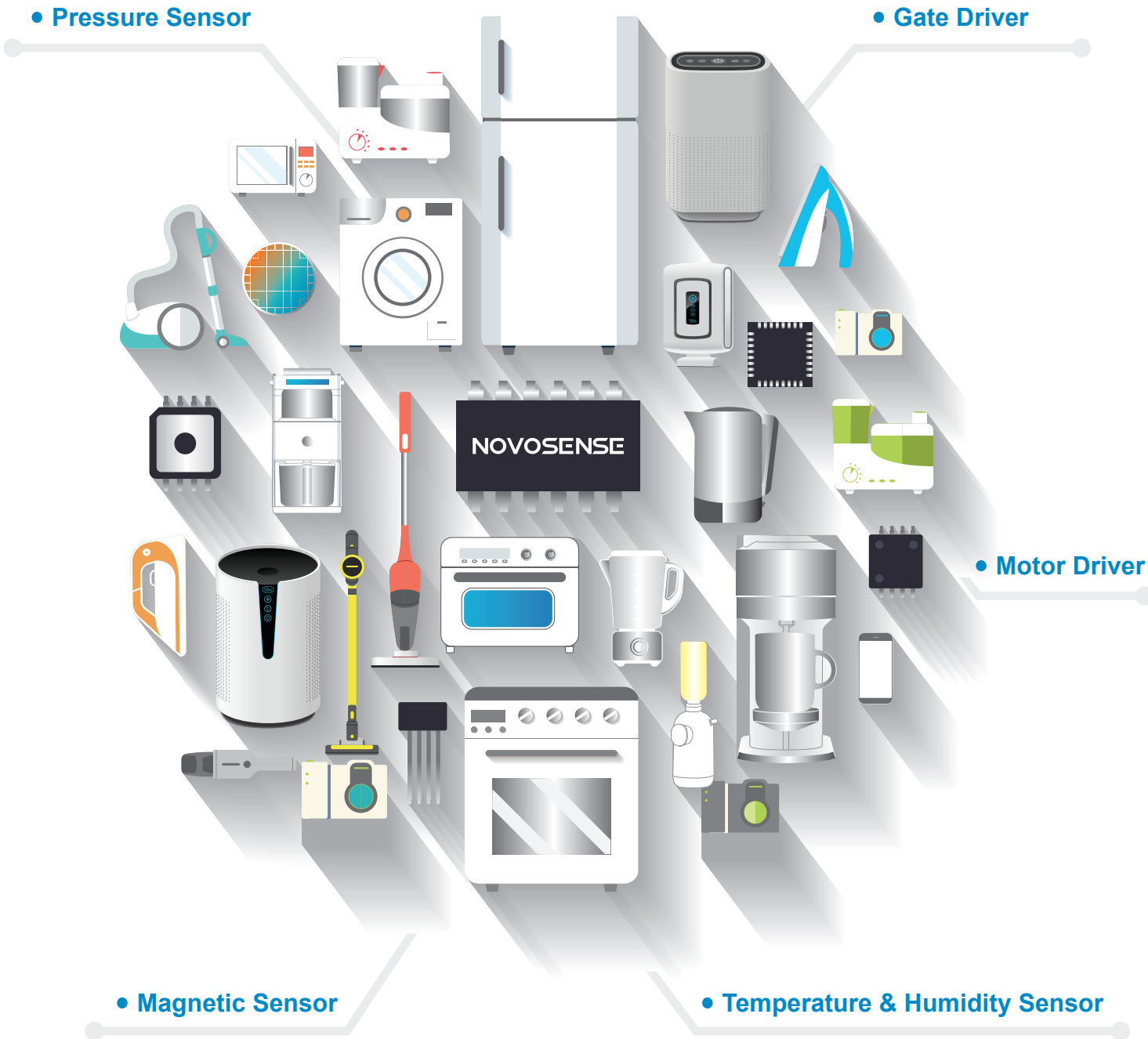
High-precision sensing and control for adaptive, intelligent appliance operation.

Higher reliability

Rigorously validated chips with wide temperature range and strong EMI immunity.

Compact design

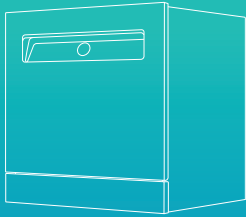
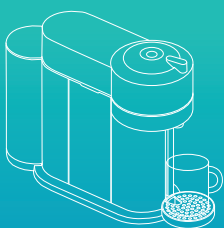
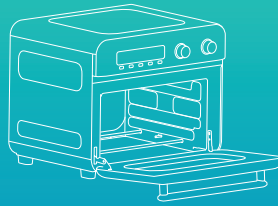
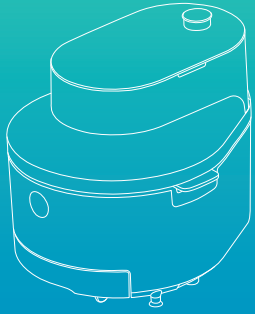
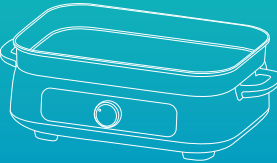
High integration reduces component count, enabling slimmer, stylish appliances.





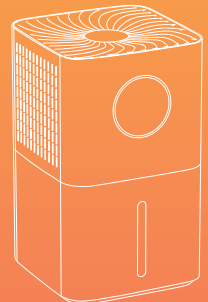
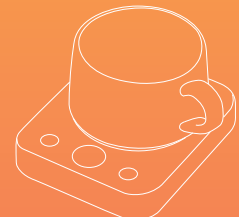
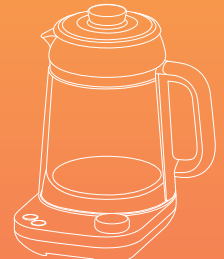
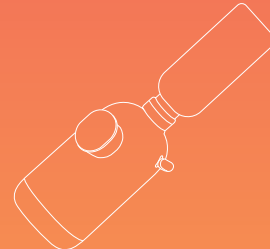
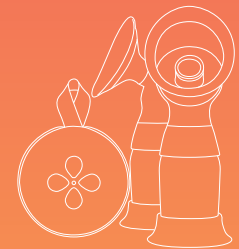


Solutions for Kitchen Small Appliances

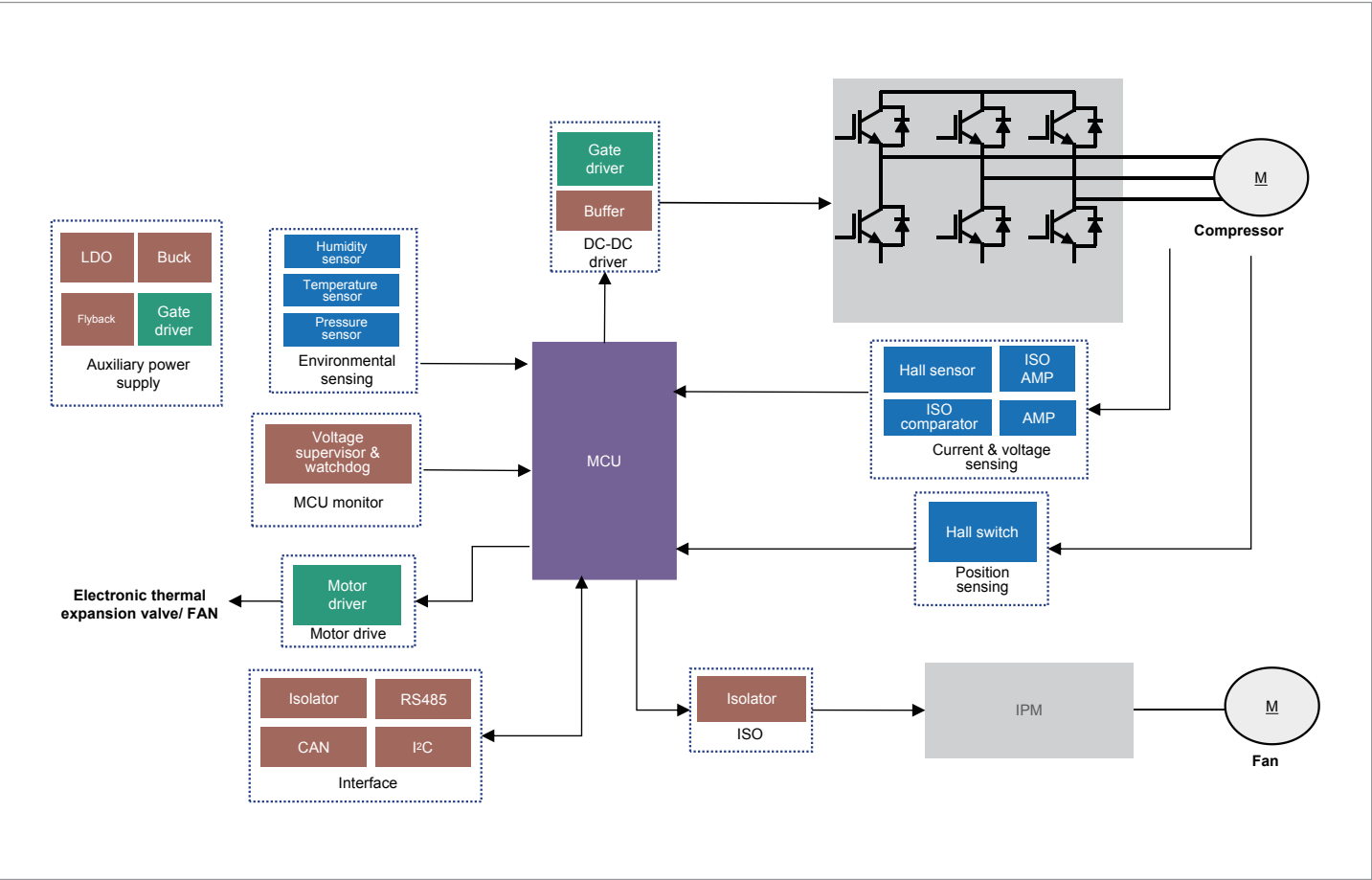
 Dishwasher • Magnetic Current Sensor • Pressure Sensor	 Coffee Machine • Hall-effect Switches • Pressure Sensor • Temperature & Humidity Sensor	 Microwave-steam-oven Combo • Hall-effect Switches • Temperature Sensor • Temperature & Humidity Sensor • TMR Switches & Latches • Pyroelectric Infrared Sensors	 High-speed Blender, Soy Milk Maker • Hall-effect Switches • Temperature Sensor • TMR Switches & Latches • Pyroelectric Infrared Sensors
 Smart Electric Pressure Cooker • Hall-effect Switches • Temperature Sensor	 Air Fryer • Infrared Sensor • Hall-effect Switches • Temperature Sensor	 Electric Hot Pot • Temperature Sensor	



Solutions for Personal Care & Health & Innovative Small Appliance

 Constant Temperature Humidifier • Hall-effect Switches • Temperature & Humidity Sensor	 Mug Warmer • Temperature Sensor	 Electric Kettles • Temperature Sensor	 Electric Heater • NTC Temperature Probe
 Instant Hot Water Dispenser • Temperature Sensor	 Handheld Garment Steamer • Temperature Sensor	 Bottle Warmer • Temperature Sensor	 Electric Breast Pump • Pressure Sensor

Air Conditioner Outdoor Unit



MCU

- MCU (NS800RT1137)

Current & voltage sensing

- Hall sensor (NSM201x, NSM211x)
- Isolated amplifier (NSI1400, NSI1300, NSI1200C, NSI1312, NSI1311)
- Amplifier (NSOPA9xxx, NSOPA8xxx)
- Isolated comparator (NSI22C12, NSI22C11)

Position & pressure & temperature & humidity sensing

- Hall switch (NSM1013, NSM1030, MT83xx, MT89xx, MT72xx, NSM301x, MT65xx)
- Temperature sensor (NST100x, NST86)
- Humidity sensor (NSHT3x)
- Pressure sensor (NSA/C9260X, NSA/C2860X)

Gate driver & buffer

- Gate driver (NSD1026V, NSI68515, NSD1624, NSI6801, NSI6601, NSI6601M, NSI6611)
- Buffer (NCA8244)

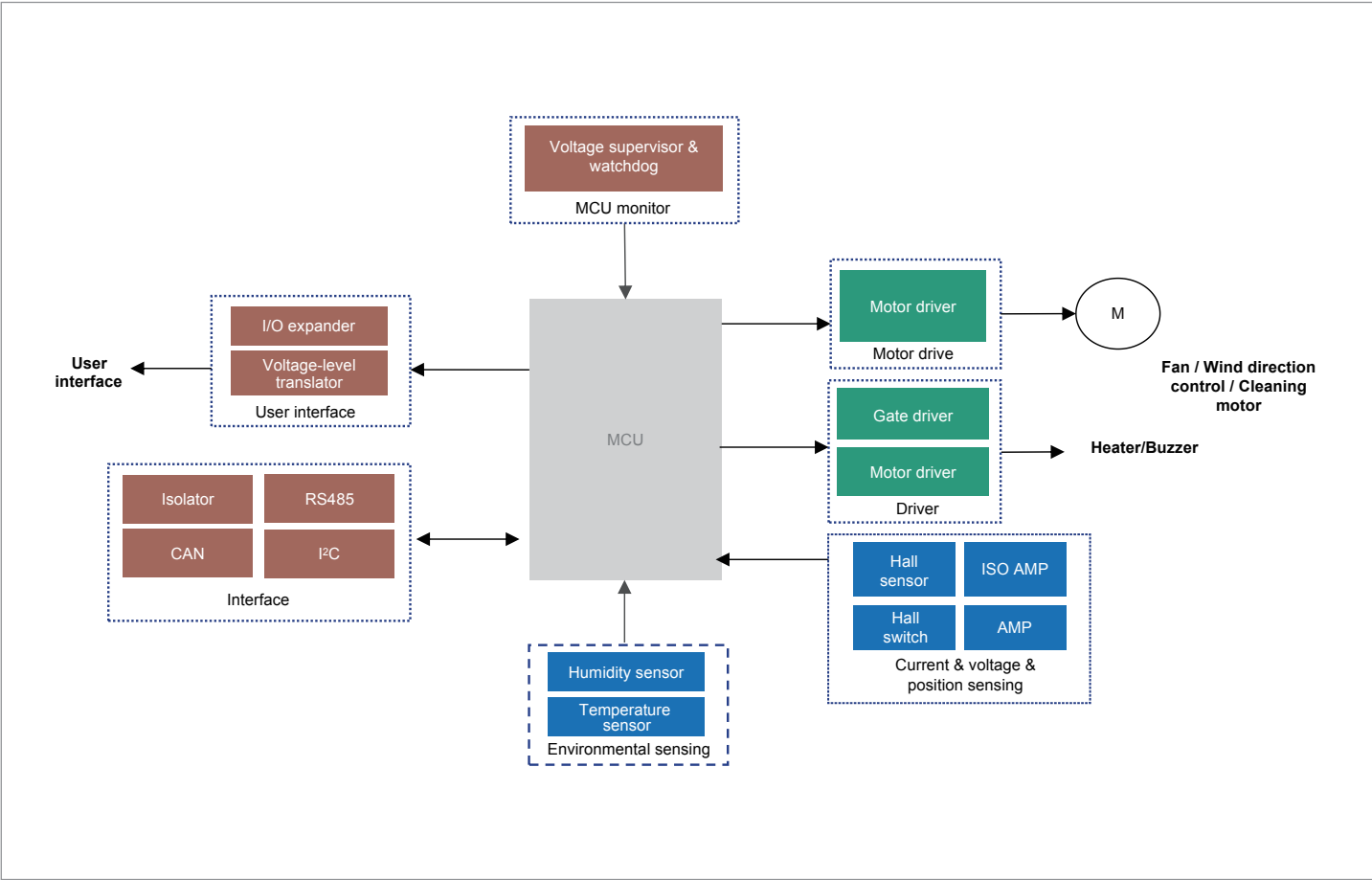
Power management & protection

- Flyback (NSR28C4x, NSR2240x, NSR2260x)
- Buck (NSR104xx)
- LDO (NSR31xxx, NSR33xxx, NSR35xxx)
- Voltage supervisor (NSR7808)

Interface & digital isolation

- CAN transceiver (NSI1042, NSI1050, NCA1051A, NCA1042B)
- RS485 (NSI83085, NSI83086, NCA3485)
- I²C (NSI8200, NSI8100)
- Isolator (NSI8266, NSI822x, NSI823x, NSI824x, NSIP894x, NIRS21, NIRS31)

Air Conditioner



Current & voltage & temperature & humidity sensing

- Hall sensor (NSM201x, NSM211x)
- Isolated amplifier (NSI1400, NSI1300, NSI1200C, NSI1312, NSI1311)
- Hall switch (NSM1013, NSM1030, MT83xx, MT89xx, MT72xx, NSM301x, MT65xx, MT4409, MT87xx, MT86xx)
- Temperature sensor (NST1002, NST86)
- Temperature & humidity sensor (NSHT3x)
- Amplifier (NSOPA9xxx, NSOPA8xxx)

Gate driver & motor driver

- Gate driver ((NSI68515, NSD1624, NSI6801, NSI6801E, NSI6601, NSI6601M, NSI6601xE, NSI6611, NSI6711)
- Motor driver (NSD731x, NSD8308, NSD8312, NSD8381, NSD8389)

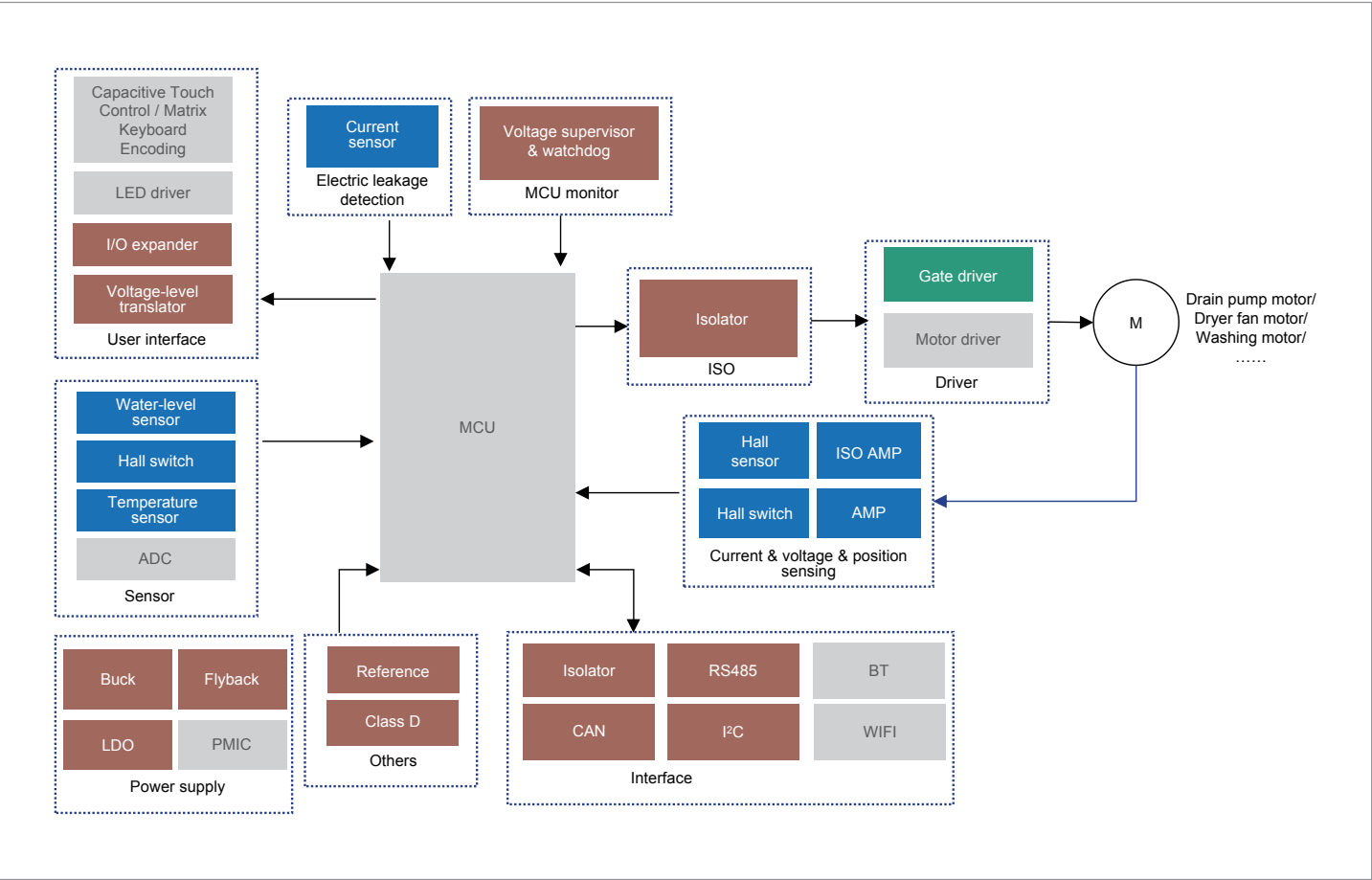
Interface & digital isolation

- CAN transceiver (NSI1042, NSI1050, NCA1051A, NCA1042B)
- RS485 (NSI83085, NSI83086, NCA3485)
- I²C (NSI8200, NSI8100)
- Isolator (NSI8266, NSI822x, NSI823x, NSI824x, NSIP894x, NIRSP31, NIRS21, NIRS31)
- I/O expander (NCA9555)

MCU monitor & others

- Voltage supervisor (NSR7808)
- Voltage-level translator (NCA9306)
- I/O expander (NCA9555)

Washing Machine



Current & voltage & temperature & humidity sensing

- Hall sensor (NSM201x, NSM211x)
- Current sensing (NSCSA21x, NSCSA24x)
- Position sensor (NSM1013, NSM1030, MT83xx, MT89xx, MT72xx, NSM301x, MT65xx)
- Water-level sensor (NSPGD1(M))
- Isolated amplifier (NSI1400, NSI1300, NSI1200C, NSI1312, NSI1311)
- Temperature sensor (NST100x, NST86)
- Amplifier (NSOPA9xxx, NSOPA8xxx)
- Hall switch (NSM1013, NSM1030, MT83xx, MT89xx, MT72xx, NSM301x, MT65xx)

Gate driver

- Gate driver (NSI68515, NSD1624, NSI6801, NSI6801E, NSI6601, NSI6601M, NSI6601xE, NSI6611, NSI6711)

Power management

- LDO (NSR31xxx, NSR33xxx, NSR35xxx)
- Buck (NSR104xx)
- Flyback (NSR28C4x, NSR2240x, NSR2260x)

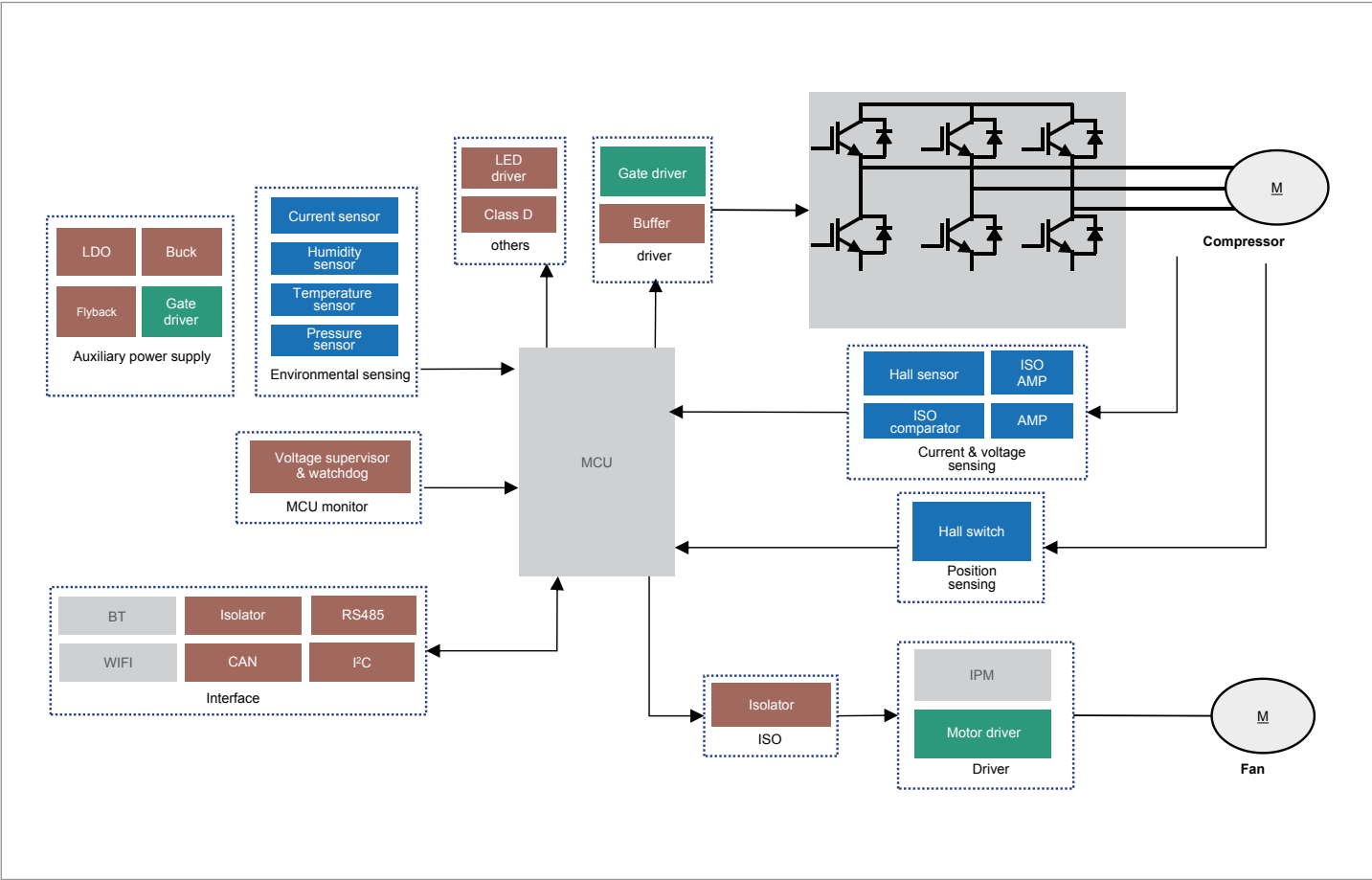
Interface & digital isolation

- CAN transceiver (NSI1042, NSI1050, NCA1051A, NCA1042B)
- RS485 (NSI83085, NSI83086, NCA3485)
- I²C (NSI8200, NSI8100)
- Isolator (NSI8266, NSI822x, NSI823x, NSI824x, NSIP894x, NIRSP31, NIRS21, NIRS31)

MCU monitor & reference & others

- Voltage supervisor (NSR7808)
- Reference (NSREF30xx, NSREF31xx)
- Voltage-level translator (NCA9306)
- I/O expander (NCA9555)

Refrigerator



Current & voltage sensing

- Hall sensor (NSM201x, NSM211x)
- Current sensing (NSCSA21x, NSCSA24x)
- Isolated amplifier (NSI1400, NSI1300, NSI1200C, NSI1312, NSI1311)
- Isolated comparator (NSI22C12, NSI22C11)
- Amplifier (NSOPA9xxx, NSOPA8xxx)

Position & pressure & temperature & humidity sensing

- Hall switch (NSM1013, NSM1030, MT83xx, MT89xx, MT72xx, NSM301x, MT65xx)
- Temperature sensor (NST1001, NST1002, NST86)
- Temperature & humidity sensor (NSHT3x)
- Pressure sensor (NSA/C9260X, NSA/C2860X)

Gate driver & buffer

- Gate driver (NSD1026V, NSI68515, NSD1624, NSI6801, NSI6801E, NSI6601, NSI6601M, NSI6601xE, NSI6611, NSI6711)
- Buffer (NCA8244)

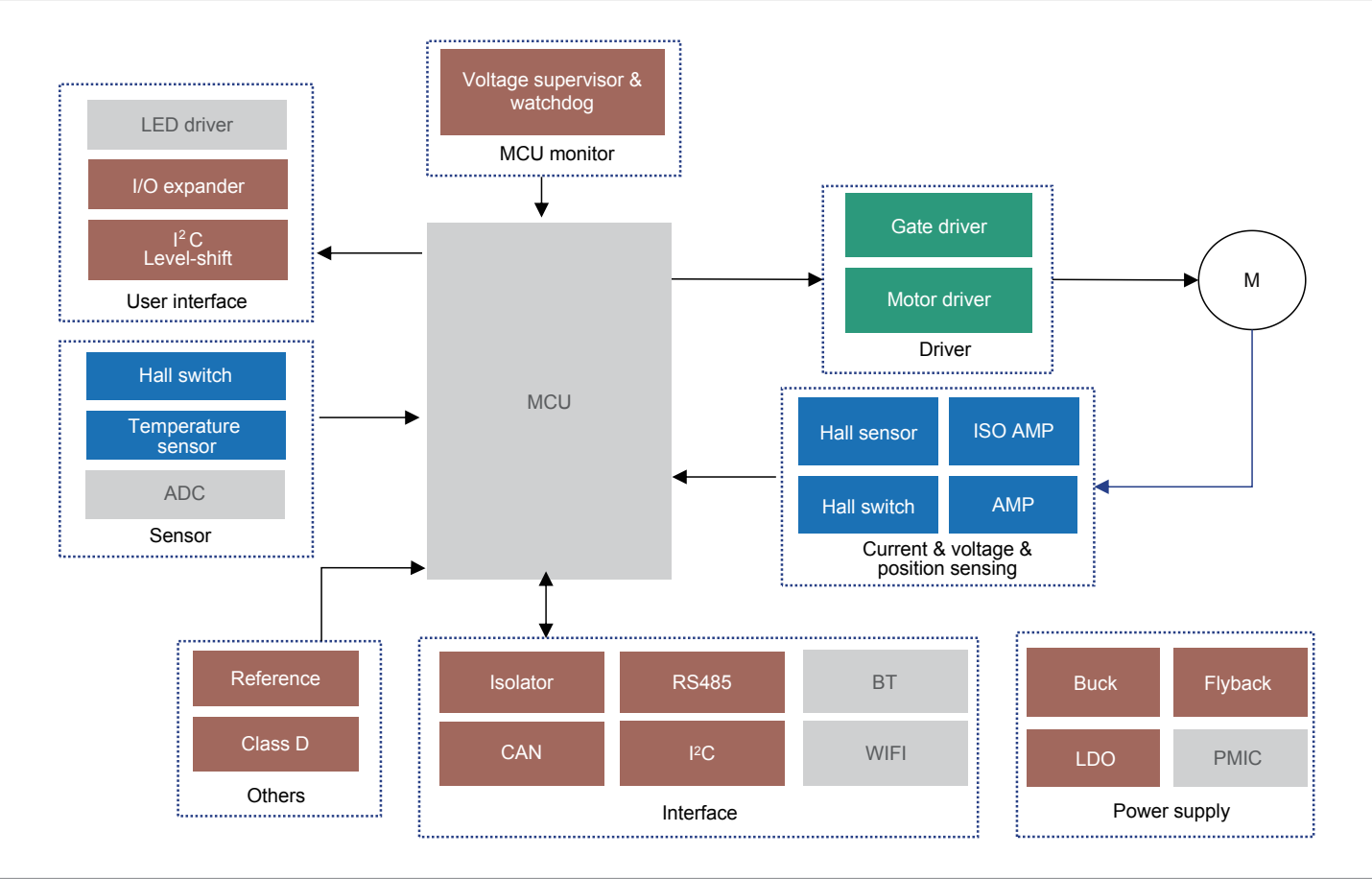
Power management & protection

- Flyback (NSR28C4x, NSR2240x, NSR2260x)
- Buck (NSR104xx)
- LDO (NSR31xxx, NSR33xxx, NSR35xxx)
- Voltage supervisor (NSR7808)

Interface & digital isolation

- CAN transceiver (NSI1042, NSI1050, NCA1051A, NCA1042B)
- RS485 (NSI83085, NSI83086, NCA3485)
- I²C (NSI8200, NSI8100)
- Isolator (NSI8266, NSI822x, NSI823x, NSI824x, NSIP894x, NIRSP31, NIRS21, NIRS31)

Power Tools / Gardening Tools



Current & voltage & temperature & humidity sensing

- Hall sensor (NSM201x, NSM211x, NSM204x)
- Position sensor (NSM1013, NSM1030, MT83xx, MT89xx, MT72xx, NSM301x, MT6701)
- Isolated amplifier (NSI1400, NSI1300, NSI1200C, NSI1312, NSI1311)
- Temperature sensor (NST100x, NST86)
- Amplifier (NSOPA9xxx, NSOPA8xxx)
- Hall switch (NSM1013, NSM1030, MT83xx, MT89xx, MT72xx, NSM301x, MT65xx)

Gate driver & motor driver

- Gate driver (NSD1624, NSI6801)
- Motor driver (NSD36xx, NSD73xx)

Interface & digital isolation

- CAN transceiver (NSI1042, NSI1050, NCA1051A, NCA1042B)
- RS485 (NSI83085, NSI83086, NCA3485)
- I²C (NSI8200, NSI8100)
- Isolator (NSI8266, NSI822x, NSI823x, NSI824x, NSIP894x, NIRSP31, NIRSP21, NIRSP31)

Power management

- LDO (NSR31xxx, NSR33xxx, NSR35xxx)
- Buck (NSR104xx)
- Flyback (NSR28C4x, NSR2240x, NSR2260x)

MCU monitor & reference & others

- Voltage supervisor (NSR7808)
- Reference (NSREF30xx, NSREF31xx)
- I²C Level-shift (NCA9306)
- I/O expander (NCA9555)

Key Product Recommendations (Magnetic Sensors)

Part Number	Product
NSM201x	Integrated Current Sensor
NSM301x	Hall-based Angle Sensor
MT6701	Differential Hall Magnetic Angle Encoder
MT883x	Ultra-low Power Omnipolar Hall Switch
NSM105x	Ultra-low Power TMR Switch&Latch
MT8762	Hall Latch

NSM201x: Integrated Current Sensor

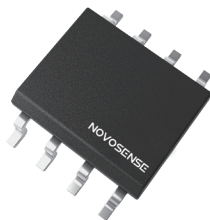
Product introduction

NSM201x series is a chip-level current sensor under 200A which is mainly used for isolation measurement of current under 200A.

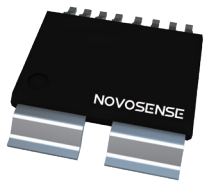
Product feature

- Wide current range available 2.5A~200A
- AC/DC input
- 3.3V/5V single power supply
- Input conduction impedance as low as to 0.27mOhm
- $\pm 2\%$ current measurement accuracy
- Withstand up to 20kA surge current (8 μ s /20 μ s surge current waveform)
- Multiple output type
 - Single-end proportional output
 - Pseudo difference fixed output
- Three types of package
 - SOP8 package: 600VDC working isolation voltage / 3000 Vrms @ 1min withstand isolation voltage (NSM2012/NSM2016)
 - SOW16 package: 1550VDC working insulation voltage / 5000 Vrms @ 1 min withstand isolation voltage (NSM2011/NSM2013/NSM2015/NSM2017)
 - SOW10 package: 1618VDC working isolation voltage / 5000 Vrms @ 1min withstand isolation voltage (NSM2019)
- Overcurrent protection OCD output (NSM2015/NSM2016/NSM2017/NSM2019)
 - Overcurrent protection response in micro seconds
 - Overcurrent protection threshold is configurable

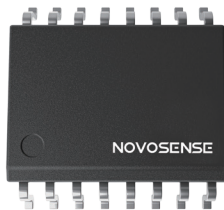
Package



NSM2012/2016: SOP8



NSM2019: SOW10



NSM2011/2013/2015/2017: SOW16

NSM301x: Hall-based Angle Sensor

◆ Product introduction

The NSM301x is a non-contact rotation angle sensor that supports accurate rotation angle measurement of 360° in ambient temperatures ranging from -40°C to 125°C. This series is based on planar Hall array, which converts the angle position information of bipolar magnet into analog voltage, PWM, SPI and other output forms through internal DSP. The NSM301x provides SPI and OWI interfaces for signal path configuration as well as erasable programming register blocks (MTP). It has an automatic gain (AGC) adjustment module that can adjust the gain of the signal path to accommodate different mechanical constraints and magnetic fields. This approach provides maximum flexibility in system design because it can be integrated directly into existing architectures, providing high accuracy. The chip supports 3.3V, 5V power supply voltage (different power supply versions)

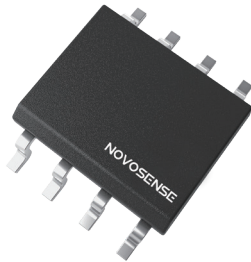
◆ Product feature

- Operating temperature: -40°C to 125°C
- Various output interface forms: 14-bit linear DAC analog output or 12-bit resolution PWM output, SPI output UVW output, Z-direction programmable threshold judgment switch output (SON)
- Provide SPI and OWI user-programmable communication interfaces
- Provide angle output with accuracy of ±1°
- Support four-section fitting one by one, with fit accuracy up to ±0.2°
- Built-in automatic gain compensation circuit to compensate the gain loss caused by the temperature characteristics of the magnet and the Z-direction installation position tolerance
- It has abnormal diagnosis function
- Differential Hall detection can resist external stray magnetic field
- NOVOSENSE's new chopper and spin current excitation technology make angular temperature drift very small

- Automotive-qualified and industrial-qualified model
- available, with automotive-qualified model meeting AEC - Q100 reliability standard

◆ Package

- SOP8



MT6701: Differential Hall Magnetic Angle Encoder

◆ Product introduction

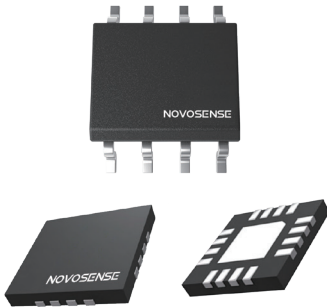
The MT6701 is a new generation of magnetic angle encoder IC based on the principle of differential Hall induction. MT6701 induces the magnetic field component perpendicular to the surface of the chip, and with the rotation of the radial magnet magnetized at 1 pair of poles on the surface of the chip, the corresponding output of MT6701 is an angle signal of 0~360°. In addition to ABZ/UVW incremental and analog/PWM absolute angle outputs, the MT6701 also provides 14 bits of digital angle output via the I²C/SSI interface. In addition to the rotation angle measurement, the MT6701 also provides a "press" output to enable a single-chip push button (rotation + press) function.

◆ Product feature

- Maximum Rotation Speed 55,000RPM
- Output Propagation Delay <5µs
- Independent Output Interface: I²C, SSI, ABZ, UVW, Analog, PWM, Push-Button Function on Z-Axis
- ABZ Incremental Output Resolution 1~1024 Pulses per Revolution User Programmable
- UVW Output Resolution 1~16 Pole-Pairs per Revolution User Programmable
- I²C or SSI interface read 14bit Absolute Angle Position data
- ±1° accuracy
- RoHS Compliant

◆ Package

- SOP-8, QFN-16



MT883x: Ultra-low Power Omnipolar Hall Switch & Latch

◆ Product introduction

The MT883x uses CMOS process to provide high performance and reliability. A Hall sensing element is integrated into the chip. With 1.6V~5.0V working voltage, 1.7µA ultra-low power consumption, and excellent temperature compensation ability, this chip can work in the environment of -40~85°C, and maintain excellent performance and consistency.

◆ Product feature

- Sampling frequency: 20 Hz
- Type: Omnipolar switch
- Working voltage: 1.6~5.0 V
- Power consumption: 1.7µA
- Working temperature: -40~85°C
- Working points : ±30 Gs
- Release points: ±20 Gs
- Output format: Push pull output

◆ Package

- SOT-23, Flat TO-92, DFN1608, DFN1616



NSM105x: Ultra-low Power TMR Switch&Latch

◆ Product introduction

NSM105x is a 3-wire fixed sensitivity TMR switch/latches, which is industrial-grade magnetic sensors based on the tunnel magnetoresistance (TMR) effect to support high-precision, contactless digital position measurement within an ambient temperature range of -40°C to 125°C. NSM105x features extremely low power consumption, with operating currents as low as 1.5µA for the 5kHz sampling frequency version and 200nA for the 156Hz sampling frequency version.

The NSM105x series consists of 3 product models, namely NSM1051 (unipolar TMR switch), NSM1052 (omnipolar TMR switch), and NSM1053 (TMR latch), which allow users to select different switching points, magnetic polarity, output polarity, low power modes, output interfaces, and package forms.

◆ Product feature

- Operating ambient temperature: -40°C~125°C
- Operating voltage range: 1.8~5.5V
- ESD (HBM): ±4kV
- Extremely low power consumption, with supply currents as low as 200nA
- Optional parameters:
 - Different operate /release points
 - Magnetic polarity: South, North
 - Output polarity : High, Low
 - Sampling frequency: 5kHz, 2.5kHz, 1.25kHz, 156Hz
 - Output interface: Open-drain, Push-pull

◆ Package

- SOT23-3L, TO-92s



MT8762: Hall Latch

Product introduction

The MT8762 uses BCD process for high performance and reliability. A Hall sensing element is integrated into the chip. Working voltage (2.4V~24V), good reverse voltage protection ability and overcurrent protection ability, sampling frequency of 100KHz. And it has excellent temperature compensation ability, so that the chip can work in the environment of -40~150°C, and maintain excellent performance and consistency.

Product feature

- Type: Hall latch
- Sampling frequency: 100KHz
- Working voltage: 2.4~24 V
- Power consumption: 1.2 mA
- Working temperature: -40 °C~150 °C
- Output current capability: 25mA (max)
- Output overcurrent protection
- Reverse polarity protection
- ESD Protection: ±6kV (HBM)

Package

- SOT-23, Flat TO-92



Key Product Recommendations (Temperature&Humidity Sensor)	
Part Number	Product
NST1001	D-NTC® Digital Pulse Output Temperature Sensor
NST1002	D-NTC Single Bus-type Digital Temperature Sensor
NSHT30	High-precision, Low-power I²C Digital Interface Temperature and Humidity Sensor

NST1001: D-NTC® Digital Pulse Output Temperature Sensor

Product introduction

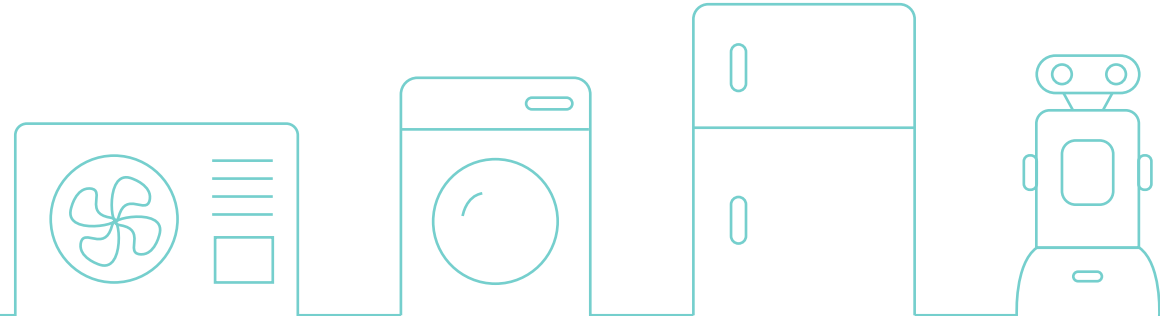
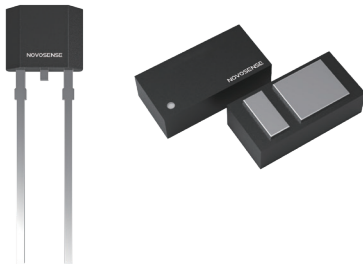
NST1001 is a high-precision double-pin digital output temperature sensor. NST1001 features pulse counting digital output and high precision in a wide temperature range, which can be directly connected with MCU, while ensuring measurement accuracy and reducing overhead. The NST1001 device supports a maximum accuracy of ±0.75 °C over temperatures ranging from -50 °C to 150 °C, while providing extremely high resolution (0.0625 °C) without system calibration or hardware/software compensation. The pulse-counting digital port is designed for direct connection to GPIO or comparator inputs to simplify component implementation. Simple two-pin architecture is adopted, so the NST1001 device can be easily converted into a two-wire temperature probe.

Product feature

- Operating temperature range: -50°C~150°C
- High accuracy in full temperature range
 - 25°C~45°C: ±0.2°C (typical) @ NST1001
 - 25°C~45°C:±0.2°C(max.) @ NST1001HA
 - Accuracy within range -20 °C~85°C: ±0.5°C (max.)
 - Accuracy within range -50°C~-20°C: ±0.75°C (max.)
 - Accuracy within range 85°C~150°C: ±0.75°C (max.)
- High resolution: 0.0625°C (1 LSB)
- Quick temperature response: silicone oil τ63%0.21S (DFN2L)
- Single temperature conversion time: 50mS
- Ultra-low power consumption: 30μA operating current, zero standby power consumption
- Supply voltage range: 1.65V to 5.5V
- Pulse count type digital output to reduce the AD conversion port on master side
- Support dual pin simplified temperature measurement solution
- DFN2L ultra small packaging, with same resistance size as 0603

Package

- TO-92S (4mm x 3mm)
- DFN2L (1.6mm x 0.8mm)



NST1002: D-NTC Single Bus-type Digital Temperature Sensor

Product introduction

NST1002 is a high-precision dual-pin single bus-type temperature sensor. NST1002 has a single bus protocol output interface and high precision in a wide temperature range. It can be directly connected with MCU to ensure the measurement accuracy and reduce the overhead. The NST1002 device supports a maximum accuracy of ±0.5°C over temperatures ranging from -40°C to 125°C, while providing extremely high resolution (0.0078125°C) without system calibration or hardware/software compensation. The digital interface of the single bus protocol is designed to connect directly to GPIO, simplifying hardware design. The simple dual-pin architecture enables the NST1002 device to be easily converted into a two-wire temperature probe.

Product feature

- Operating temperature range: -50°C to 150°C
- High accuracy over -50°C to 150°C
 - DFN-2L
 - 0°C~85°C: ±0.1°C (typical) ±0.25°C(max.)
 - 40°C ~125°C: ±0.5°C (max.)
 - 40°C ~150°C: ±0.5°C (max.)@3.3V
 - TO-92S-2L
 - 0°C~85°C: ±0.2°C (typical)
 - 20°C ~85°C: ±0.35°C (max.)
 - 40°C ~125°C: ±0.7°C (max.)
 - 40°C ~125°C: ±0.7°C (max.) @3.3V
- High resolution: 0.0078125°C (1 LSB)
- Quick temperature response: 0.27S (DFN2L)
- Single temperature conversion time: 32ms
- Ultra-low power consumption: 30µA operating current, zero

- standby power consumption
- Supply voltage range: 1.7V to 5.5V
- Single bus protocol digital output, without AD conversion port
- Support dual pin simplified temperature measurement solution
- DFN2L ultra small packaging, with same size as 0603 resistance

Package

- TO-92S (4mm x 3mm)
- DFN2L (1.6mm x 0.8mm)



NSHT30: High-precision, Low-power I²C Digital Interface Temperature and Humidity Sensor

Product introduction

NSHT30 is a CMOS-MEMS-based relative humidity (RH) and temperature sensor. NSHT30 integrates a complete sensor system on a single chip, including capacitive relative humidity sensor, CMOS temperature sensor and signal processor and I²C digital communication interface, in the DFN and LGA packages of 2.5mm2.5mm0.9mm. The communication mode of its I²C interface, extremely small package and low power consumption characteristics allow NSHT30 to be more widely integrated into a variety of applications. In addition, NSHT30's I²C interface features two unique, selectable I²C addresses, communication rates up to 1MHz, and a wide voltage operating range, making NSHT30 more compatible in a variety of application environments. It also has programmable interrupt thresholds that can provide alarms and system awakenings without the need for a microcontroller to continuously monitor the system.

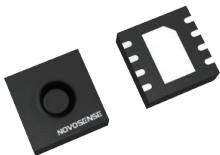
Product feature

- Relative humidity (RH) sensor:
 - Working range: 0%RH~100%RH
 - Accuracy: ±3%RH (typ.)
- Temperature sensor:
 - Operating temperature range: -40°C~125°C
 - Accuracy: ±0.3°C (typ.)
- Digital output for relative humidity and temperature compensation
- Wide supply voltage range: 2.0V~5.5V
- I²C digital interface, communication rate up to 1MHz
 - 2 optional addresses
 - Data protection with CRC check

- Low-power: average current: 3.2µA
- 8-Pin LGA and DFN package available
- AEC-Q100 qualified (DFN package)

Package

- DFN-8 (2.5mm x 2.5mm x 0.9mm)



Key Product Recommendations (Pressure Sensor)

Part Number	Product
NSPGS2	NSPGS2 series: Integrated Gauge Pressure Sensor with Air Nozzle in SOP Package
NSPGD1(M)	NSPGD1(M) series: Integrated Gauge Pressure Sensor with Air Nozzle in DIP8 Package

NSPGS2 series: Integrated Gauge Pressure Sensor with Air Nozzle in SOP Package

Product introduction

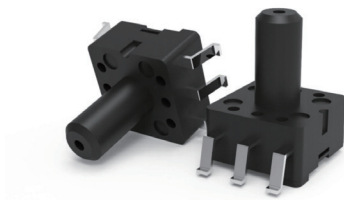
NSPGS2 is a calibrated gauge pressure sensor for the market of small household appliances and healthcare equipment. This series of products adopts high-performance signal conditioning chip to calibrate and compensate the temperature and pressure of MEMS piezoresistive die. It comes in SOP6 package form with vertical air nozzle for easy soldering and use. This series of pressure sensors can convert pressure signals from -100kPa to +250kPa into analog/digital output signals with a customized output range. They are suitable for pressure detection of non-corrosive gases compatible with the structural materials of pressure sensitive components, especially for small household appliances, healthcare, industry and the IoT.

Product feature

- Customizable range: -100kPa ~+250kPa
- Wide temperature range: -40°C~70°C
- The comprehensive accuracy in the full temperature range is better than ± 2.5%
- Analog voltage output/ I²C digital output/SPI
- High stability, 100% calibration, temperature compensation
- Packaging with single air nozzle, easy to install and seal
- Front air intake for chips avoid blockage

Package

- SOP-8 (7.0mm x 7.0mm)



NSPGD1M series: Integrated Gauge Pressure Sensor with Air Nozzle in DIP8 Package

Product introduction

NSPGD1M is a series of calibrated gauge pressure sensors for the home appliance and medical market. The series of products adopts high-performance signal conditioning chip to calibrate and compensate the temperature and pressure of MEMS piezoresistive die output. The NSPGD1M series integrated pressure sensor has an optional pressure range from -10kPa to +10kPa. It adopts DIP8 package form with air nozzle, which is convenient for soldering and use. It is suitable for gauge pressure detection of non-corrosive gases compatible with pressure sensitive components, especially for non-contact liquid level detection. It is also suitable for industrial, IoT and other fields. This series pressure sensor supports analog output /I²C digital output and unique frequency output, which is more flexible for multi-applications.

Product feature

- Customizable range: -10kPa ~ +10kPa
- Wide temperature range: 0°C~70°C
- The comprehensive accuracy in the full temperature range is better than ± 2.5%
- Analog voltage /I²C digital output/frequency output
- High stability, 100% calibration, temperature compensation
- DIP package with air nozzle, easy to install and seal
- Front air intake for chips avoid blockage
- Internal waterproof moisture-proofing treatment

Package

- DIP8



Key Product Recommendations (Motor Driver)	
Part Number	Product
NSD7310L/C	40V Peak Current 3.6A Brushed DC Motor Driver IC
NSD7315	40V Brushed DC Motor Driver IC with 10A Peak Current
NS8389	40V 1/256 Micro-step Stepper Motor Driver

NSD7310L/C: 40V Peak Current 3.6A Brushed DC Motor Driver IC

◆ Product introduction

NSD7310L is a brushed DC motor driver IC. The IC has built-in N-MOSFET and provides full protection for the power level, including power supply undervoltage protection, overcurrent protection and overtemperature protection. This product can provide 3.6A peak current and supports PWM current regulation. In version A product, the internal power path current mirror function is added, and the external ADC/MCU can directly obtain the current value from the pin of the product, saving power sampling resistor and optimizing the layout. The Automotive version has passed the AEC-Q100 qualification to meet the requirements in terms of quality and reliability of vehicles.

◆ Product feature

- Wide operating voltage range: 5V-36V (Absolute max rating 40V)
- On-resistance (HS + LS) 520mΩ
- Peak current 3.6A
- Supporting current modulation
- Undervoltage protection
- Overcurrent protection
- Over-temperature protection
- Operating temperature: Tj=-40°C~150°C

◆ Package

- HSOP8



NSD7315: 40V Brushed DC Motor Driver IC with 10A Peak Current

◆ Product introduction

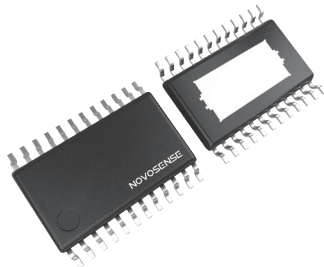
The NSD7315H/S-Q1 is a Brushed DC motor driver chip featuring an integrated power N-MOSFET with 150mΩ Rds(on) and peak current capability up to 10A. It equips intelligent functions such as adjustable slew rate control, open load detection, and current sensing. Comprehensive protection mechanisms include supply under-voltage lockout (UVLO), over-current protection (OCP), and thermal shutdown (TSD). The device is available in two variants : hardware interface and SPI interface for flexible system integration.

◆ Product feature

- Wide operating voltage range: 4.5V – 36V (maximum voltage rating: 40V)
- On-resistance (HS + LS): 150mΩ
- Peak current: 10A
- Offer two variants : hardware interface and SPI interface
- Supporting slew rate configuration
- Supporting open-load detection
- Supporting control mode : Independent PWM (IN1/IN2) or PH/PWM mode
- Supporting current monitoring feedback
- Undervoltage protection
- Overcurrent protection
- Overtemperature protection
- Operating temperature: Tj = -40°C to 150°C

◆ Package

- HTSSOP24



NSD8389 40V 1/256 Micro-step Stepper Motor Driver

◆ Product introduction

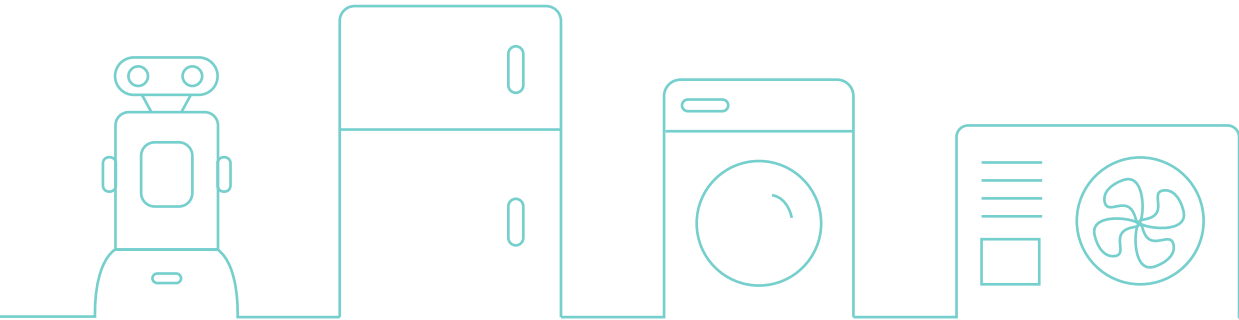
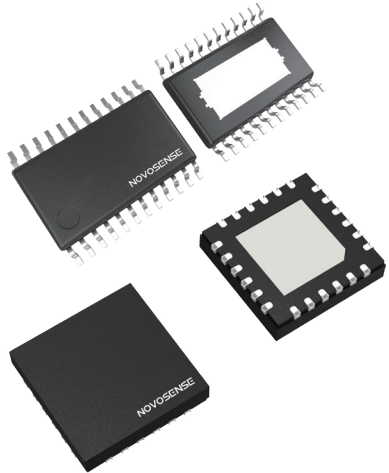
NSD8389 is a high-integration bipolar stepper motor driver. It features 1/256 programmable microstepping mode, 8 decay mode, integrated PWM frequency spread spectrum, slew rate,dead time, sensorless stall detection, SPI, temperature alarm and shutdown to support for flexible and reliable stepper motor control.

◆ Product feature

- Supply: 4.5v ~ 36v; AMR 40V
- Rdson & Current: 900mΩ; 1.5-A full-scale
- Programmable micro-stepping up to 1/256 usteps
- 8 Decay Modes: smart tune, slow, and mixed decay options
- STEP/DIR input & SPI controllable Hold Mode
- Phase Counter for high precision position control
- Configurable OPL_FILT&TBLANK, default DRV_DIS for A version
- Sensorless Stall detection (bemf, zero crossing)
- Slew rate & dead time & spread spectrum configurable
- 16-bit SPI Interface with daisy chain mode
- Sleep mode with ultra low consumption
- Operating temperature: Tj=-40°C - 150°C

◆ Package

- VQFN24, HTSSOP24



Key Product Recommendations (Gate Driver)	
Isolated Gate Driver	
Part Number	Product
NSI6711	Smart Isolated Gate Driver Integrated with Isolated Analog Sensing
NSI68515	Opto-compatible Smart Isolated Gate Driver Integrated with DESAT Protection
NSI6601MEx	Isolated Single-channel Gate Driver
Non-isolated Gate Driver	
Part Number	Product
NSD1026V	Dual-channel Low-side Gate Driver
NSD1012C	Single-channel low-side gate driver with integrated over-current protection (OCP)

NSI6711: Smart Isolated Gate Driver Integrated with Isolated Analog Sensing

◆ Product introduction

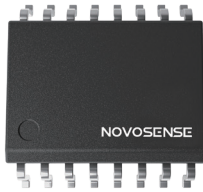
NSI6711 is a single-channel smart isolated gate driver designed to drive IGBT, power MOSFET and SiC MOSFET and other power transistors in many applications and provide protection for their safe operation. It can provide separate output to control the rising and falling duration respectively, it supports rail-to-rail output, and can provide a maximum 10A/10A source and sink current capability. NSI6711 can provide protection functions, such as UVLO, Miller clamp, DESAT protection, soft turnoff and when short circuit fault or undervoltage occurs, the fault can be indicated through a separate pin. NSI6711 supports ASC function and can be used to force the output to be high in emergency situations. It supports minimum common mode transient immunity (CMTI) of 150kV/μs to improve system robustness. The absolute max rating of the driver side is 35V, and the input side accepts supply voltages from 3V to 5.5V. NSI6711 features large drive current, wide power supply voltage range, and high CMTI, and is designed with excellent protection. It is suitable for switching power supply systems and inverters which require high reliability, high power density and high efficiency.

◆ Product feature

- Smart Single-channel Isolation Driver
- Input side power supply voltage: 3V~5.5V
- Driver side power supply voltage: Absolute max rating 38V, with UVLO
- Peak source and sink current 10A/10A
- High CMTI: 150kV/μs
- Typical propagation delay: 80ns
- Maximum pulse width distortion: 30ns
- Minimum receivable input pulse width: 40ns
- Rail-to-rail output, with separate output as an option
- Protection mode:
 - Active short circuit protection, different control mode option on both sides
 - Miller Clamp 5.7A
 - DESAT protection with a threshold of 9V
 - Support soft turnoff at a current of 135mA, 420mA options
 - Support fault reporting, reset or enable
- Operating temperature: -40°C~125°C

◆ Package

- SOW16



NSI68515: Opto-compatible Smart Isolated Gate Driver Integrated with DESAT Protection

◆ Product introduction

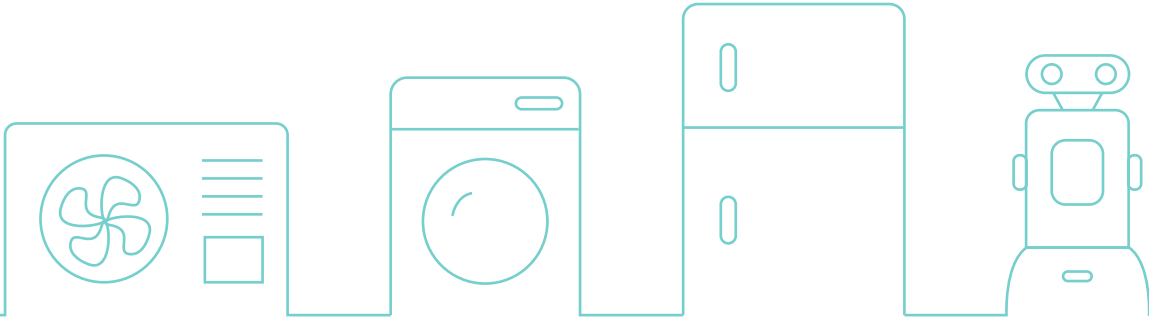
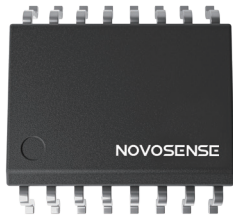
NSI68515 is an opt-compatible single-channel smart isolated gate driver integrated with DESAT protection designed to drive and provide protection for safe operation of IGBTs, power MOSFETs and SiC MOSFETs in many applications. NSI68515 can provide up to +5A/-5A source/sink current capability. The absolute max rating of the driver side is 35V, and the input side accepts supply voltages from 3V to 5.5V. It can provide excellent protection function, such as UVLO, Miller clamp, DESAT protection, and soft turnoff, etc., and send alarm by a separate pin when detecting a short circuit fault or undervoltage. It is available in automatic alarm reset version, rail to rail output version and non-rail to rail output version. It supports a minimum common-mode transient immunity (CMTI) of 150kV/μs to improve system robustness. NSI68515 features high driver current, wide range of power supply voltage, high CMTI, and has excellent protection function, which is suitable for motor drive, inverter, switching power system and other systems with high reliability, high power density and high efficiency.

◆ Product feature

- Smart isolated single-channel driver integrated with DESAT protection
- Input side supply voltage: 3V - 5.5V
- Driver side supply voltage: Absolute max rating 35V, with UVLO
- Peak 5A/5A source/sink current capacity
- High CMTI: 150kV/us
- 100ns typical propagation delay
- 100ns maximum pulse width distortion
- Acceptable minimum input pulse width 40ns
- NSI68515LC/UC/AC rail to rail output, NSI68515AC non- rail to rail output
- NSI68515AC/RC supports automatic resetting
- Protection mode
- Miller clamp 4.0A
- DESAT protection, with threshold of 6.5V
- Support soft shutdown function, with soft shutdown current of 140mA
- Support alarm feedback
- Operating temperature: -40°C~125°C

◆ Package

- SOW16



NSI6601MEx: Isolated Single-channel Gate Driver

◆ Product introduction

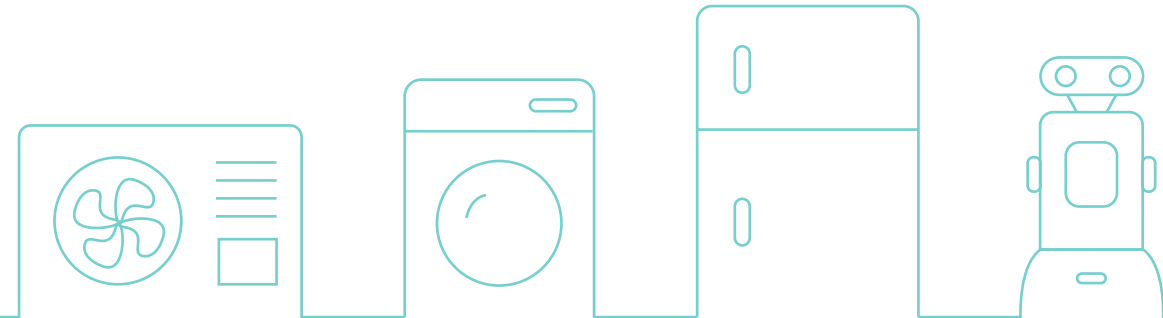
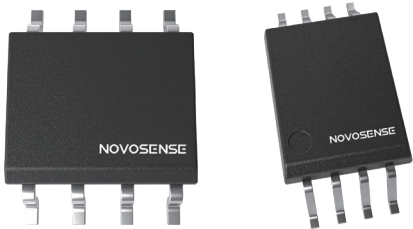
NSI6601MEx is a single-channel isolated gate driver suitable for driving IGBT, power MOSFET and SiC MOSFE, GaN in many applications. NSI6601-MEx:provide miller clamp function instade of separate outputs. NSI6601MEx can provide peak source/sink current of 5A/5A. The 150kV/μs minimum common mode transient immunity (CMTI) ensures the robustness of the system. The absolute max rating of the driver side is 35V, and the input side is supplied with a power supply voltage of 3.1V to 17V. All power pins support undervoltage lockout (UVLO) protection with 5V/9V/12V options, and 5V version is provided for GaN. NSI6601MEx is designed with high drive current, excellent durability, wide power supply voltage range and fast signal propagation, and is suitable for switching power supply systems which require high reliability, high power density and high efficiency.

◆ Product feature

- Single-channel Isolation driver
- Input side supply voltage: 3.1V to 17V
- Driver side supply voltage: Absolute max rating 35V, with UVLO(5V/8V/12V)
- Version M supports Miller Clamp function (NSI6601MEx) with current up to 5A
- Peak source/sink current of 10A/10A
- High CMTI:150kV/μs
- Typical propagation delay: 80ns
- Operation ambient temperature: -40°C to 125°C

◆ Package

- SOP8, SOW8



NSD1026V: Dual-channel Low-side Gate Driver

◆ Product introduction

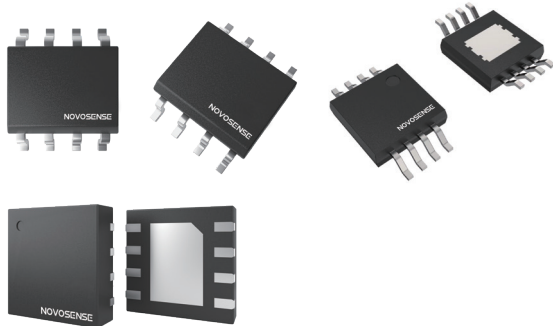
NSD1026V is a dual-channel, high-speed gate driver, suitable for driving Si MOSFET, IGBT, GaN and SiC power devices. It can provide 5A source and 5A sink currents to drive various loads, and features fast rise and fall times. Both the input pins and enable pin of NSD1026V support -10V negative transient, enhancing the chip's robustness. The internal circuit provides an Under-Voltage Lockout (UVLO) function, and the hysteresis between the high and low thresholds of the input pins offers excellent noise immunity. The two channels of NSD1026V have extremely small propagation delay matching, making it applicable for applications requiring parallel configuration.

◆ Product feature

- Power supply voltage range: 4.6 to 26V (abs. 30V)
- Source/sink drive current: 5A (peak)
- Each channel output has an independent enable pin
- Input and enable pins support negative transient as low as -10V
- CMOS/TTL compatible logic input
- Output pins support 5A reverse sink current, eliminating additional protection circuits
- Operating temperature range: -40°C to 125°C

◆ Package

- SOP8, HSOP8, HMSOP8, DFN8



NSD1012C: Single-channel low-side gate driver with integrated over-current protection (OCP)

◆ Product introduction

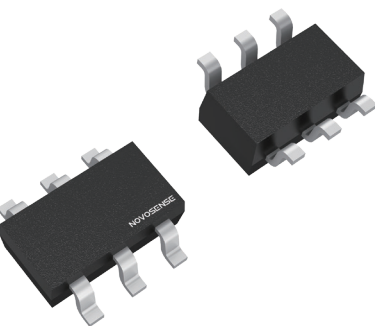
NSD1012C is a low-side gate driver capable of delivering 3A source and 4A sink peak currents to drive power MOSFETs or IGBTs. The logic input is compatible with TTL and CMOS output. The NSD1012C has OCP pin to provide over current protection with negative voltage detected across switching current sensing resistor. The NSD1012C has a multiple purpose pin EN/nFLT which serves as both an Enable (EN) input to activate the output and a Fault (nFLT) output by being pulled low by an internal switch. The fault recovery time can be programmable by time constant set of resistance and capacitance connected to EN/nFLT pin. Internal VDD circuitry provides an under-voltage lockout function by holding the output low until the supply voltage reaches the operating range.

◆ Product feature

- Power supply voltage range: 12.7V to 20V
- Source/sink drive current: 3A/4A
- Over-current detection threshold: -0.242V negative voltage
- Single pin for fault output and enable control
- Programmable fault clear time
- Under-voltage lockout for VDD
- OCP pin withstands -10V DC voltage
- 3.5 kV ESD HBM
- RoHS compliant
- Operation temperature: -40 °C~125 °C

◆ Package

- SOT23-6



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