

Analog & Memory Companion Chip for STM8 & STM32



March 18th, 2011

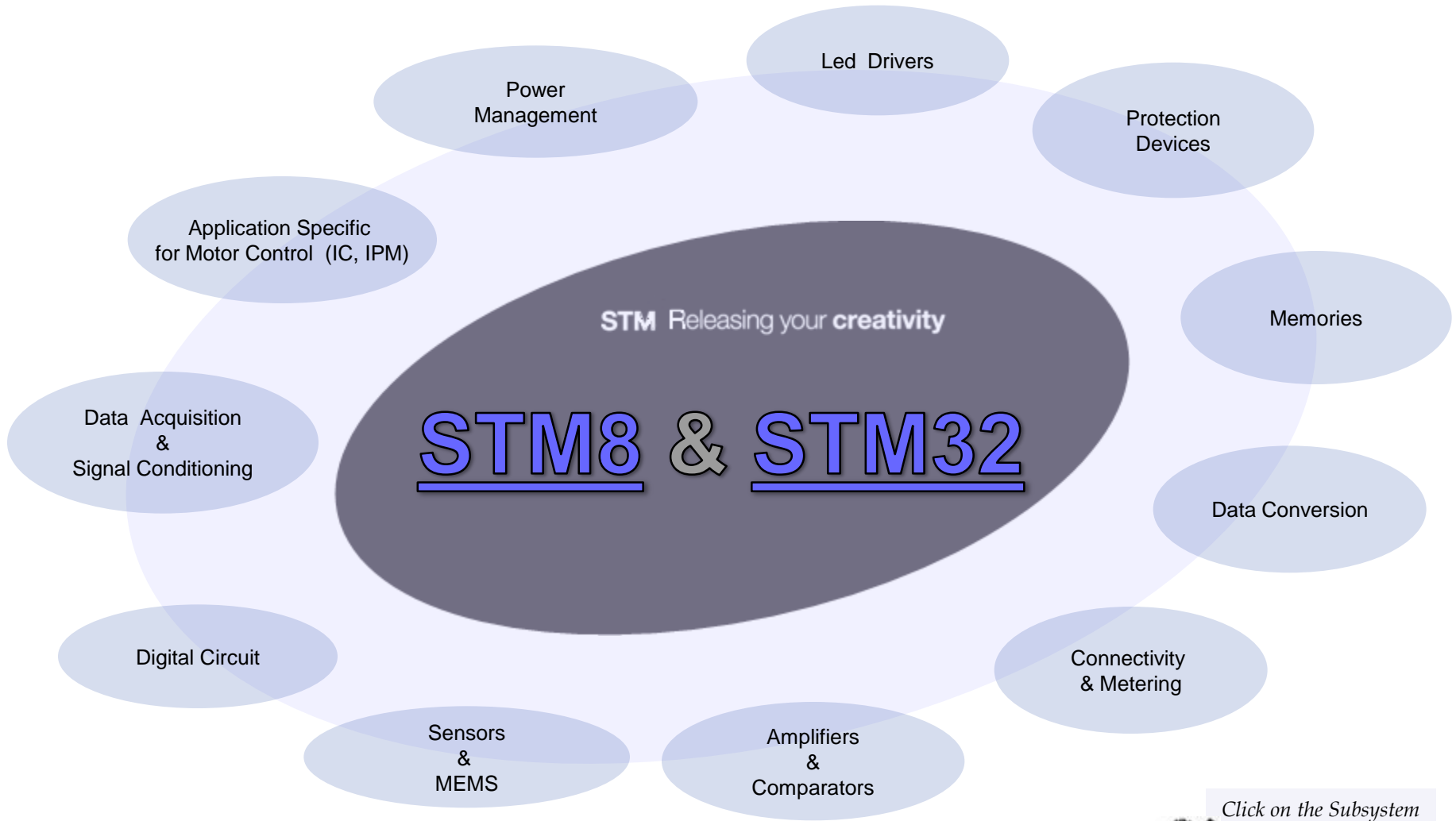


STMicroelectronics

www.emcu.it



Analog & Memory Companion Chips for STM8 & STM32



Click on the Subsystem



STMicroelectronics

www.emcu.it



Power Management (1/4)

The voltage regulator is probably the device that is used with the majority of applications. The STM32 ARM® Cortex™-M3 requires a 2.0-3.6V operating voltage supply (VDD), with a total current up to 150mA (included the I/O current). Depending on the application requirements, it is possible to use either a linear or a switching voltage regulator. The following are just a few of the many voltage regulators ST offers:

Linear Regulators

[LD3985](#) :150mA, En, SOT23-5L, TSOT23-5L,CSP
[LD2985](#) :150mA ,En, SOT23-5L
[LD59015](#): 150mA,Low Noise, Low Iq, High PSRR, En, SOT323-5L
[LDLN015](#): 150mA Ultra Low Noise, High PSRR, En, DFN2x2-6L
[LD39015](#): 150mA, low Iq, En, SOT666, SOT23-5L,CSP
[LD39115J/SJ](#): 150mA, low Iq, En, Low noise, 0.8x0.8 CSP
[STLQ015](#): 150mA, Very low Iq, En,SOT666
[LK112S](#): 200mA, SOT23-5L, En
[LDS3985](#):300mA, En, DFN3x3-6L, SOT23-5L
[LD39030SJ*](#): 300mA, low Iq, En, Low noise, 0.8x0.8mm CSP
[LD39050](#): 500mA, low Iq, En, PG, DFN3x3-6L
[LD39080](#): 800mA,En, PPAK, DFN8
[LD39100](#): 1A, low Iq, En, PG, DFN3x3-6L
[ST1L05](#): 1.3A, En, PG, DFN3x3-6L

En=Enable Pin, PG=Power Good pin

* Product under development. Contact Division

Step-Down Converters

[ST1S12](#): 700mA, Synchronous, TSOT23-5L
[L5980](#): 700mA, VFQFPN8
[L6928](#): 800mA, MSOP8
[ST1S03](#): 1.5A, DFN3x3-6L
[ST1S06](#): 1.5A,Synchronous, DFN3x3-6L
[ST1S09](#): 2A,Synchronous, DFN3x3-6L
[ST1S10](#): 3A Synchronous, DFN8
[ST2S06A33](#): Double Output, 500mA, 3.3V + ADJ

Step-Up Converters

[L6920DB](#): 150mA, MSOP8
[ST8R](#) : Micropower 1A synchronous step-up

Multifunction Regulators (Buck-Boost Converters)

[STBB1](#): 1A synchronous, DFN3x3-10L
[STBB2*](#): 800mA, 3MHz, synchronous, CSP

STM32 Home page



STMicroelectronics

www.emcu.it



Power Management (2/4)

The STM32 ARM Cortex has an embedded reset but some applications need to be independent on micro hardware to ensure more robustness and reliability to the system. Moreover a tighter accuracy on voltage reference than the one offered by the STM32 can be required (+/-5% accuracy). ST offers a comprehensive family of reset, voltage detectors and supervisors.

Microprocessor Supervisor & Reset ICs

[STM1061](#) : low power voltage detectors +/-2% accuracy

[STM809](#): Push-Pull Reset with Manual Reset Input

[STM810/11/12](#) : Push-Pull Reset with Manual Reset Input

[STM1001](#) : Active Low open drain Reset

[STM181x](#) : Reset with open drain, push-pull output and Manual Reset Input

[STM63xx](#) /[68xx](#), [STM70x](#), [STM69x](#), [STM8xx](#) : Supervisor with Reset Output, Watchdog, Switch Over and PFI/PFO

Voltage Reference, Low Power Shunt

An external low power voltage reference can be used to maintain ADC accuracy independent of Vcc variation such as in battery-powered applications.

[TS431](#): adjustable shunt reference from 1.24V to 6V, SOT23-5, TO-92

[TS432](#): adjustable shunt reference from 1.24 to 10V, SOT23-3

[LM4041](#): fixed high precision shunt reference at 1.225V, SOT23-3L and SC70-5L

[*STM32 Home page*](#)



STMicroelectronics

www.emcu.it

SILICA
An Avnet Company



Power Management (3/4)

Battery Management

[L6924D/U](#): 1A Wall/USB Battery Charger System for Li-Ion / Li-Polymer, VFQFPN16

[STBC08](#): 800mA Standalone linear Li-Ion Battery charger with thermal regulation, DFN6

[STC4054](#): 800mA Standalone linear Li-Ion Battery charger with thermal regulation, TSOT23-5L

STUC02* - 1.6A prog. 3MHz USB Switching charger for Li-Ion & Li-Polymer

STBC21* - 1.2A Linear battery charger with Battery Temperature Control

ST4078* –950mA , 30V tolerant Linear prog. Dual input (Wall adapter& USB) Li-Ion battery charger, DFN3x3-10L

External battery management circuits can be used to charge and monitor a Li-Ion battery in portable applications.

These devices are driven by a standard I²C link:

[STw4102](#): Dual USB/wall adapter Li-ion battery charger with gas gauge

[STC3100](#): Battery monitor IC with Coulomb counter/gas gauge

[STC3105*](#): Battery monitor IC with Coulomb counter/gas gauge

* Product under development. Contact Division



STMicroelectronics

www.emcu.it

[*STM32 Home page*](#)



Power Management (4/4)

Multifunction Linear Regulator

STCS1: Linear Single channel constant current LED driver

STLA01: 50mA stand-alone linear LED driver

Multifunction Switching Regulator

STLA02*: 6 white/blue LED boost power supply

STLD40: 10 white LED boost power supply

STLD41*: 40 white LED boost power supply

STBB1: 1A synchronous, DFN3x3-10L

STBB2*: 800mA, 3MHz, synchronous, CSP

OLED Display Power Supply

STOD1812: PMOLED (Passive Matrix OLED) display power supply

STOD2540: PMOLED (Passive Matrix OLED) display power supply

STOD02: AMOLED (Active Matrix OLED) 2.5"- 3" display power supply

STOD03: AMOLED (Active Matrix OLED) 3"- 4" display power supply

STOD04*: AMOLED (Active Matrix OLED) 7" display power supply

Power over Ethernet

PM8800A: Integrated IEEE 802.3af compliant PoE-PD controller

PM8803: Integrated IEEE 802.3af/at compliant PoE-PD controller

* Product under development. Contact division.



STMicroelectronics

www.emcu.it

STM32 Home page



LED Drivers (1/2)

LED driver

If a great amount of external LEDs have to be driven then:

24 bit:

[STP24DP05](#): 24-bit constant current (5-80mA) LED driver with outputs error detection

16 bit:

[STP16CP05](#): 16-bit constant current (5-100mA) LED driver

[STP16CPS05](#): 16-bit constant current (5-100mA) LED driver with auto power saving

[STP16DP05](#): 16-bit constant current (5-100mA) LED driver with outputs error detection

[STP16DPS05](#): 16-bit constant current (5-100mA) LED driver with outputs error detection and auto power saving

[STP16CPC05](#): 16-bit constant current (5-100mA) LED driver with balanced outputs

[STP16CP05](#): 16-bit constant current (3-40mA) LED driver

[STP16CPS05](#): 16-bit constant current (3-40mA) LED driver with auto power saving

[STP16DP05](#): 16-bit constant current (3-40mA) LED driver with outputs error detection

[STP16DPS05](#): 16-bit constant current (3-40mA) LED driver with outputs error detection and auto power saving

[STP1612PW05](#): 16-channel LED driver with 16-bit PWM, 8-bit gain and full LED error detection

[STP16CPC26](#) *: Low voltage 16-bit constant current LED sink driver

8 Bit:

[STP08CP05](#): 8-bit constant current (5-100mA) LED driver

[STP08DP05](#): 8-bit constant current (5-100mA) LED driver with outputs error detection

[STPIC6C595](#): 8-bit LED Driver with over-voltage protection

[STPIC6D595](#): 8-bit LED Driver

4 bit:

[STP04CM05](#): 4-bit constant current (80-400mA) power LED driver

[STM32 Home page](#)



STMicroelectronics

*coming soon www.emcu.it



LED Drivers (2/2)

LED Display Driver

[STLED316S](#): 6-digit LED controller with key scan

VFD Display Driver

[STFPC311](#): VFD controller/Driver, 12 seg/16 Dig to 20 Seg/8 Dig, SPI protocol

[STFPC320](#): VFD controller/Driver, 12 seg/16 Dig to 20 Seg/8 Dig, I2C protocol

[STM86312](#): VFD controller/Driver, 11 Seg/11 Dig to 16 seg/4 Dig, SPI protocol



STM32 Home page



STMicroelectronics

www.emcu.it

SILICA
An Avnet Company



Protection Devices

EMI Filtering & Signal Conditioning

[USBLC6-2](#): Very low capacitance ESD protection for USB2.0.

[USBUF01P6](#): EMI filter and line termination for USB upstream ports (low and full speed)

[ECMF02-2AMX6](#) : Common Filter with integrated protection for USB ports (High speed)

[EMIF04/06/08-1502Mx](#) : 4, 6 or 8 line filter array for Display or User interface

[ESDA25B1](#): Transil™ array for bidirectional ESD protection, 25V breakdown, RS232

[ESDA25-4BP6](#): Transil™ array for bidirectional ESD protection, 25V breakdown, RS232

[ESDA14V2BP6](#): Transil™ array for bidirectional ESD protection, 14.2V breakdown, RS485

ESD Suppressor

[ESDA5V3SC](#): Quad Transil™ array for ESD protection, 5.3V breakdown



Memories

I²C

M24xxx: Serial I²C EEPROM, 1Kbit to 1Mbit, 1.7V to 5.5V

SPI

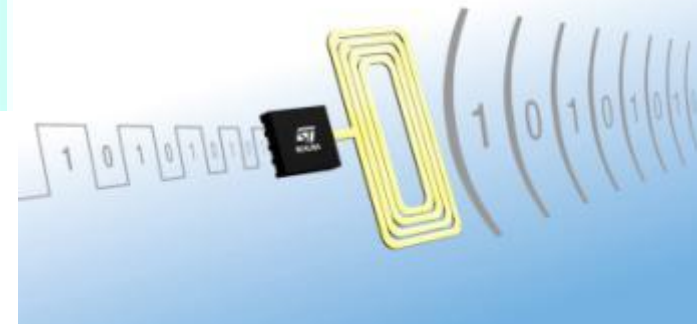
M95xxx: Serial I²C EEPROM, 1Kbit to 1Mbit, 1.8V to 5.5V

Dual Interface EEPROM: 13.56MHz RF and I²C

M24LR64 64 Kbit EEPROM with password protection & dual interface: 400 kHz I²C serial bus & ISO 15693 RF protocol at 13.56 MHz

Dual Interface EEPROM

Two worlds connected



Data Conversion (1/2)

RS232 interfaces @ 3V

The STM32 ARM® Cortex™-M3 handles the RS232 protocol, but it needs an external interface to set the correct signal electrical levels:

[ST3222Exx](#): 2 Drivers & 2 Receivers, ±15KV ESD protection

[ST3232Exx](#): 2 Drivers & 2 Receivers, ±15KV ESD protection

[ST3243Exx](#): 3 Drivers & 5 Receivers, ±15KV ESD protection

RS485 interfaces @ 3V

The STM32 ARM® Cortex™-M3 handles the RS485 protocol, but it needs an external interface to set the signal electrical levels:

[ST3485E](#): 1 Transceiver, ±15KV ESD protection

[ST1480A](#): 1 Transceiver, ±15KV ESD protection

Smart card interface

[ST8004](#): Analog interface for asynchronous 3V and 5V smart cards.

[ST8024](#): Analog interface for asynchronous 3V and 5V smart cards

Camera Module Interface

The STM32 ARM® Cortex™-M3 can be interfaced with serial camera modules by using a deserializer chip:

[STSMIA832](#): 1.8 V / 2.8 V high speed dual differential line receivers, (SMIA) decoder deserializer.

Charger Detection ICs

[STUSBCD01](#): USB charger detection interface, CSP

STM32 Home page



STMicroelectronics

www.emcu.it



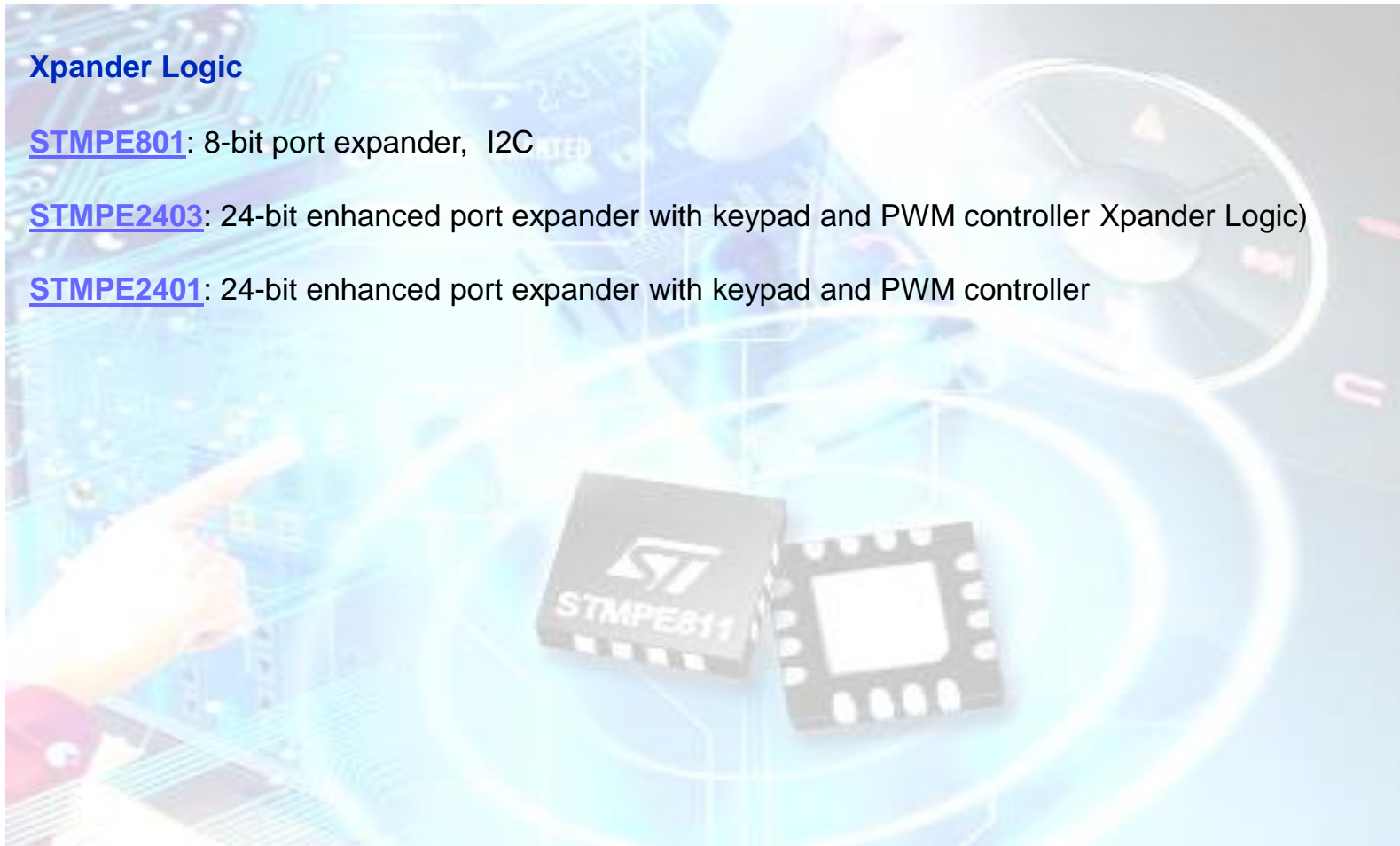
Data Conversion (2/2)

Xpander Logic

[STMPE801](#): 8-bit port expander, I2C

[STMPE2403](#): 24-bit enhanced port expander with keypad and PWM controller Xpander Logic)

[STMPE2401](#): 24-bit enhanced port expander with keypad and PWM controller



STM32 Home page



STMicroelectronics

www.emcu.it

SILICA
An Avnet Company



Amplifiers and Comparators (1/4)

Offering low power consumption, high bandwidth and good accuracy, the [TSV6xx](#) families serve applications such as portable medical equipment, instrumentation, signal-conditioning systems, sensor interfaces, and active filtering.

Operating with same range of power supplies than the STM32, they can easily be used as signal conditioner to drive the ADC of the STM32.

Operational Amplifiers

[TSV611/2](#): Rail-to-rail micro-power op-amps: $10\mu\text{A}$ – 120kHz , $V_{io} = 0.8\text{mV}$ max

[TSV62x](#): Rail-to-rail micro-power op-amps with standby version: $29\mu\text{A}$ – 420kHz , $V_{io} = 0.8\text{mV}$ max

[TSV63x](#): Rail-to-rail micro-power op-amps with standby version: $60\mu\text{A}$ – 880kHz , $V_{io} = 0.8\text{mV}$ max

[TSV629x](#): Rail-to-rail micro-power op-amps with standby version: $29\mu\text{A}$ – 1.3MHz , $G \geq +4$

[TSV639x](#): Rail-to-rail micro-power op-amps with standby version: $60\mu\text{A}$ – 2.4MHz , $G \geq +4$

ST MICROELECTRONICS Micropower Rail to Rail Operational Amplifiers

[STM32 Home page](#)



STMicroelectronics

www.emcu.it

SILICA
An Avnet Company



Amplifiers and Comparators (2/4)

Ultra low power Audio Amplifiers

The STM32 ARM® Cortex™-M3 can be used to generate an audio signal in PWM format, but the device doesn't have the capability to drive directly a speaker (power limitation) or to drive a high performance headset .

- **Headset amplifiers**

[TS488 & TS489](#): 100mW stereo headphone amplifier with active low/high standby mode

[TS4601](#): High performance stereo headphone amplifier with capacitor-less output

[TS4621](#): High performance class G headset amplifier

- **Class AB speaker amplifiers (1.2W capability)**

[TS4990](#): 1.2W mono audio power amplifier with active low standby mode

[TS4994](#): 1.2W stereo audio power amplifier with differential inputs and with dedicated standby pin

- **Class D speakers amplifiers (3W capability)**

[TS4962M](#): 3W filter-free class D audio power amplifier

[TS2007](#): 3W filter-free Class D audio power amplifier with 6-12dB fixed gain select Microphone preamplifier

[TS2012](#): 3W stereo filter-free class D audio power amplifier

[TS4999](#): 3W stereo filter-free class D audio power amplifier with 3D effect

- **Other audio devices**

[TS472](#): Very low noise microphone preamplifier, 2V biased output, active low standby mode

[TS4657](#): Stereo audio line driver with integrated DACs

[STM32 Home page](#)



STMicroelectronics

www.emcu.it



Amplifiers and Comparators (3/4)

Mid-High power Audio Amplifiers

[TDA7491LP](#): 5W stereo Filter-free class-D audio power amplifier

[TDA7491P](#): 10W stereo Filter-free class-D audio power amplifier

[TDA7491HV](#): 20W stereo Filter-lite class-D audio power amplifier

[TDA7492P](#): 25W stereo High-efficiency class-D audio power amplifier

[STA559BW](#): 10W 2.0/2.1ch High-efficiency Sound Terminal with DRC/Limiter & Equalizer

[STA333W](#): 20W stereo High-efficiency Sound Terminal with Volume Ctrl & Post Scaler.

[STA369BWS](#): 20W 2.0/2.1ch High-efficiency Sound Terminal with MDRC/Limiter, PEQ & SpeakerSafe

[STA350BW*](#): 50W as Music power - 2.0/2.1ch High-efficiency Sound Terminal with Limiter, PEQ & SpeakerSafe



*coming soon



STMicroelectronics

www.emcu.it



Amplifiers and Comparators (4/4)

Comparators

[TS7211](#): Single BiCMOS rail-to-rail micro-power comparator, push-pull output

[TS7221](#): Single BiCMOS rail-to-rail micro-power comparator, open drain output

[TS86x](#): rail to rail micro-power BiCMOS comparators family (single, dual & quad), push-pull output

[TS3021/2](#): Rail-to-rail 1.8V high-speed comparators (single dual), push-pull output

[TS331](#): Single rail-to-rail 1.6V micro-power comparator available in SC70-5 micro-package, open drain output



Sensors & MEMS (1/5)

Capacitive Touch Sensor

[STMPE821](#): 8 channel cap-sensing, I2C

[STMPE1208](#): 12 cap-sensing channel + 12 GPIO, I2C

[STMPE16/24M31](#): 16/24 High Sensitivity cap-sensing channel +16 PWM + 16 GPIO

[STM8-TOUCH-LIB](#): STMTouch - Touch Sensing Firmware library for STM8 Standard MCUs

[STM8T141](#): Proximity or single Key Touch Controller

[STM8T143*](#): Single channel proximity sensor

Resistive and Touch Screen Controller

[STMPE811](#): resistive touch screen controller with 8-bit port expander, 12bit ADC, I2C

Capacitive and Touch Screen Controller

[STMT05](#): S-Touch™ FingerTip Multi-touch capacitive touchscreen controller

* Product under development. Contact division.



STMicroelectronics

www.emcu.it

STM32 Home page



Sensors & MEMS (2/5)

Temperature sensor

The STM32 ARM® Cortex™-M3 has an internal temperature sensor, which generate a voltage proportional to the variation in temperature. The conversion range is between $2\text{ V} < V_{DDA} < 3.6\text{ V}$. The temperature sensor is internally connected to the ADC_IN16 input channel, which is used to convert the sensor output voltage into a digital value. However, in all those applications where the temperature sensor has to be remotely placed or tighter accuracy is required a stand-alone sensor must be used.

STCN75: Digital temperature sensor, thermal watchdog, I2C/SMBus, 0.5C accuracy @ 25C, Shut-down mode

STDS75: Digital temperature sensor, thermal watchdog, I2C/SMBus, 0.5C accuracy @ 25C, Shut-down mode

STLM20: Precision analog temperature sensor, ultra small and low power

STLM75: Digital temperature sensor, thermal watchdog, I2C/SMBus, 0.5C accuracy @ 25C, Shut-down mode

STTS75: Digital temperature sensor, thermal watchdog, I2C/SMBus, 0.5C accuracy @ 25C, SMBus Time-out, One-Shot power saving mode

STTS751: 2.25V low-voltage local digital temperature sensors

Current Sensing Amplifiers

TSC101: High side current sensing amplifier

TSC102: High side current sensing amplifier + signal conditioning amplifier

Pressure sensors

LPS001WM: MEMS pressure sensor:300 - 1100 mbar absolute digital output barometer

STM32 Home page



STMicroelectronics

www.emcu.it



Sensors & MEMS (3/5)

Accelerometers

Digital:

LIS302DL: 3-axis accelerometer, 2g/ 8g, 8-bit resolution, I²C/SPI digital output interface (LGA 3x5x0.9)

LIS331DL: 3-axis accelerometer, 2g/ 8g, 8-bit resolution, I²C/SPI digital output interface (LGA 3x3x0.9)

LIS3LV02DL: 3-axis accelerometer, 2g/ 6g, 12-bit resolution, I²C/SPI digital output interface (LGA 7.5x4.4x0.9)

LIS331DLH: 3-axis accelerometer, 2/4/8g, 12-bit resolution, low power, I²C/SPI digital output interface (LGA 3x3x0.9)

LIS3DH: ultra low-power high performance three axes linear accelerometer, 2g/ 4g/ 8g/ 16g, digital output interface (LGA 3x3x0.9)

Analog:

LIS344ALH: 3-axis accelerometer, 2g/ 6g, analog output, high resolution (LGA 4x4x1.5)

LIS332AR: 3 axis accelerometer 2g, analog output, ultra stability over temperature (LGA 3x3x0.9)

LIS352AR: 3 axis accelerometer 2g, analog output, ultra stability over temperature (LGA 3x5x0.9)

LIS332AX: 3 axis accelerometer 2g, absolute analog output, ultra stability over temperature (LGA 3x3x0.9)

LIS352AX: 3 axis accelerometer 2g, absolute analog output, ultra stability over temperature (LGA 3x5x0.9)



Sensors & MEMS (4/5)



Gyroscope Analog

LPR410AL : two axis pitch and roll rate analog gyroscope 100 dps (LGA-28 4x5x1 mm)

LPR4xxAL: two axis pitch and roll rate analog gyroscope (LGA-28 4x5x1 mm)

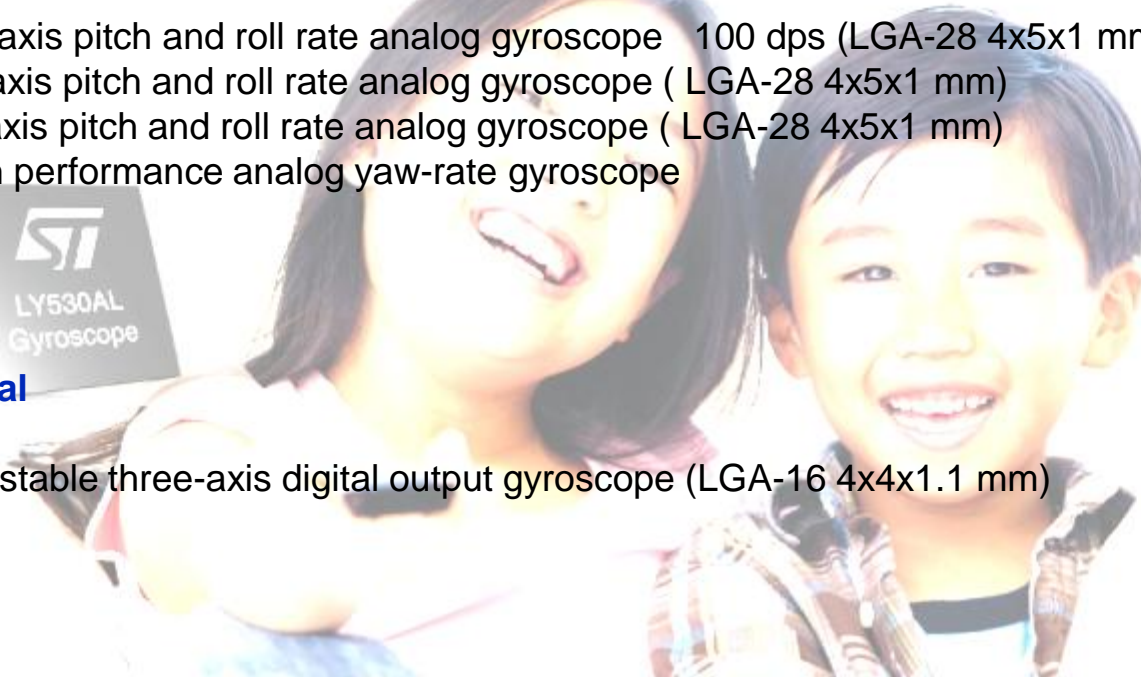
LPY4xxAI: two axis pitch and roll rate analog gyroscope (LGA-28 4x5x1 mm)

LY3xxxALH: high performance analog yaw-rate gyroscope



Gyroscope Digital

L3G4200D: ultra-stable three-axis digital output gyroscope (LGA-16 4x4x1.1 mm)



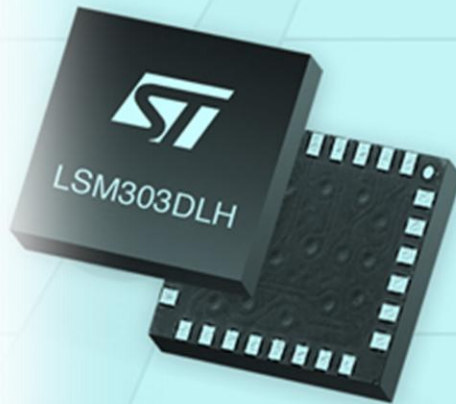
Sensors & MEMS (4/4)

[LSM303DLH](#): 3-Axis Accelerometer and 3-Axis Magnetometer (E-Compass)

[MP45DT01](#): Top Port Digital Microphone

[MP45DT02](#): Top Port Digital Microphone

[MP34DB01](#): Bottom Port Digital Microphone



STMicroelectronics

www.emcu.it

STM32 Home page
SILICA
An Avnet Company



Digital Circuit

The STM32 ARM® Cortex™-M3 logic inputs are 5 volt tolerant, so a level translator is not needed for a 5V input signal. Due to the input thresholds, a level translator is necessary with a 1.8V input signal. The outputs of the STM32 can be configured as open drain and, depending on the reference voltage of the external pull-up, it is possible to create a level translator, but the output current capability is low. Using a level translator increases the current capability.

Level Translators

- 1.8V to 5.0V

[ST2129](#) : 2-bits, dual supply, auto directional, tri-state, 84 Mbps

[ST2149](#) : 4-bits, dual supply, auto directional, tri-state, 84 Mbps

[ST2378E](#): 8-bits, dual supply, auto directional, tri-state, 13 Mbps, 15kV ESD protection

- 1.5V to 3.3V

[ST1G3234](#): 1-bit, dual supply, uni directional, 380Mbps, Flip Chip

[ST2G3236](#): 2-bits, dual supply, bi directional, 380Mbps, tri-state

[ST4G3234](#): 4-bits, dual supply, uni directional, 380Mbps, Flip Chip

- Application specific

[ST2329](#): I2C, 2-bits, 1.8V to 5V, auto directional, tri-state

[ST2349](#): UART, 4-bits, 1.8V to 5V, auto directional,

[ST6G3244*](#): SD3.0, 6-bits, 1.8V to 5.0V, 100Mbps, EMI filtering, Integrated LDO 1.8V/2.9V, 15kV ESD protection

[ST16C32245](#): camera, 14+2 bits (data+I2C), 1.8V to 3.3V

Single gates

[74V1Gxx](#)

* Product under development. Contact Division

[STM32 Home page](#)



STMicroelectronics

www.emcu.it



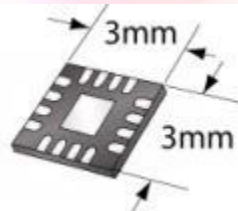
Timing

RTC

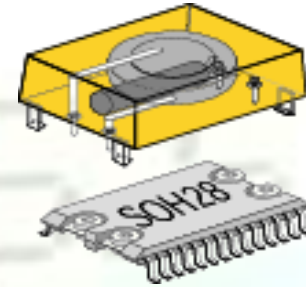
The STM32 ARM Cortex has an embedded timer to make a Real Time Clock. A stand-alone RTC embeds the following key features:

- ✓ Time data available in BCD format
- ✓ 32kHz output (a Bluetooth module can be driven)
- ✓ Back-up voltage down to 1V for supercap back-up
- ✓ Max. Operating Voltage up to 4.4V or 5.5V (can be directly connected to a rechargeable lithium ion battery)
- ✓ Very low power consumption down to 350nA (ideal for portable applications)
- ✓ Analog Calibration guarantying down to ± 5 ppm after 2 reflows (performed at ST fab for snapat RTC versions)
- ✓ 100th and 10th of seconds time granularity
- ✓ Allows 12.5pF load crystal capacitance (a standard value and the cheapest in the market)
- ✓ Alarm generation capability available in back-up mode on dedicated output
- ✓ Many package options (with and without embedded crystal and battery)

[M41T00S](#), [M41T81S](#), [M41T6x](#), [M41T83/93](#), [M41ST87](#), [M41ST84/85/95](#)



SOX18



Application Specific for Motor control

Motion Control is a key function in a broad range of systems. ST's global system solution approach greatly simplifies the design of flexible motor controllers. Ideal for driving Brush DC , Bipolar Stepper and permanent magnet three phase brushless motors, ST's motor control solutions offer an open, scalable and integrated answer to the market's most demanding motion control performances.

[L6208/28](#): DMOS driver for bipolar stepper motor

[L6206/26](#): DMOS dual full bridge driver

[L6235/29](#): DMOS driver for three-phase brushless dc moto

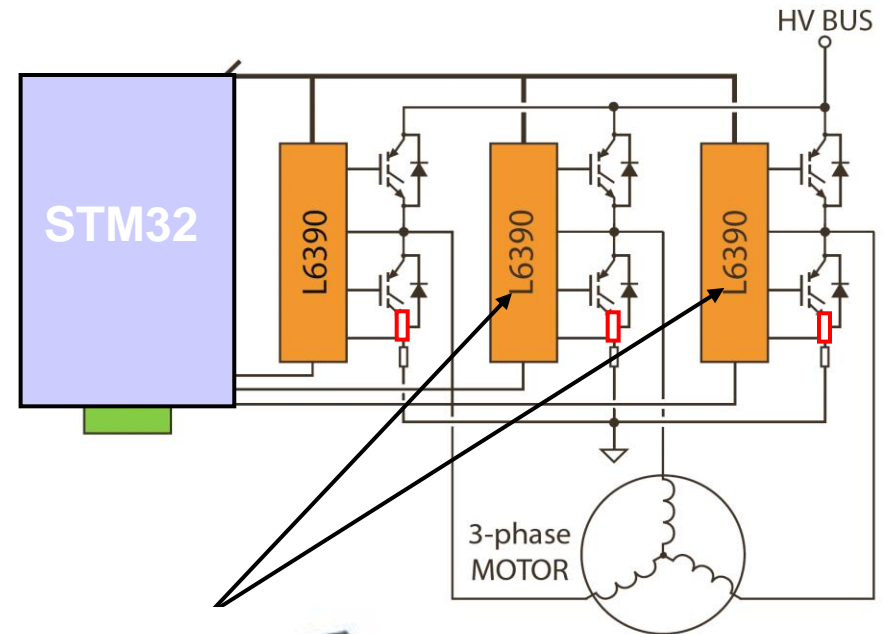
[L6230](#): FOC optimized BLDC motor driver

[L638x/L639x](#): HV half-bridge drivers IGBTs/ Power MOSFET

[T1235H](#) : High Tj TRIAC for universal motor control

[T1010H](#): sensitive High Tj for small appliances

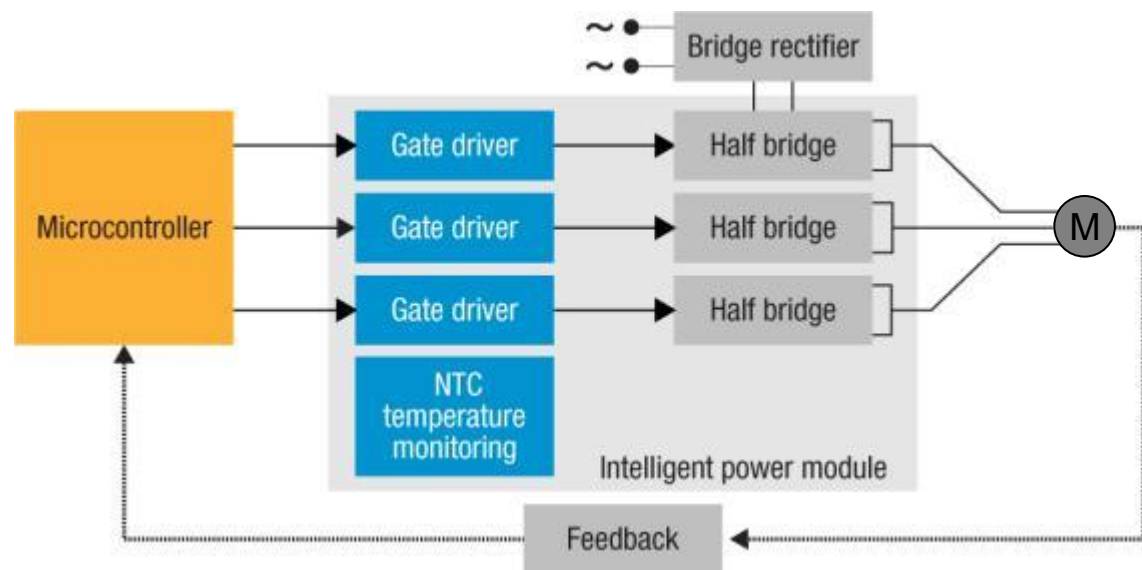
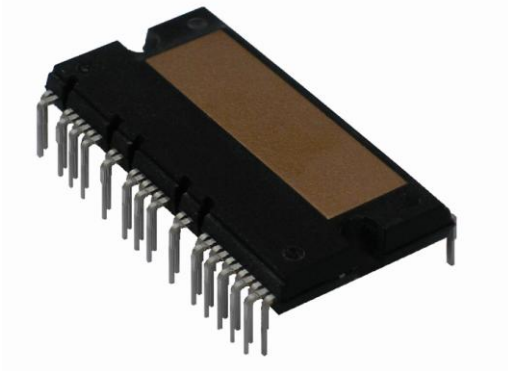
[STCC08](#): TRIAC driver and monitoring for major applianc



SLIMM™, small low-loss intelligent molded module (2/2)

Features

- IPM, 3-phase IGBT inverter bridge including control ICs for gate driving and freewheeling diodes
- Short-circuit rugged IGBTs
- VCE(sat) negative temperature coefficient
- 3.3 V, 5 V, 15 V CMOS/TTL inputs comparators with hysteresis and pull down/pull up resistors
- Undervoltage lockout
- Internal bootstrap diode
- Interlocking function
- Smart shutdown function
- Comparator for fault protection against overtemperature and overcurrent
- Op-amps for advanced current sensing
- DBC substrate leading to low thermal resistance
- Isolation rating of 2500 Vrms/min
- 5 kΩ NTC for temperature control



SLLIMM™, small low-loss intelligent molded module (1/2)

These intelligent power modules provide a compact, high performance AC motor drive for a simple and rugged design. Combining ST proprietary control ICs with the most advanced short-circuit-rugged IGBT system technology, these smart devices are ideal for 3-phase inverters in applications such as home appliances and air conditioners.

SLLIMM Series:

[STGIPS10K60A](#) / [STGIPS10K60T*](#): 10A, 600V, 25 leads

[STGIPS14K60](#) / [STGIPS14K60T*](#) : 14A, 600V, 25 leads

[STGIPL14K60](#): 15A, 600V, 38 leads (full features)

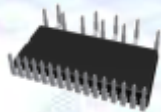
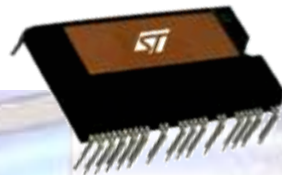
[STGIPS20K60](#): 18A, 600V, 25 leads

[STGIPL20K60*](#): 20A, 600V, 38 leads (full features)

SLLIMM-nano Series:

[STGIPN3H60A*](#) / [STGIPN3H60*](#): 3A, 600V, 26 leads

*coming soon



Connectivity

Power Line Modem

ST7540 : FSK stripped down power line transceiver

ST7538Q: Half Duplex synchronous/asynchronous FSK Modem

StarGRID

ST7570: S-FSK Power Line Networking System On Chip

ST7580: FSK, N-PSK Multi-Mode Power Line Networking System On Chip

ST7590: Narrowband OFDM Power Line Networking PRIME compliant System On Chip

Power Metering

STPMxx: Metering ASSP

Ethernet PHY

ST802RT1A/B : 10/100 real-time Ethernet 3.3 V transceiver



**Per maggiori informazioni tecniche
contatte:**

Enrico Marinoni

enrico.marinoni@silica.com

per i componenti digitali

Simone Franceschin

simone.franceschin@silica.com

per i componenti analogici

