

STM32 companion products

H1 - 2013





• STM32 Platform



• MEMS and Sensors

- Enviromental Sensors
- Motion MEMS
- Microphone
- Touch Screen Controller



• Signal Conditioning

- Operational amplifier & Comparators
- Current Sensing



• Data Converters

- Voltage References
- Metering ICs



• Power Discretes and Modules

- SCR's, Triacs and AC Switches
- Power Transistors
- IGBT Intelligent modules (SLLIMM)
- Rectifiers
- Protection
- IPAD™ : EMI filters & RF-IPD



• Power Management

- Motor Driver ICs
- DC-DC Conversion ICs
- Linear Voltage Regulators
- Battery management
- Gate Drivers
- LED Driver Ics
- OLED Power Supply ICs
- Intelligent Power Switches
- E-fuses



• Connectivity

- Power Line Communication
- Sub 1-GHz RF Transceiver
- NFC ICs



• Clock and Timing

- Serial Real time clock ICs



• Memories

- Dual Interface EEPROM
- EEPROM



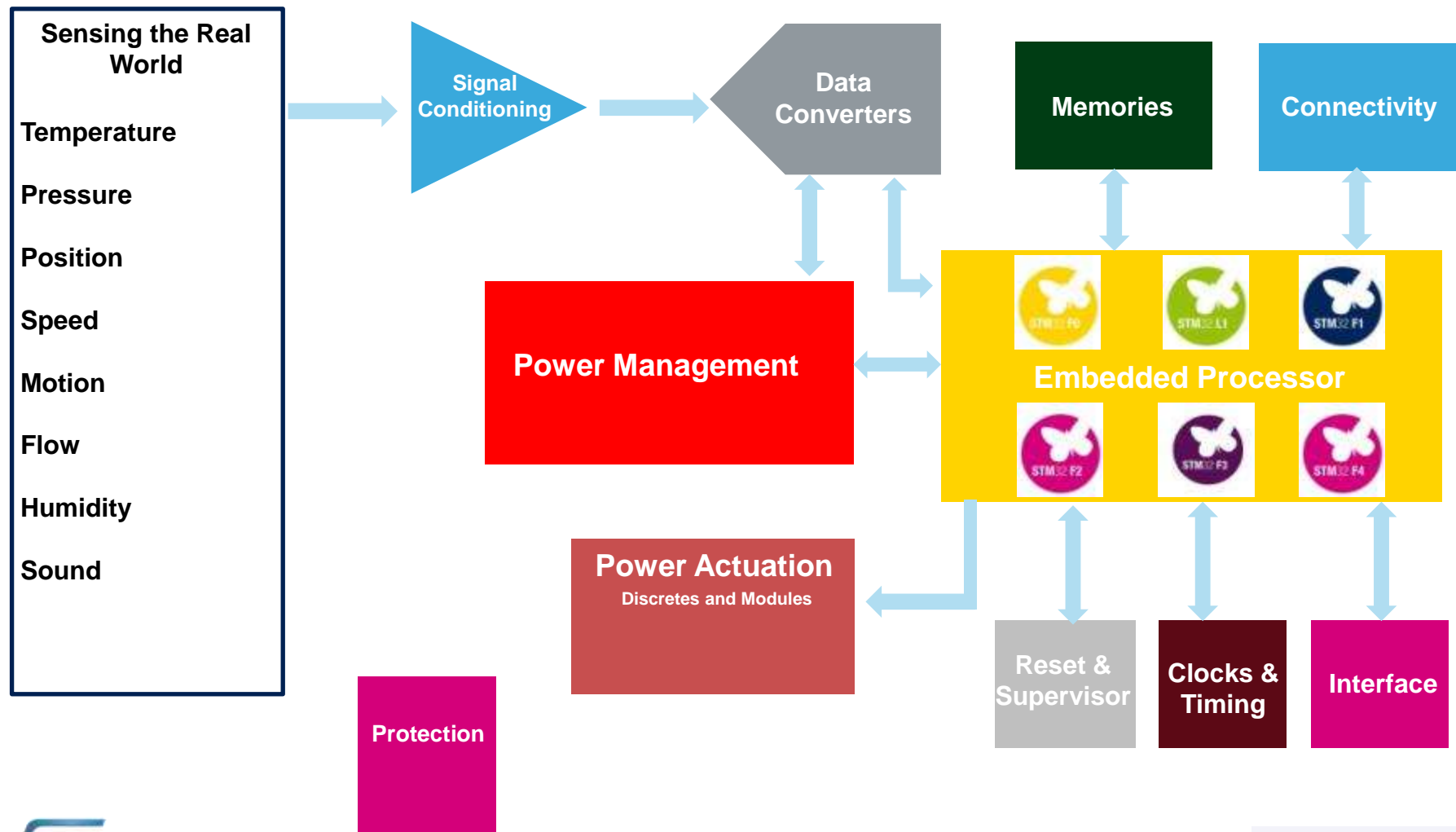
• Interfaces

- Level Translators



• Reset and Supervisors






STM32 companion products



The STM32 family of 32-bit Flash microcontrollers based on the ARM Cortex™-M processor is designed to offer new degrees of freedom to MCU users. By bringing a complete 32-bit product range that combines high-performance, real-time, low-power and low-voltage operation, while maintaining full integration and ease of development, the STM32 family helps you create new applications and design in the innovations you have long been dreaming about.

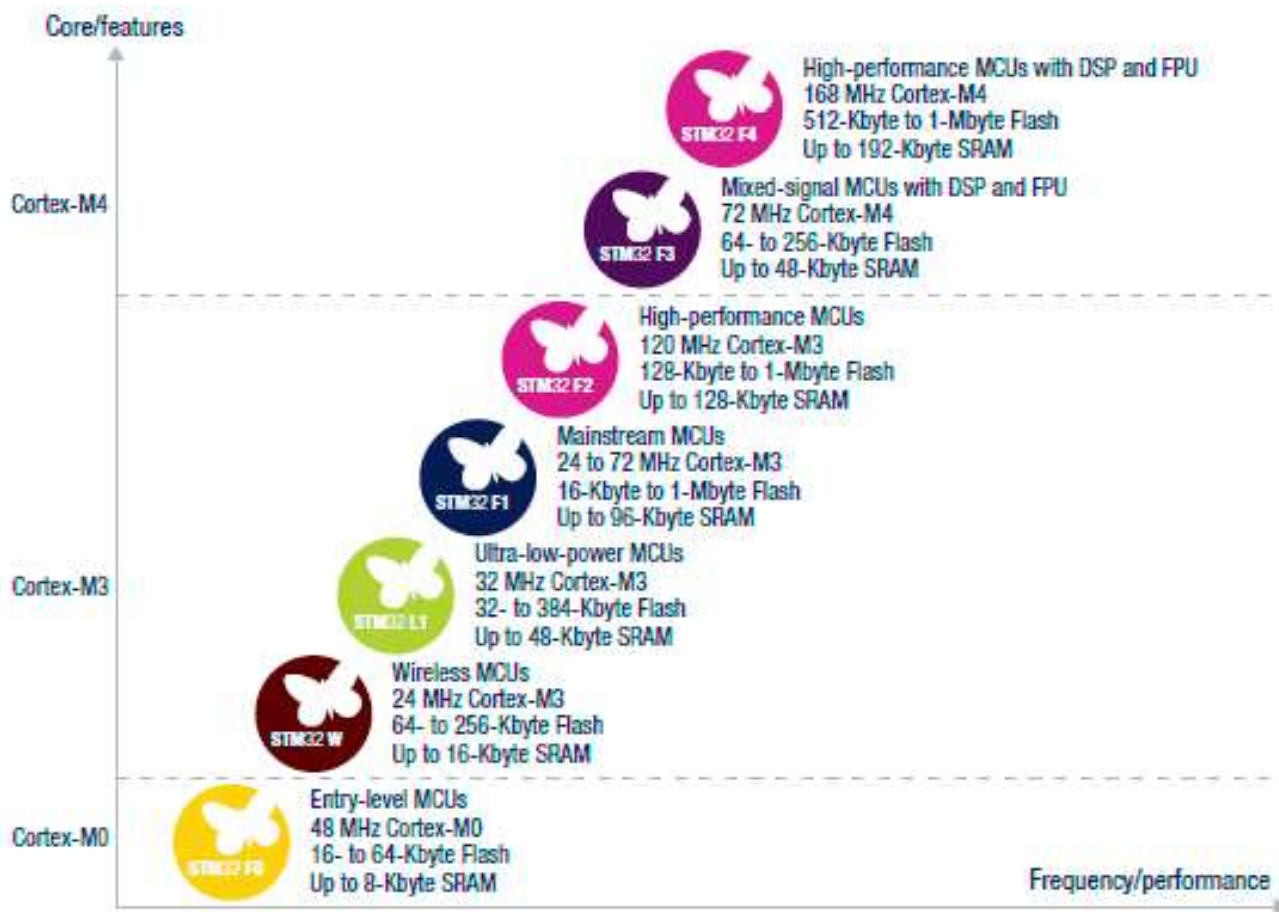
FIVE REASONS TO CHOSE THE STM32 PLATFORM

More than 350 compatible devices

Real-time performance Cortex <small>Intelligent Processors by ARM</small>	Outstanding power efficiency	Superior and innovative peripherals	Maximum integration	Extensive ecosystem
 ART Accelerator, CCM-SRAM, Multi-AHB bus matrix, Excellent real-time up to 168 MHz/210 DMIPS zero-wait state execution performance from Flash	 < 1 μ A RTC in V_{BAT} mode, ultra-low dynamic power consumption 188 μ A/MHz 1.65 to 3.6 V V_{DD} , 0.45 μ A Stop mode and 0.3 μ A Standby mode	 USB-OTG High Speed, camera interface, Ethernet, CAN, crypto/hash processor, PGA, sigma-delta 16-bit ADC and 12-bit ADC (up to 5 MSPS), external memory interface, CEC	 Reset circuitry, voltage regulator, internal RC oscillator, PLL	 ARM + ST ecosystem (eval boards, discovery kits, software libraries, RTOS)



With the STM32, ST offers a comprehensive portfolio of advanced MCUs that we are committed to extending in capability, competitive pricing and features to cover the needs of developers.



Pressure Sensor LPS331AP



- Innovative MEMS technology
- Extremely high resolution measurements of pressure

Humidity Sensor HT221



- Digital out (I2C)
- Embedded temperature sensor
- Accuracy +/-3%RH (between 20-80 %RH)

Temperature Sensor STTS751 / STLM20



- Analog and digital output
- Low power consumption
- Good linearity
- Temperature range -55 to 125 °C up to 12-bit resolution (digital)



Accelerometers

- Detect Acceleration
- Free Fall Condition
- Direction Detection
- Spatial Orientation
- Step Counter
- Gesture Recognition
- Smart Motion Detection

Key Products

- LIS3DH
- LIS3DSH



Gyroscopes

- Angular rate detection
- Advance and smart motion detection

Key Products

- L3GD20
- L3G4IS



eCompass (Magnetometer + Accelerometer)

- Pointing Device
- Positioning
- Absolute Heading
- Maps Orientation

Key Products

- LSM303D



iNEMO Inertial modules (Gyro + Acce)

- Complex Gesture Recognition
- Smart Pointers
- Motion Recognition

Key Products

- LSM330DLC
- LSM330DLC
- LSM330D

Sensor Fusion Software



New

**Sound
Terminal
Digital Audio
Subsystems**

- **STA333IS** : 10W 2.0 ch High-efficiency in CSP5x6 array
- **STA559BW** : 10W 2.0/2.1 ch High-efficiency with DRC/Limiter & Equalizer
- **STA369BWS** : 20W 2.0/2.1 ch High-efficiency with MDRC/Limiter , PEQ & Post Scaler
- **STA350BW** : 50W 2.0/2.1 ch High-efficiency with Limiter,PEQ & Speaker Safe
- **STA369BW**: 2.1ch High-efficiency digital audio system
- **STA380BW**: 2.1ch High-efficiency audio system. VQFN48 package
- **STA381BW** : 20W(30V_{ABS}) -2.0/ 2.1ch High-efficiency with Limiter,Headphone out, aux F3X analog output for external drive. ST Speaker Safe protection circuitry .VQFN48 package

**Analog
Audio
Amplifiers**Low Power:

- **STA529**: Low Power 2x100mW class-D ampl. with analog or digital input ,5x5mm in TFBGA
- **TS4962**: Differential class-D BTL power amplifier
- **TS2012**: Stereo fully differential class D power amplifier
- **TDA7493**: Dual BTL class-D amplifier 2x3W

Mid-High Power

- **TDA7491LP** : 5W Stereo Filter-free class-D audio power amplifier
- **TDA7491P**: 10W Stereo Filter-free class-D audio power amplifier
- **TDA7492P**: 25W Stereo High-efficiency class-D audio power amplifier
- **TDA7498E**: 160W Stereo High-efficiency class-D audio power amplifier

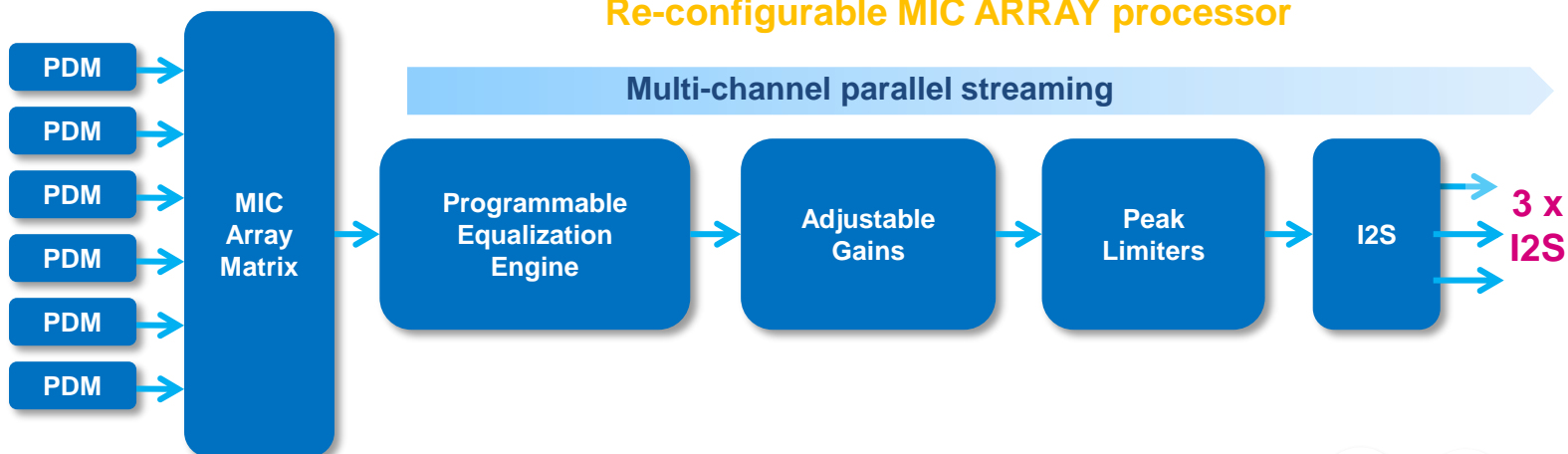


**MEMS
Microphones**

- **MP45DT02** : Top Port Digital Microphone
- **MP34DT01** : Top port Digital Microphone best in class SNR=63dB
- **MP34DB01** : Bottom Port Digital Microphone
- **MP33AB01** : Bottom Port Analog Microphone SNR=63dB
- **MP33AB01H**: Bottom Port Analog Microphone SNR=66dB

**Digital
Microphone
Processor****STA321MP** : Six- input Digital Microphone Processor**Re-configurable MIC ARRAY processor**

Multi-channel parallel streaming



FingerTip touch sensor family of capacitive controllers offers:

- A single-chip for smartphones, display integration (on-cell, in-cell), tablets up to 10 inches
- Unlimited simultaneous touches for a smoother user experience
- Innovative design for best noise immunity, power efficiency and proximity gesture detection.

Comprehensive Feature Set

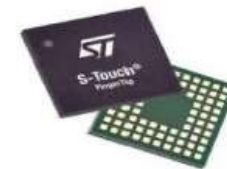
- **STMT05E** Touchscreen controller
 - Supports up to 5" screen
 - On-cell and in-cell
- **STMT07** Touchscreen controller
 - Supports up to 10" screen
 - On-cell and in-cell
- 20mW for 10" screen active scanning
- <1mm Accuracy, >80Hz scan rate

Customer Benefits

- Unprecedented charger noise immunity
- Same firmware for on-cell, in-cell, 3"-10"
- Prolong battery life
- Precise and responsive user interface



QFN44 (5 x 5 mm)



LGA84 (5.5 x 5.5 mm)

ST's op amps enhance the signal chain by being the perfect companion chips for ST's microcontrollers and analog sensors. Using innovative design techniques and close control of key parameters, ST offers many upgraded-performance versions of industry mainstream devices

Op Amps

Nano power	TSU101 600nA 8kHz		
Micro power	TSV61x 10µA 120kHz	TSV52x 45µA 1.15Mhz Hi Performance 5V CMOS op-amp	Low power
	TSV62x 29µA 420kHz		
	TSV63x 60µA 880kHz	TSX56x 280µA 900 khz 16V CMOS Micropower op-amp	
Low power	TSV85x 180µA 1.3MHz	LMV82x 300µA 5.5MHz	
Precision	TSV71x Vio<200µV 10µA 120kHz Micropower 5V CMOS op-amp	TSV73x Vio<200µV 60µA 900kHz Micropower 5V CMOS op-amp	precision
Zero-drift	TSZ121 Vio<20µV 50nV/°C Micropower Zero-drift op-amp		

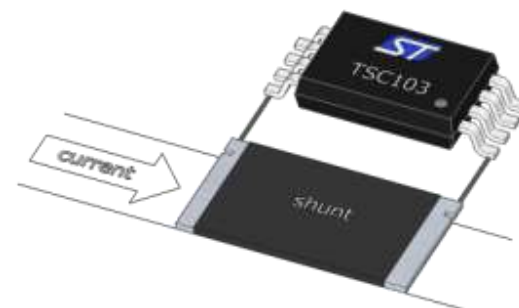
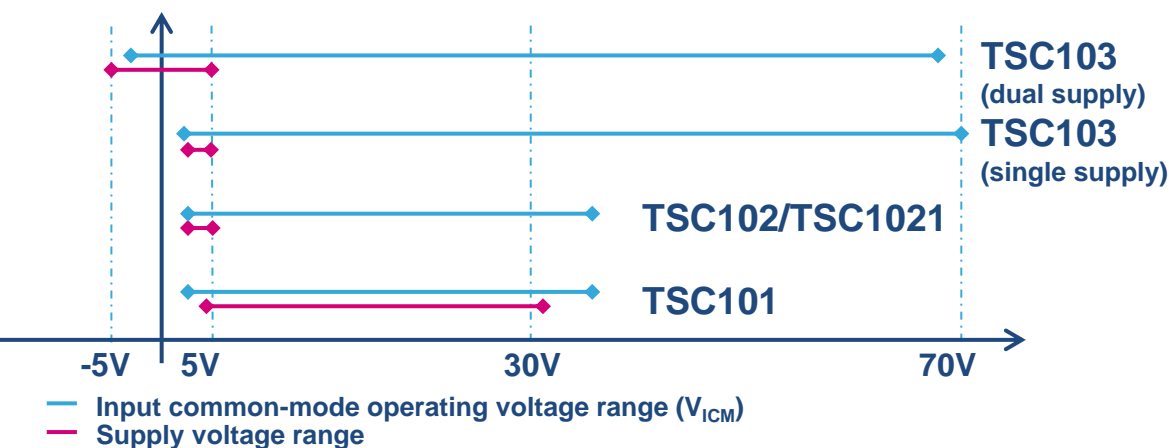
Comparators

Nano power	TS881 200nA 2us		Low power
Micro power	LMV331/393/339 100uA 200ns		
	TS331 /332/334 30uA 200ns		
Fast response time	TS3021 70uA 40ns	TS3011 500uA 8ns	High speed

DFN6 / DFN8 / QFN16
Tiny packages available

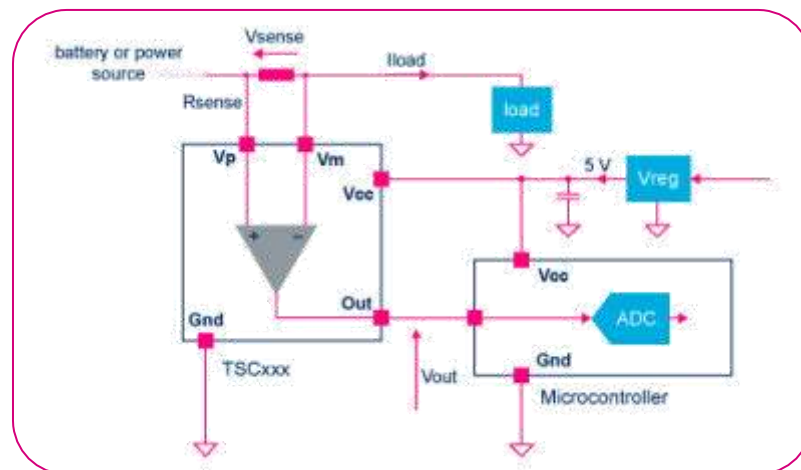


Accurate sensing of currents is central to enhancing application safety. Controlling the current within set boundaries avoids overheating and short-circuits. Current measurement is also an essential part of energy metering

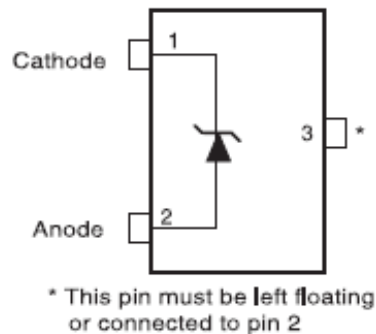


Key features

- Sustain a V_{ICM} far beyond V_{CC} supply rail
- Load Dump protections
- Reversed battery protections

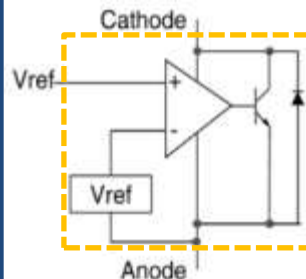


Fixed voltage reference



	<i>precision</i>	<i>I_{kmin}</i>	<i>V_{REF}</i>
TS822	0.5%	40μA	2.5V
TS4040	0.5%	40μA	2.5V
TS824-2.5	0.5%	50μA	2.5V
TS821	0.5%	40μA	1.225V
TS824-1.2	1%	40μA	1.225V
TS4041	0.5%	40μA	1.225V
LM4041	0.1%	40μA	1.225V

ADJ voltage reference



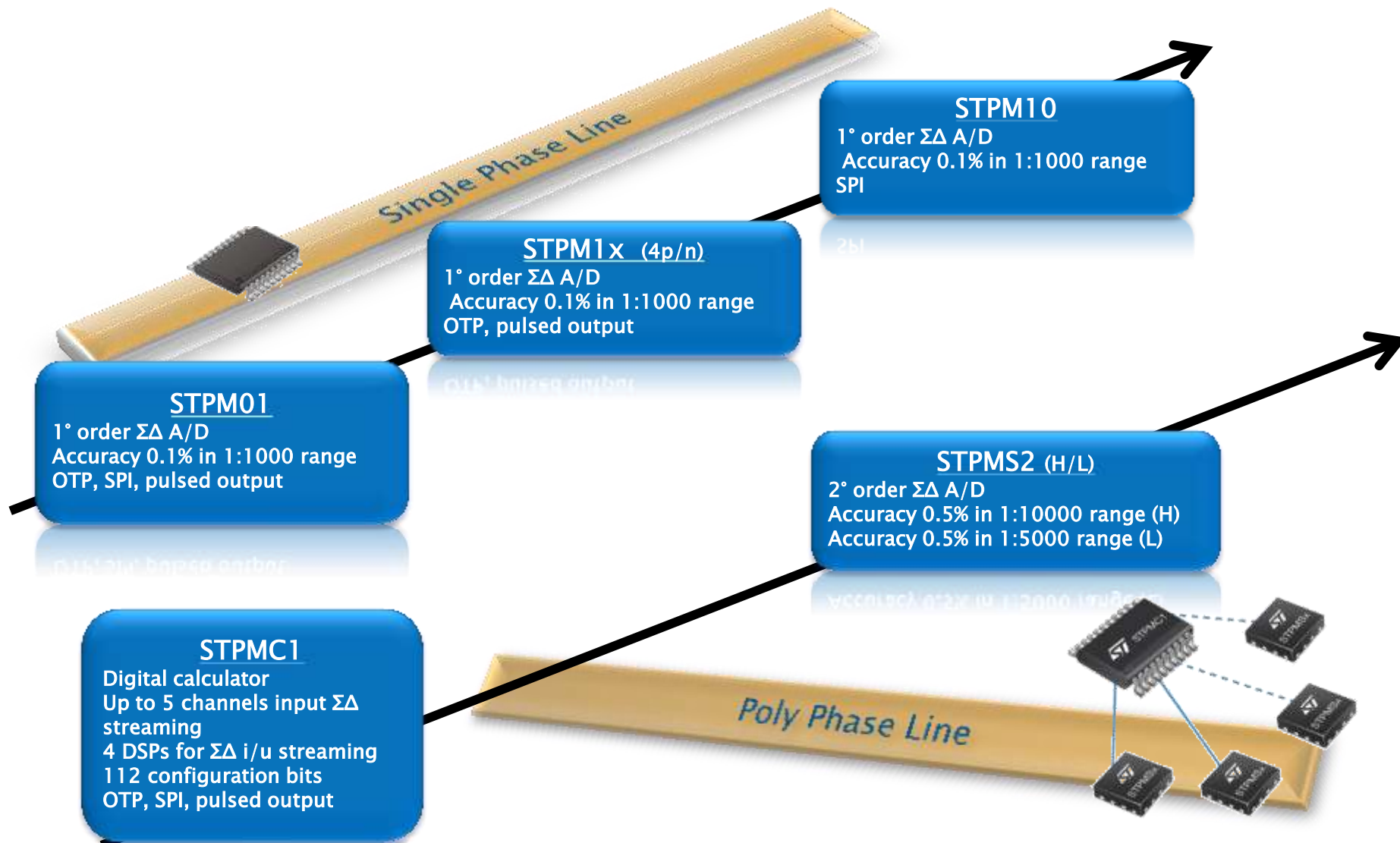
	<i>precision</i>	<i>I_{kmin}</i>	<i>V_{REF}</i> -range
TS432	0.5%	60μA	1.24V-10V
TS4431	0.5%	250μA	1.224V-10V
TS4436	0.5%	150μA	0.6-10V
TS431	0.5%	60μA	1.24V-6V

Low Power ADJ voltage reference

	<i>precision</i>	<i>I_{kmin}</i>	<i>V_{REF}</i> -range
TL431	1%	1mA	2.5V-36V
TL1431	0.25%	1mA	2.5V-24V
TS2431	0.5%	1mA	
TS3431	0.25%	400μA	1.24V-24V
TLVH431	0.25%	80μA	18V

High Power ADJ voltage reference

Key Benefits:an external low power voltage reference can be used to maintain ADC accuracy independent of Vcc variation above all in battery-powered applications



BTA/BTB/T std

(P/N like: BTAx-800BWRG)



- Standard and Snubberless™
- Widest range of product portfolio
- Widespread mass market footprint
- New SMBFlat3Lfamily

0.8 to
40A

T series

(P/N like: TxxyyT-8z)



- Consumer applications oriented
- x2 better immunity at 150°C
- x2 better switch off vs. std triacs
- Voltage extension to 800V / 125°C

4A to
16A

H series

(P/N like: TxxyyH-6z)



- Stringent applications oriented
- Rated 150°C junction temperature
- Twice full commutation at 150°C
- High immunity dV/dt at 150°C

4A to
30A

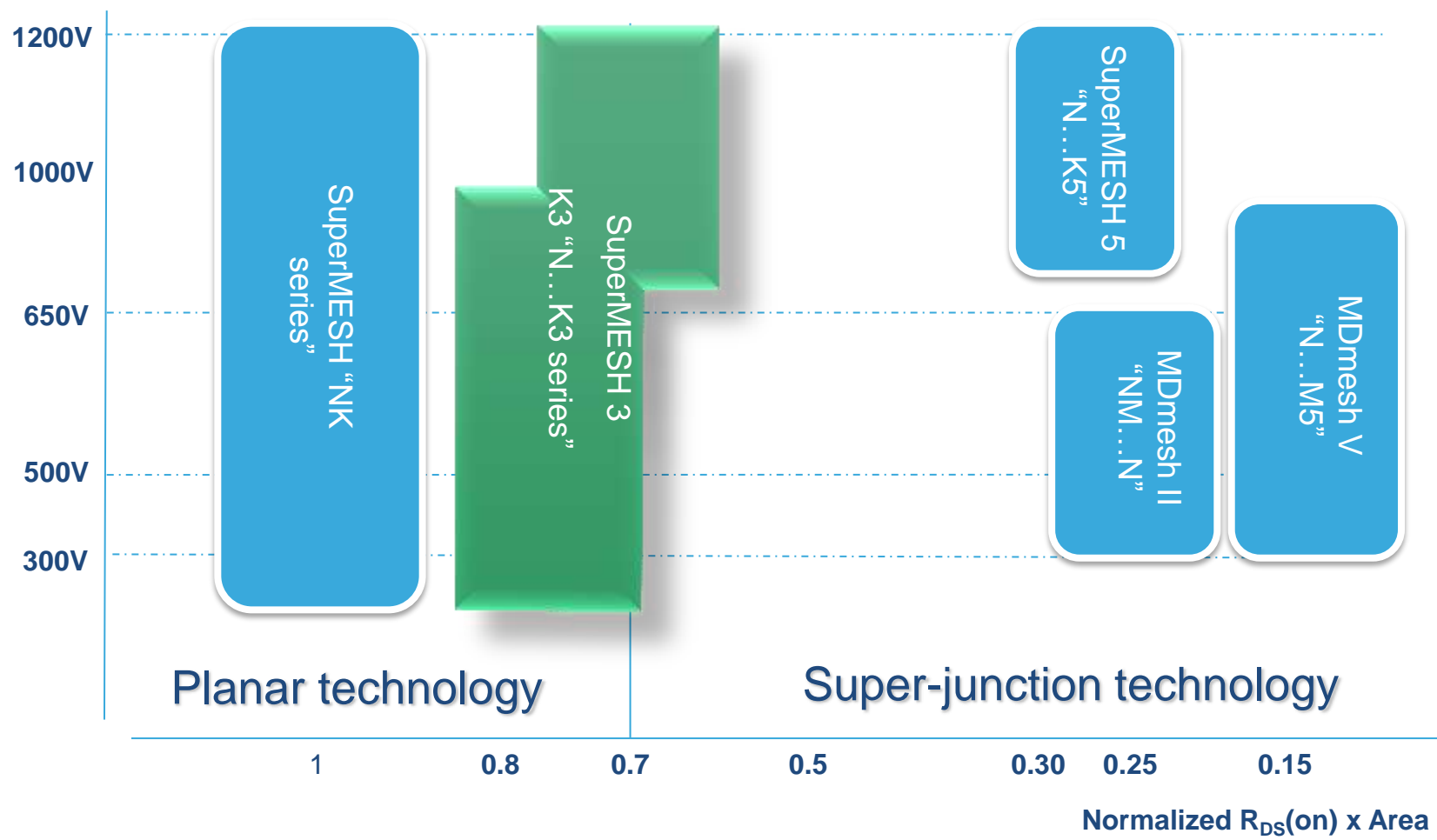
ACS™ & ACST

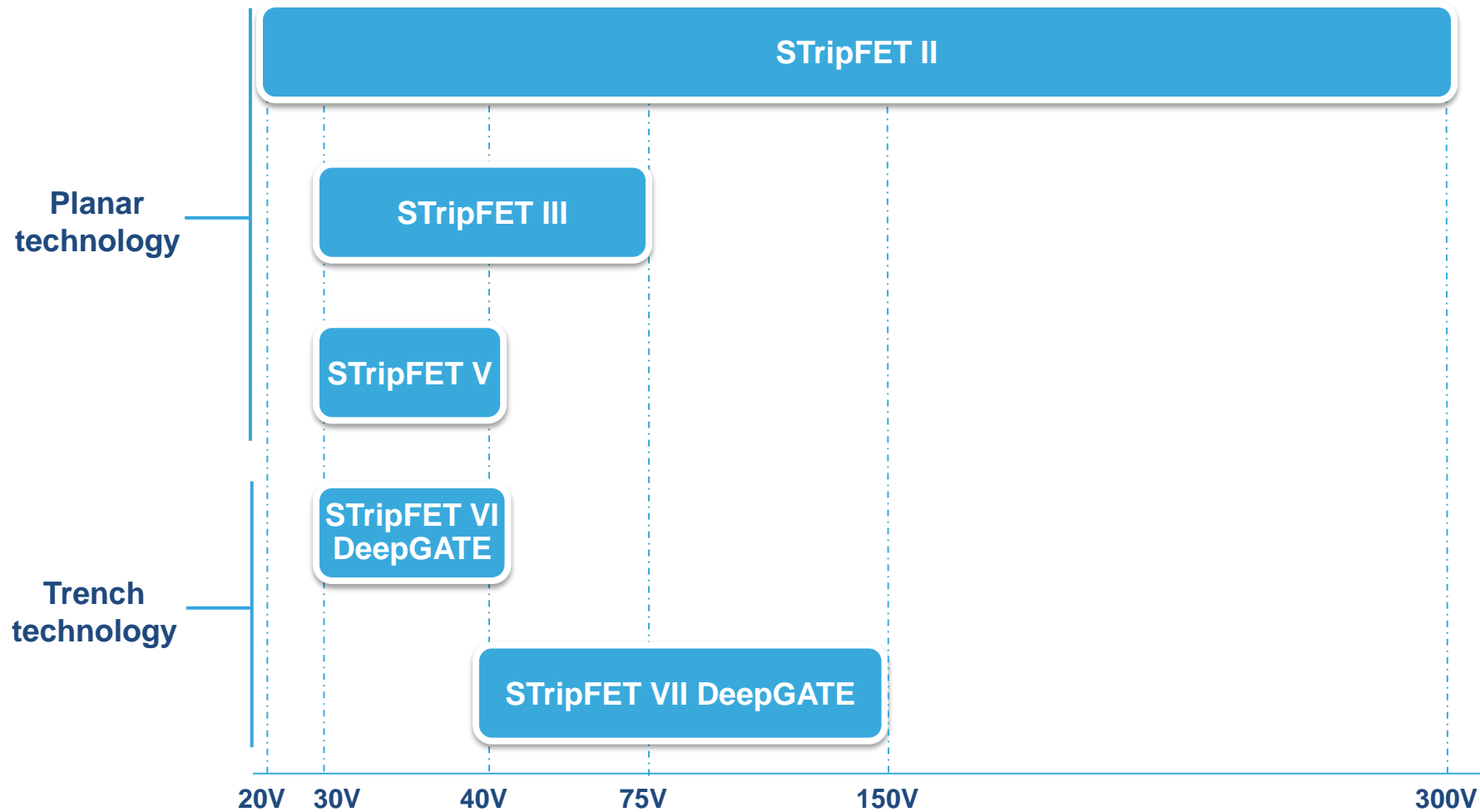
(P/N like: ACS1xx-8z)



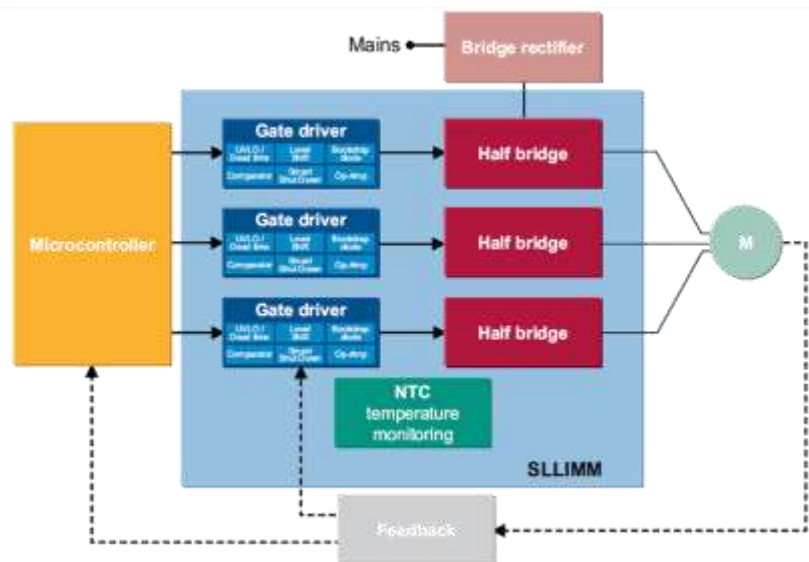
- AC Solid State Switches
- Overvoltage protected & MCU drive
- Available T_j up to 150°C
- High immunity vs IEC61000-4-4, 4-5

0.2A
to 16A

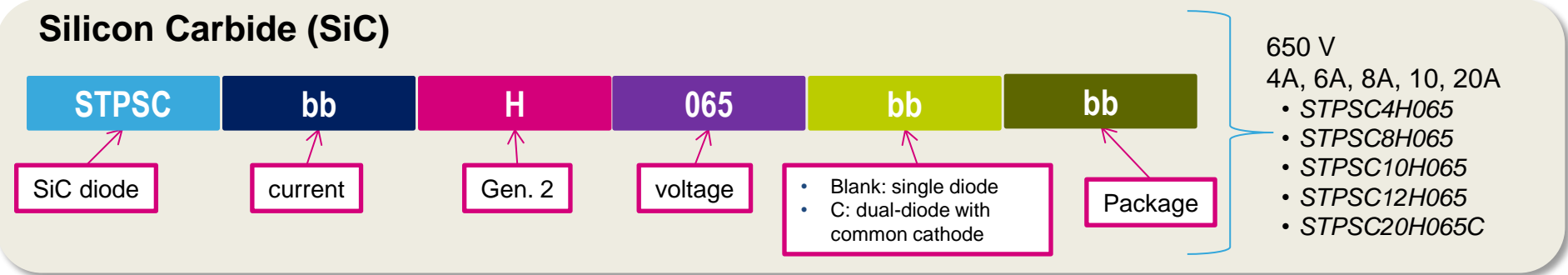
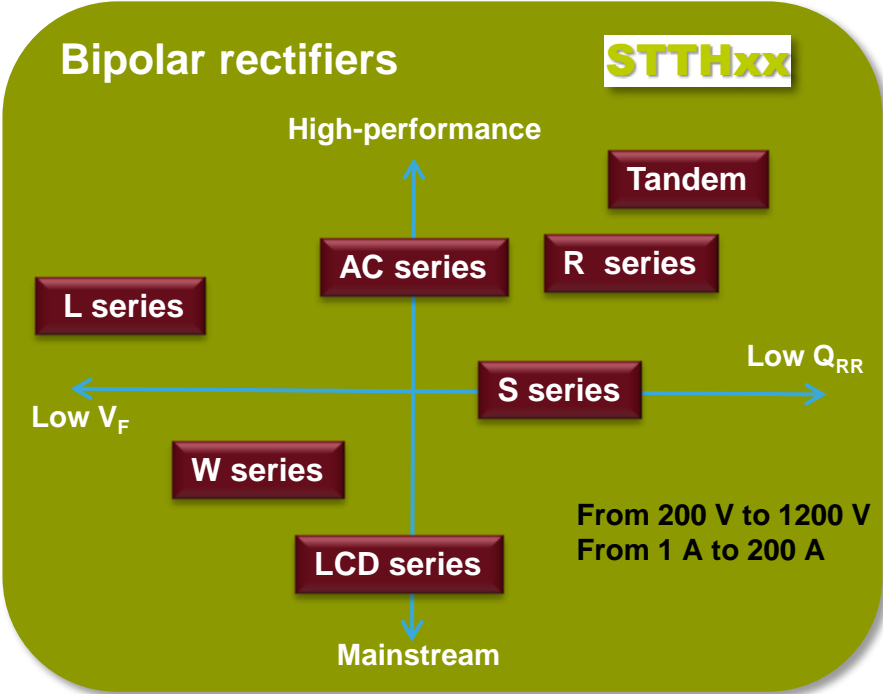
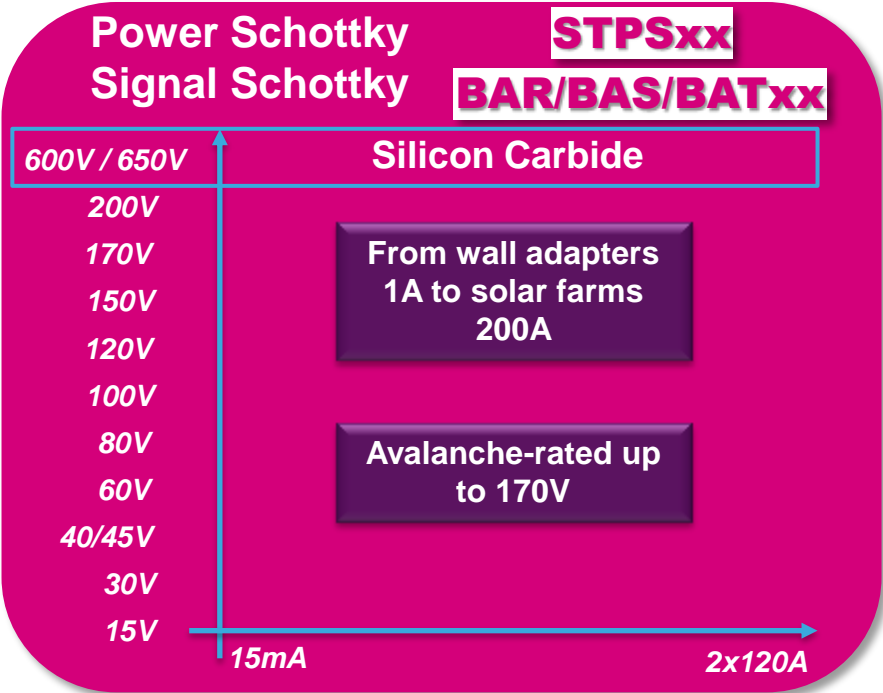




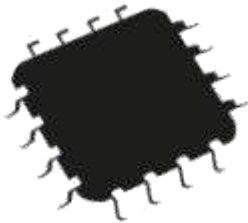
ST's SLLIMM™ small low-loss intelligent molded module family of IPMs combines optimized silicon chips, integrated in three main inverter blocks: Power stage, Driving network, Protection and optional features. They are available in the DBC-based SDIP package offering extremely low thermal resistance with optimum quality level and cost effectiveness or in the full molded 3.5 cm² SLLIMM-nano package (NDIP) which is ideal for small, built-in motor applications up to 100 W in free air.



Part number	Pin count	Package size [mm]	Rated voltage [V]	Rated current [A]
STGIPN3H60A	26	29.5x12.5X3.1	600	3
STGIPN3H60	26	29.5x12.5X3.1	600	3
STGIPS10K60A	25	44.4x22.0x5.4	600	10
STGIPS10K60T	25	44.4x22.0x5.4	600	10
STGIPS14K60T	25	44.4x22.0x5.4	600	14
STGIPS14K60	25	44.4x22.0x5.4	600	14
STGIPL14K60	38	49.6x24.5x5.4	600	15
STGIPS20K60	25	44.4x22.0x5.4	600	18
STGIPL20K60	38	49.6x24.5x5.4	600	20



STM32 interfaces



Power

Single line EOS & ESD protection

ESDA8V2
ESDAxx-1K

Ethernet

4-line High Speed Port protection

HSP061-4M10
HSP061-4NY8

USB

2-line High Speed Port protection

USBLC6-2
USBULC6-2F7/2N4
HSP061-2

CAN

CAN protection

ESDCAN24-2BLY (auto-grade)
ESDA6V1LY (auto-grade)

UART / I2C / SPI

General purpose ESD protection

ESDA5-1BF4
ESDALC5-4BN4
ESDA6V1-5P6/M6/T6

SDIO

Low capacitance ESD protection

ESDALC6V1-1U2
ESDALC5-1BF4
ESDALC6V1-5P6/M6

Platform interfaces



HDMI /Display Port / SATA

High Speed Port protection

HSP061-4M10
HSP061-8M16

Camera & Display

High Speed Port protection

HSP061-2
HSP062-2

FM

Ultra-low capacitance protection

ESDARF01

NFC

NFC tag antenna input protection

USBLC6-2
HSP061-2

Keys

Standard capacitance protection

ESDA5-1BF4
ESDALC6V1M3
ESDA6V1-5P6/M6/T6

Audio

Standard bi-directional capacitance protection

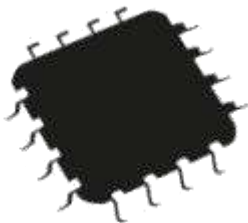
ESDA5-1BF4
ESDAVLC8-1BU2
ESDALC5-4BN4

Battery & Charger

EOS & ESD protection

ESDA8V2-1
ESDAxx-1K
SMM4F

STM32 interfaces



SDIO

ESD protection and EMI filtering for SD interface

EMIF06-mSD02N16
EMIF06-mSD03F3
EMIF06-mSD04F3
and more ...

UART / I2C / SPI

Standard multiline bus EMI filtering

EMIF01-1003M3
EMIF02-1003M6

USB

2-line ESD protection and CMF

ECMF02-4CMX8
ECMF02-2BF3
ECMF02-2AMX6

Ethernet

4-line ESD protection and CMF

ECMF04-4AMX12
ECMF04-4HSM10

Platform interfaces



SIM

ESD protection and EMI filtering
EMIF03-SIM05F3

ZigBee / BT / Wifi

IPD for RF-Front-End
Baluns
Couplers
Diplexers

Audio

Standard bi-directional capacitance protection

EMIF02-SPK03F2
EMIF02-MIC03M6
EMIF04-EAR02M8

Keys

Standard multiline bus EMI filtering

EMIF06-1005N12
EMIF08-1005T16

Camera & Display

ESD protection and LC filter / CMF

EMIF08-LCD04M16
EMIF10-LCD03F3
ECMF02-2BF3

HDMI

ESD protection and signal conditioning

HDMI2C1-14HD

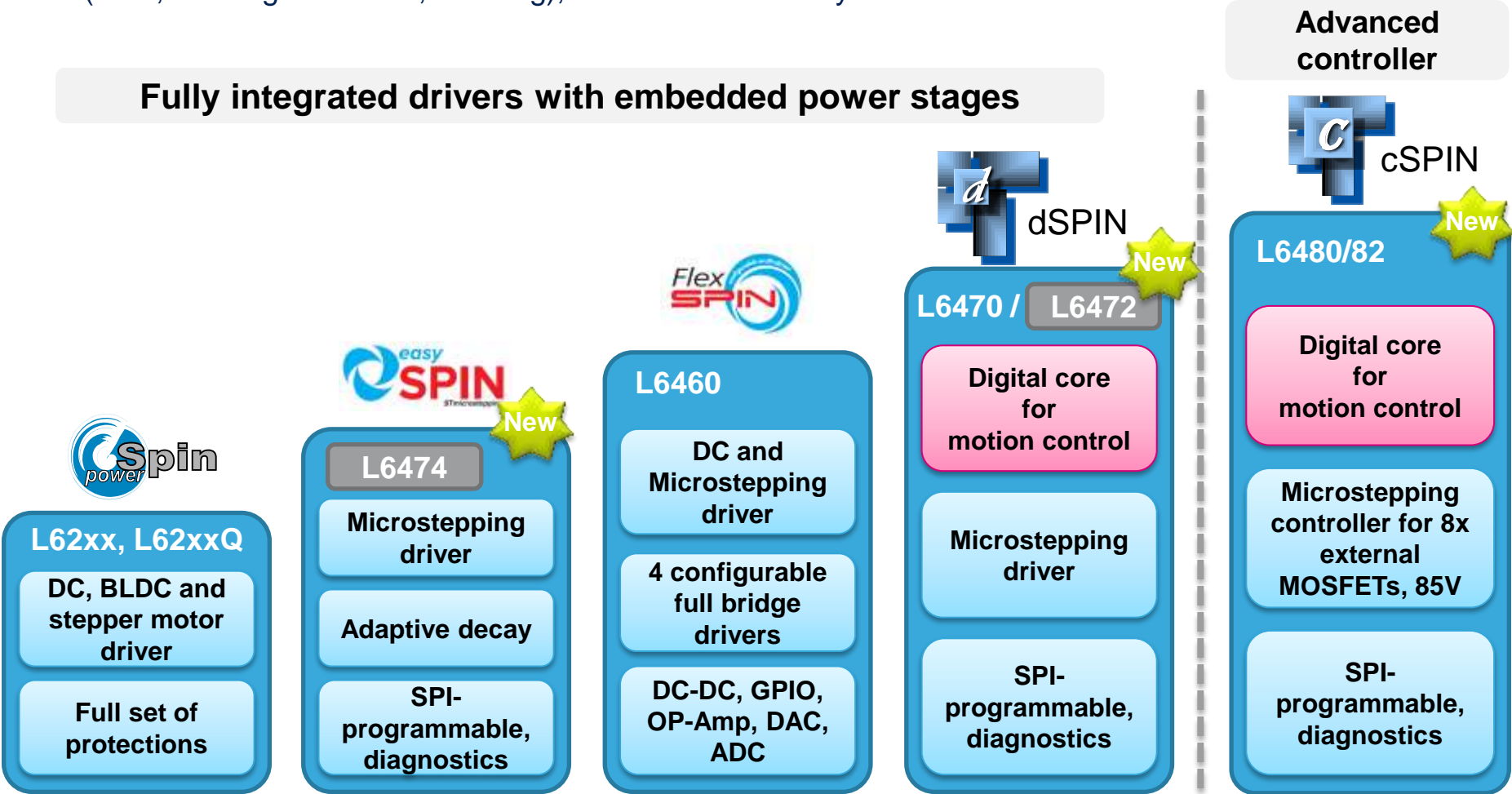
Display Port / SATA

High Speed ESD protection and CMF

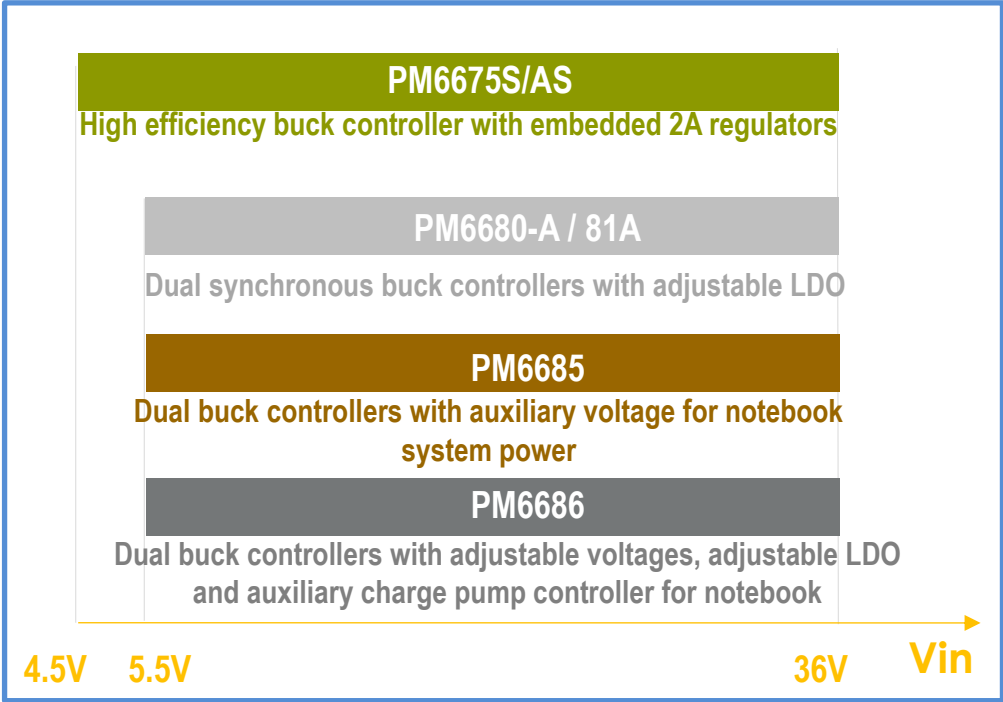
ECMF04-4HSM10
ECMF06-6HSM16

Lower cost, higher reliability, better performance and shorter design cycles are the result of ST's innovations in motor control ICs. Our monolithic motor drivers make DC, stepper and brushless motor control designs more efficient in a variety of applications such as industrial, robotics, printers, points-of-sale (ATM, vending machines, ticketing), medical and security.

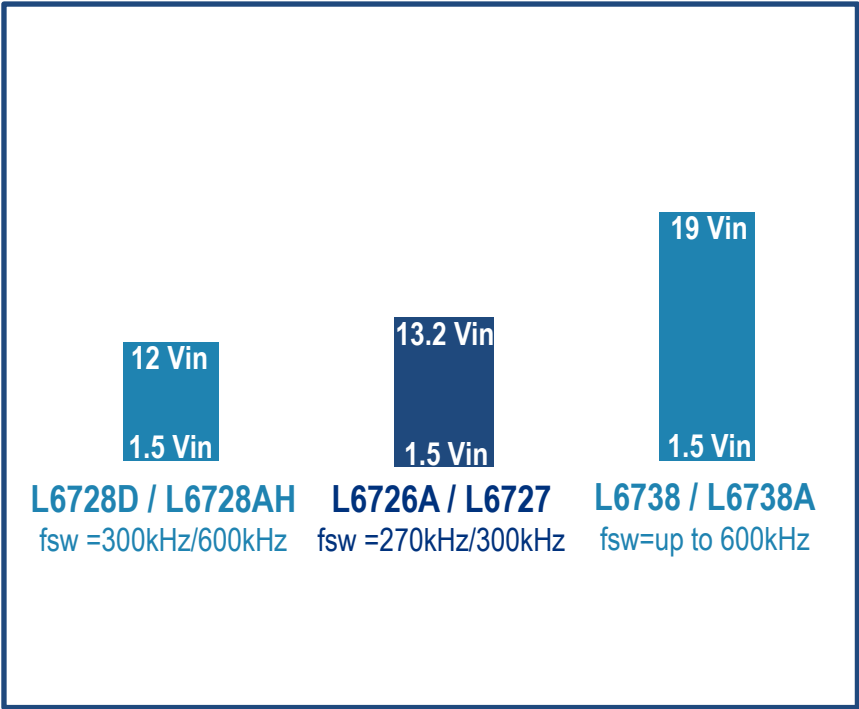
Fully integrated drivers with embedded power stages



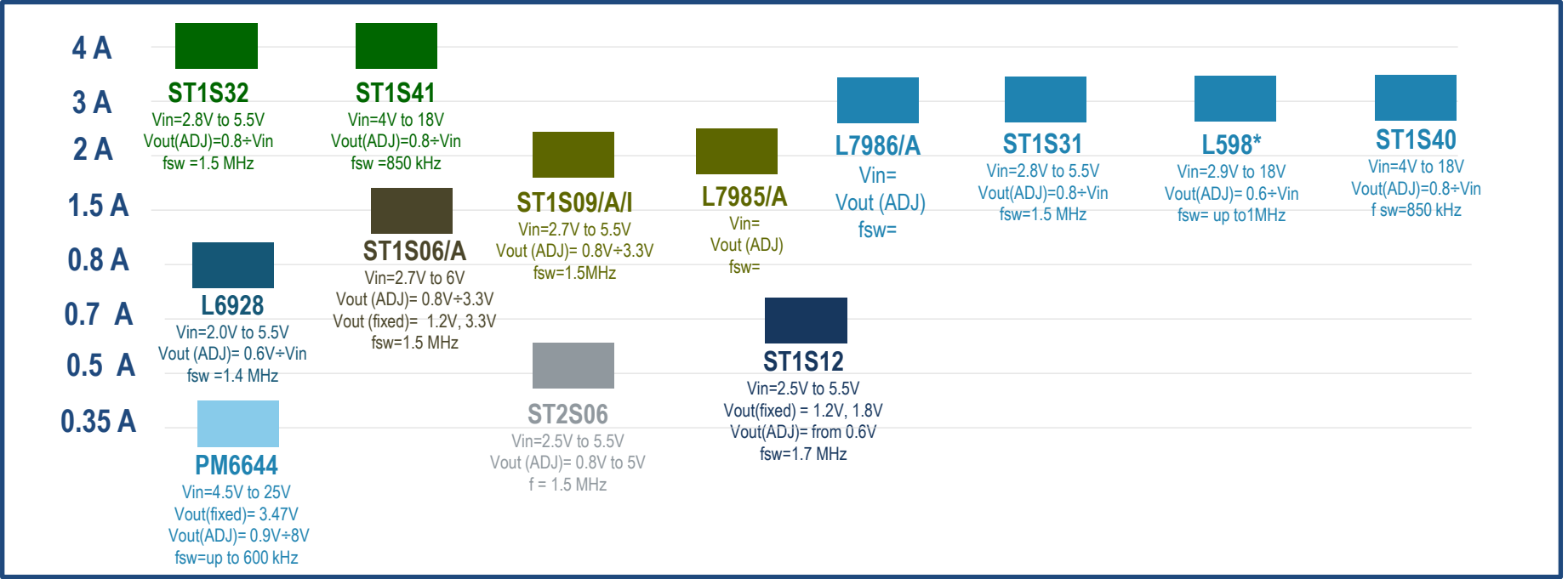
Multi output buck regulators



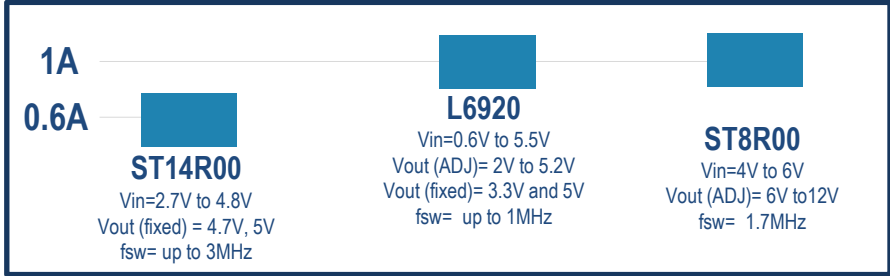
Single phase Buck controllers



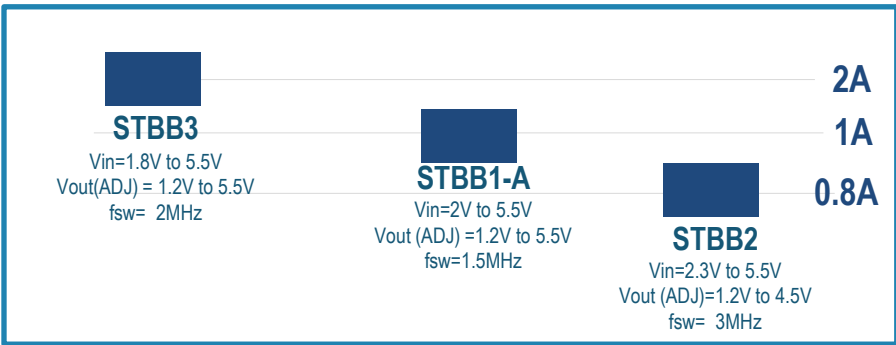
Buck converters



Synchronous Boost converters



Synchronous Buck-Boost converters



Fixed and adjustable output linear regulators featuring an optimal combination of low dropout voltage, quiescent current, transient response and low noise. They are ideal for battery-powered applications where both optimum heat dissipation and small dimensions are key factors.

50mA
series

Part number	V _{in}	Description
STLQ50	2.3 to 12	Very low quiescent current VLDO

85mA
series

Part number	V _{in}	Description
ST715	2.5 to 24	High input voltage, very low quiescent current LDO

150mA
series

Part number	V _{in}	Description
STLQ015	1.5 to 5.5	Ultra low quiescent current and ULDO
LD39015/J	1.5 to 5.5	Ultra low dropout, low supply voltage
LD39115J	1.5 to 5.5	Miniature ultra low dropout, low supply voltage, soft start
LDCL015	1.7 to 5.5	Cap less, very LDO
LDLN015	2 to 5.5	Ultra low noise, very high PSRR VLDO
LD59015	2.3 to 5.5	Very low noise, very high PSRR LDO

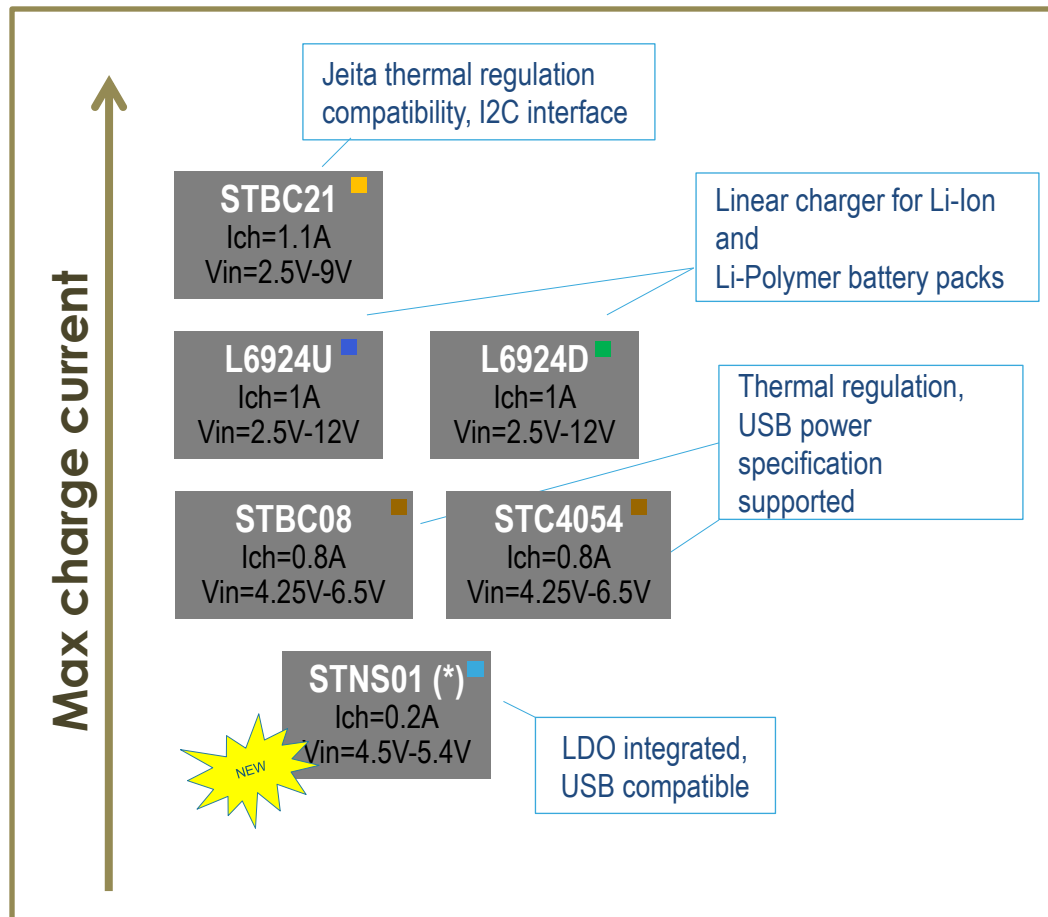
200mA
series

Part number	V _{in}	Description
LD39020	1.4 to 5.5	Low quiescent & low dropout tiny regulator
LDK120	1.9 to 5.5	Low quiescent & low dropout linear regulator
LDK220	2.5 to 18	Low quiescent & low dropout tiny regulator

300mA
series

Part number	V _{in}	Description
LD39130S/SJ	1.4 to 5.5	Miniature very LDO with Auto green mode
LD39030SJ	1.5 to 5.5	Miniature very LDO, soft start
LDK130	1.9 to 5.5	Low quiescent & low dropout linear regulator

Single cell Li-Ion linear battery chargers



Battery Monitoring

Innovative state-of-charge calculator maintains accurate fuel gauging with battery age and usage.

4.5 Vin

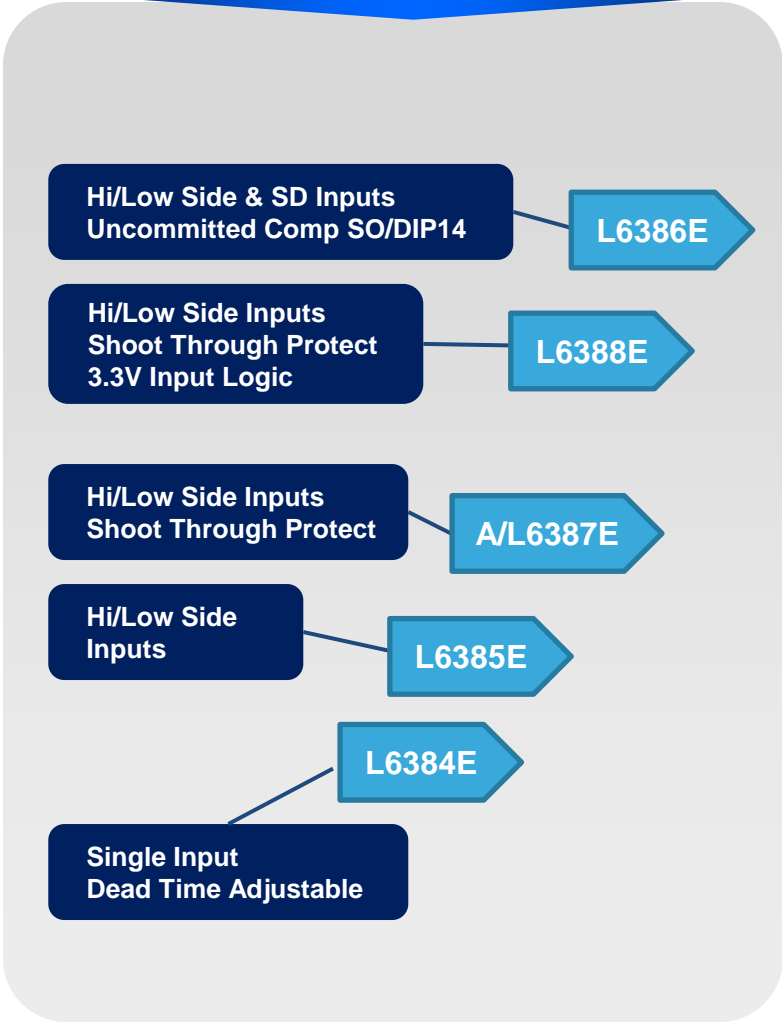
2.7 Vin

STC3115

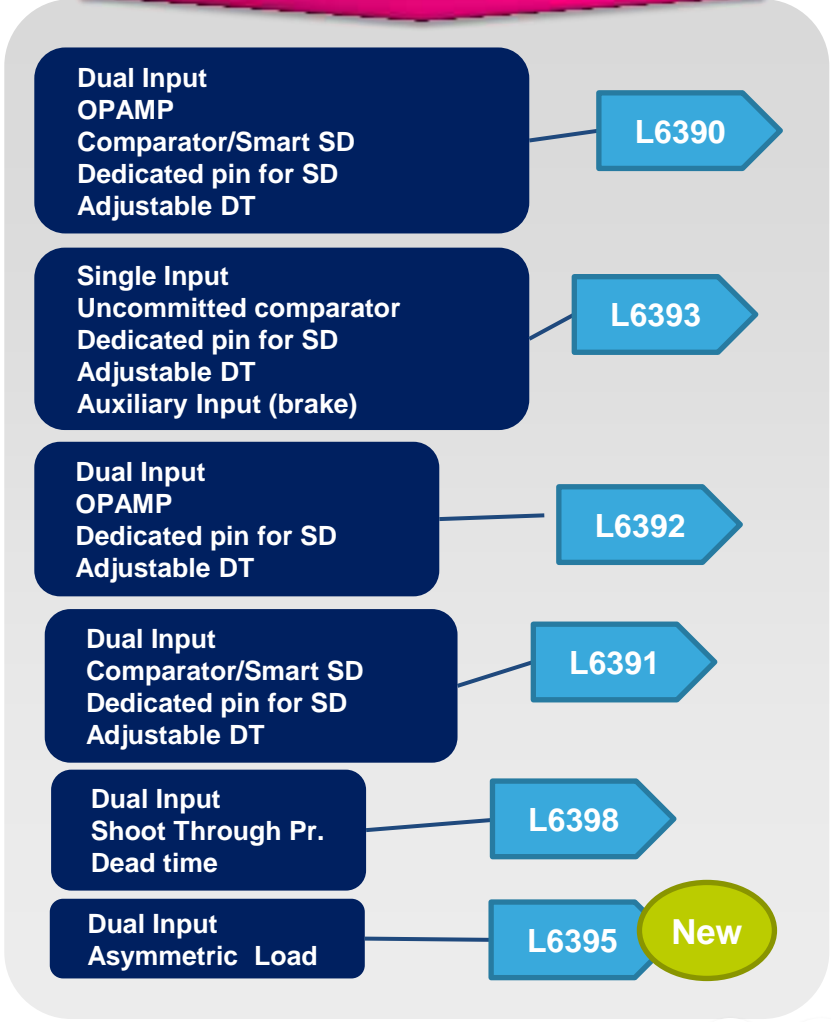
0.25 % accuracy battery voltage monitoring

Low power: 45 μ A in power-saving mode, 2 μ A max in standby mode

L638xE- Enhanced



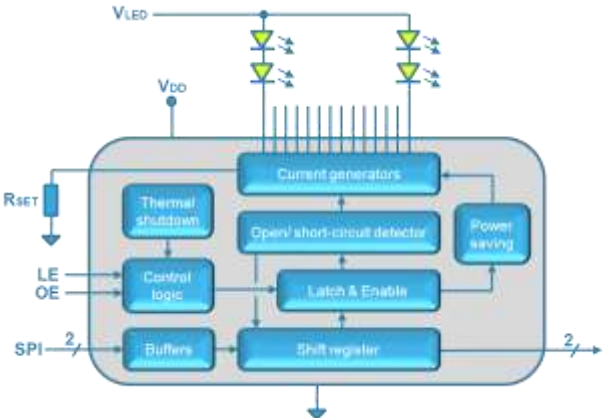
L639x - smartDRIVE



LED Array Drivers

STP08/16/24xxx

4, 8, 16 & 24 channels



16-channels driver with Error Detection and Power Saving

Main Features

- Low consumption (power saving)
- Error (open & short-circuit) detection
- Independent PWM dimming (local dimming)
- Full-color (RGB) management

LED Matrix Drivers

LED7706

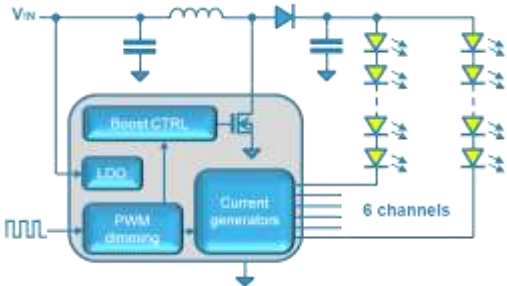
36V, 30mA, PWM

LED7707

36V, 85mA, PWM



QFN4x4-24L



Monolithic boost, 6-channels

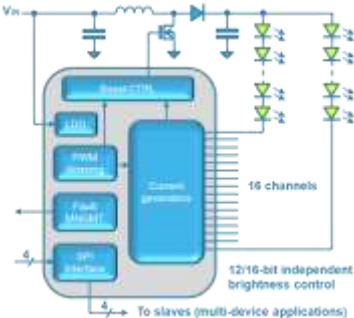


LED7708

36V, 85mA, 4-wires SPI





QFN-7x7, 48L

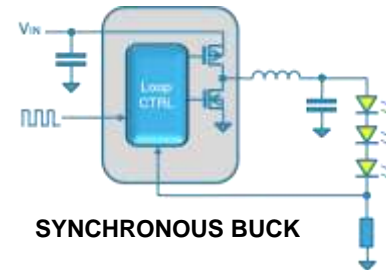


Boost controller, 16-channels with SPI



Buck / Buck-boost (synchronous)



LED2000 18V, 3A, monolithic	LED2001 18V, 4A, monolithic
 DFN-4x4 SO-8	 DFN-4x4 HSOP-8

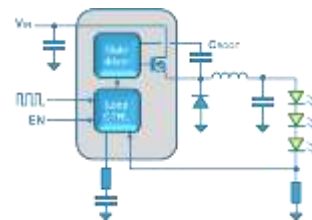


SYNCHRONOUS BUCK

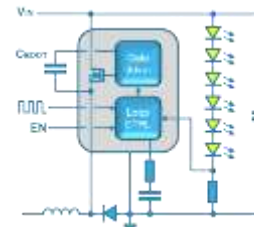


Buck / Buck-boost

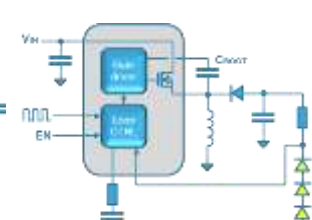
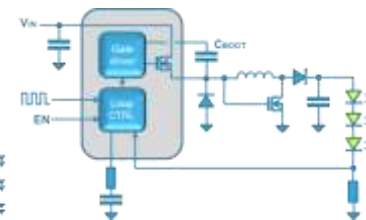
LED6000 60V, 3A, monolithic	LED5000 48V, 3A, monolithic
 HTSSOP-16	 HSOP-8



BUCK



FLOATING BOOST

NEGATIVE
BUCK-BOOSTPOSITIVE
BUCK-BOOST

Boost / SEPIC

LED6001 60V, 2A, controller



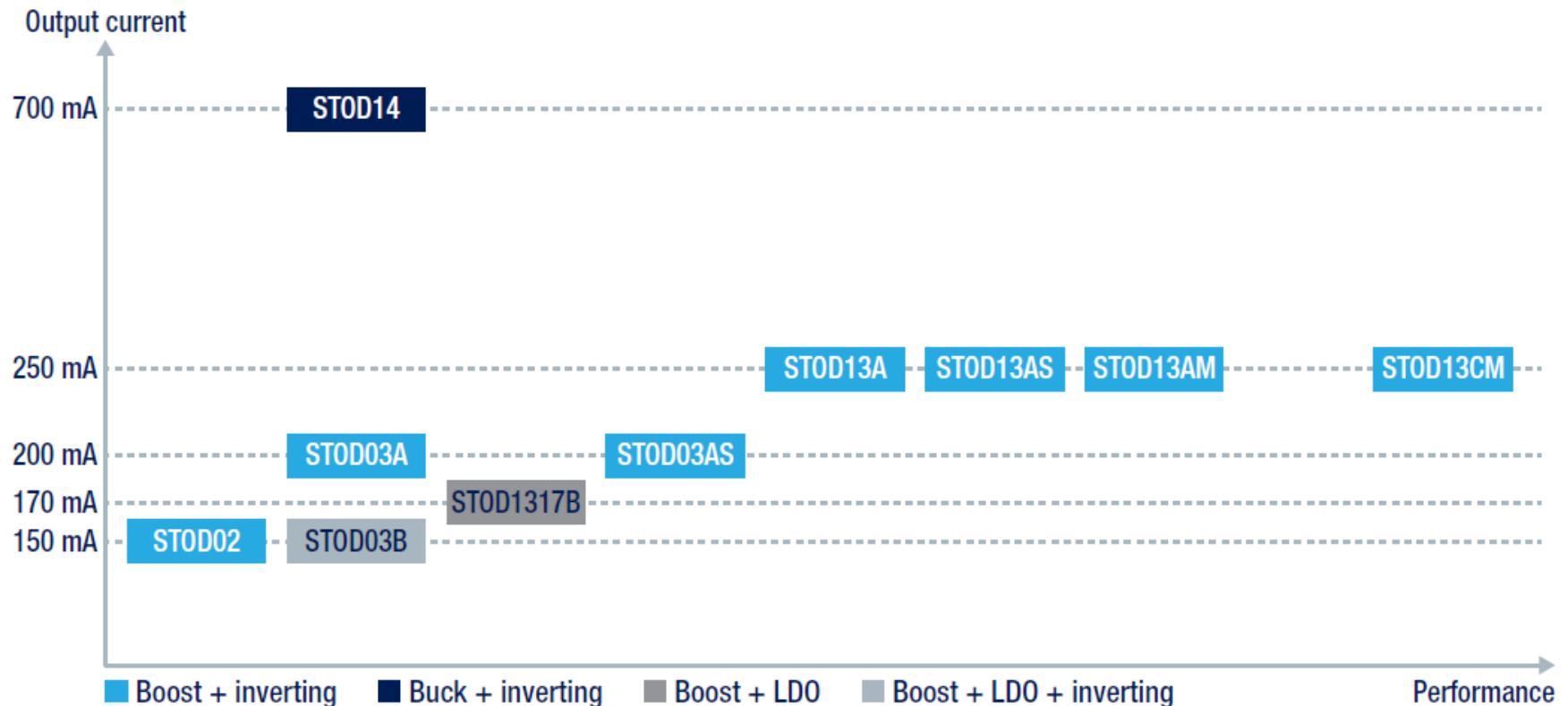
HTSSOP-16



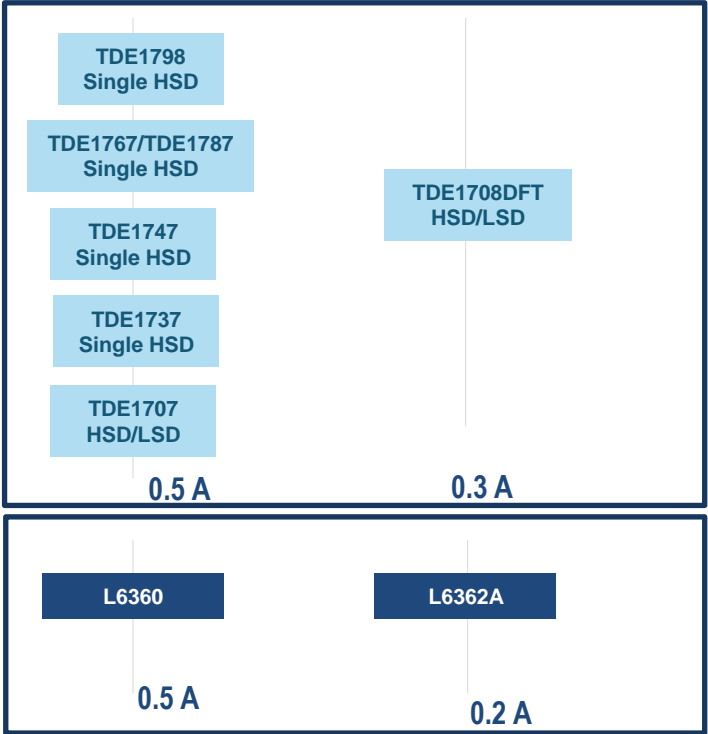
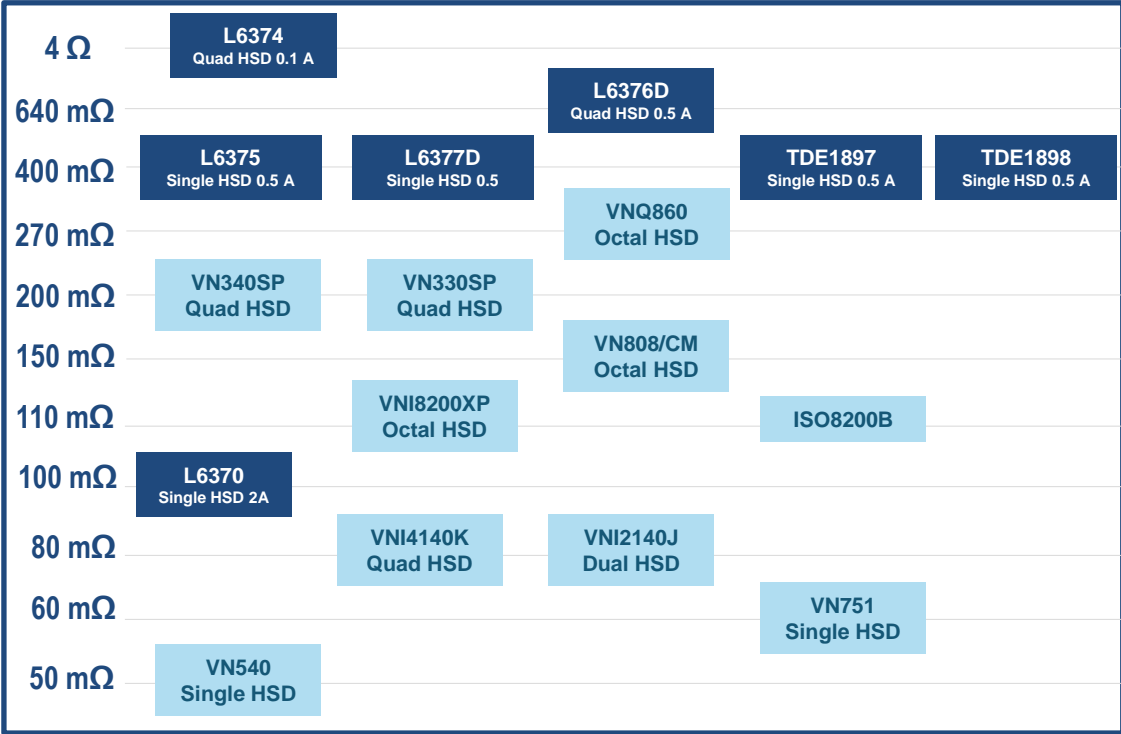
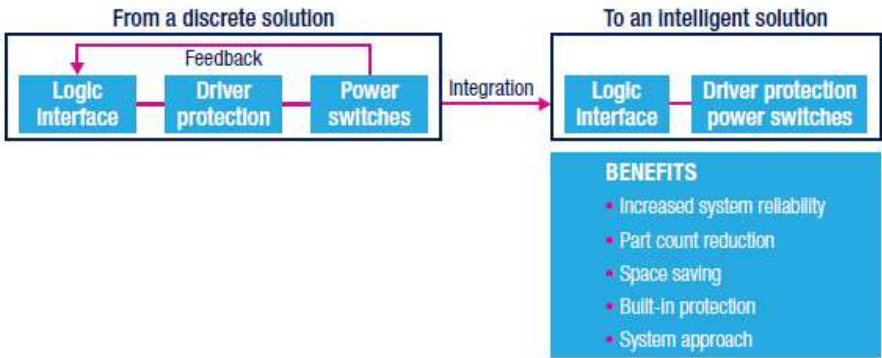
Main Features

- Very low shutdown current
- High-side LED current sensing
- Dimming switch control (HS & LS)
- 10:1 Analog dimming
- LED overcurrent protection
- Output to GND protection*
- Boost, SEPIC & floating Buck-boost

LCD/OLED PSU devices add value to new designs by simplifying power-supply circuitry and maximizing battery life for feature-rich portable products thanks to their embedded energy-saving features.



IPS devices are designed to safely drive every kind of load in low-voltage applications (up to 55 V), handling data in and out of the microcontroller by means of status/input signals.



Electronic Fuses: maintaining the protection performance after fault events

STEF05

- Electronic fuse for 5V and 12V lines
- Continuous current: 3.6A
- Programmable over current and turn-on time
- Enable/fault pin
- OVP and OTP
- Integrated power device
- **Latch** function
- Internal under voltage lockout circuit

STEF12

STEF033(*)

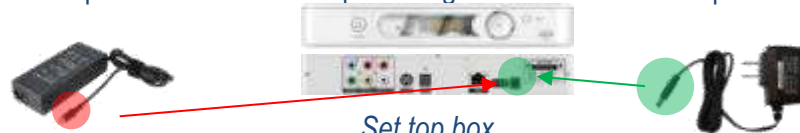
- Electronic fuse for 3.3V and 5V lines
- Continuous current: 3.6A, 2A (CSP package)
- Programmable over current and turn-on time
- Enable/fault pin
- OVP and OTP
- Integrated power device
- **Latch** and **auto retry** versions available
- Internal under voltage lockout circuit

STEF05L(*)

STEF4S (*)

- Programmable electronic fuse for 3.3V and 5V lines
- Operative voltage from 2.5V up to 15V
- Over current protection: 5A
- Overload foldback current limit
- Controlled turn on time
- OVP and OTP
- Integrated power device
- **Auto retry** function
- Internal under voltage lockout circuit

Many wall adapters with different output voltages show the same output connecting plug



19V Laptop box charger/adaptor

Set top box

12V Set top box adapter

Hard Disk Driver:

STB, DVR and gaming devices are overstressed due to very long reading/writing sessions



Sub 1GHz RF ICs

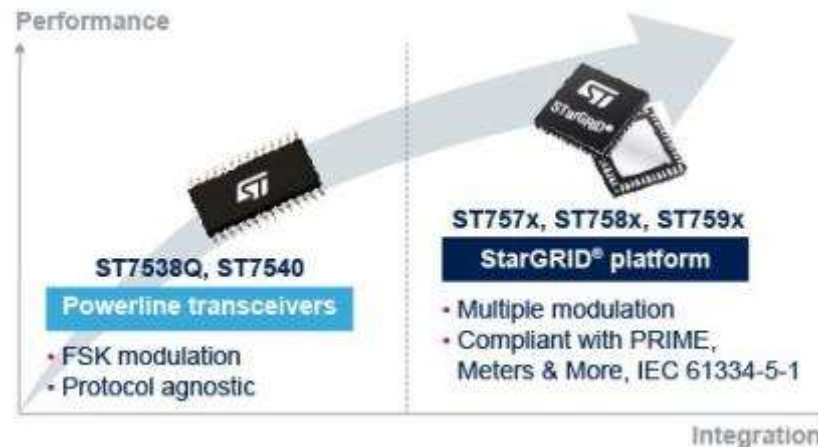
The SPIRIT1 RF transceiver is intended for RF wireless applications in the sub-1 GHz band. It is designed to operate in ISM and SRD frequency bands at 169, 315, 433, 868, and 915 MHz, but can also be programmed to operate at other additional frequencies.

Near Field Communication ICs


ST offers a wide range of options for 13.56MHz Near Field Communication. The STRFNFCA is an NFC transceiver supporting reader, peer-to-peer and card emulation modes and M24LR products are memories with serial and RF interface bridging applications with the NFC / RFID world

Power Line Transceivers

ST's PLC portfolio ranges from highly cost-effective and simple FSK transceivers, such as the ST7540 and ST7538Q, to the most advanced and integrated STarGRID® SoC platforms (ST7570, ST7580, ST7590), which provide high performance and multiple turnkey protocol implementations.



An extended variety of products with the newest technology innovations are available including ultralow-power devices, the world’s smallest package with embedded crystal, ST’s SNAPHAT® with battery and crystal integrated. RTC functions include alarm, battery switchover, reset, and special features with time stamp, anti-tamper for secure applications, audio, and trickle charge, and an highly-accurate temperature-compensated RTC with embedded crystal

Low-power for portable devices	Enhanced industry-standard	Highly-integrated	Securitizer
<ul style="list-style-type: none">• Low standby current• World’s smallest RTC with crystal• Small packages	<ul style="list-style-type: none">• Automatic battery switchover• Analog calibration• Embedded crystal• Temperature-compensated RTC	<ul style="list-style-type: none">• RTC with NVRAM and microprocessor supervisor functions• Battery monitor• Power-on reset/low-voltage detect	<ul style="list-style-type: none">• Physical tamper detect• Internal and external RAM clear• Tamper event timestamp
M41T6x series 	M41T81S, M41T00S, M41T82/83/93, M41T00CAP, M41TC8025 	M41ST85W, M41T94, M41T00AUD 	M41ST87W 

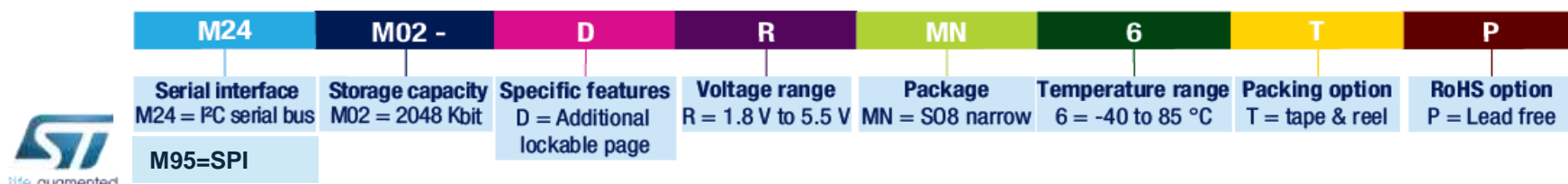
DUAL INTERFACE EEPROM

ST's innovative family of Dual Interface EEPROMs provides new features and capabilities. The EEPROM memory bank can be accessed either by a lowpower I²C interface or by an ISO 15693 RF interface operating at 13.56 MHz. It also features an energy harvesting and an RF status function. In addition, the family features a 32-bit password protection mechanism.

Part number	RF Interface	Serial interface	Memory size (Kbit)	Clock frequency (Khz)	Password	Supply (V)	Package	RF status output	Energy Harvesting output
M24LR04E-R	ISO 15693	I ² C	4	400	Yes	1.8 to 5.5	SO8,TSSOP8, MLP 2x3	Yes	Yes
M24LR16E-R	ISO 15693	I ² C	16	400	Yes	1.8 to 5.5	SO8,TSSOP8, MLP 2x3	Yes	Yes
M24LR64E-R	ISO 15693	I ² C	64	400	Yes	1.8 to 5.5	SO8,TSSOP8, MLP 2x3	Yes	Yes

SERIAL EEPROM

ST's y PROMs perfectly meet the major market requirement of flexibility , with a complete portfolio of densities in standard packages, accommodating power supplies from 1.6 to 5.5. All this is achieved with the highest robustness in terms of cycling performance (4 Million Write cycles) and data retention. This makes ST's y PROMs the first choice for standard applications as well as for automotive applications



STRF/95HF series



Reader/Card/P2P
ISO14443/
ISO15693
2.7V-3.3V
2MHz SPI
256-Byte RAM

NFC transceivers
supporting all
NFC modes

Optimized for
fast data transfer

M24SR series



ISO14443 (tag)
2.7V-5.5V
1MHz I2C
4K-64Kbit
Auto infotainment
128-bit password

Dynamic NFC tags

Optimized for
speed and auto
infotainment

Coming Q4 2013

M24LR series

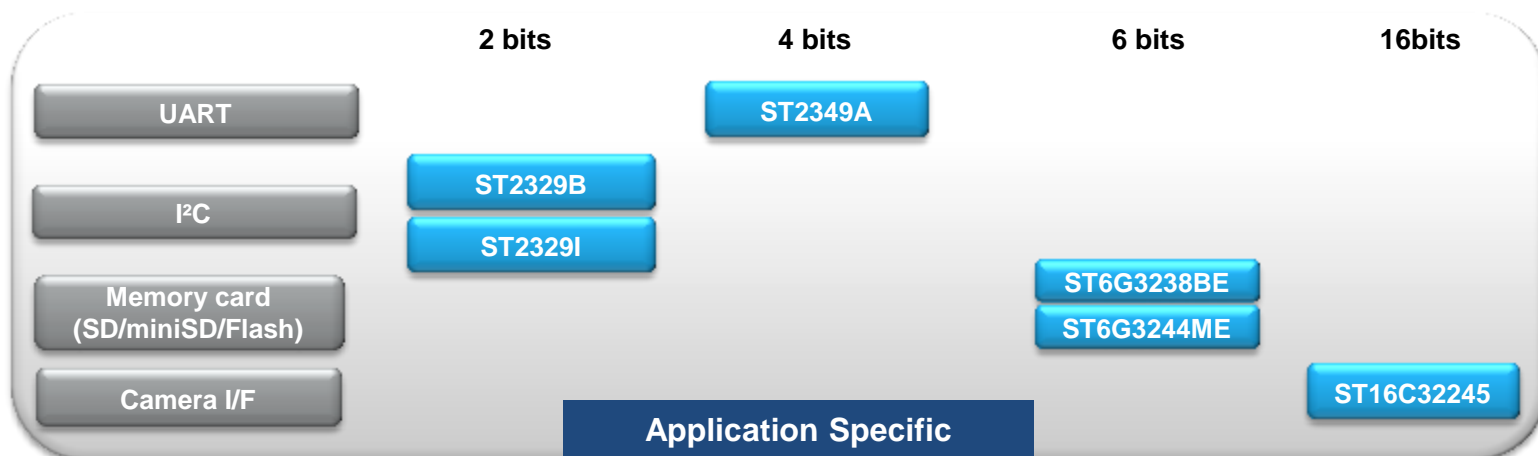
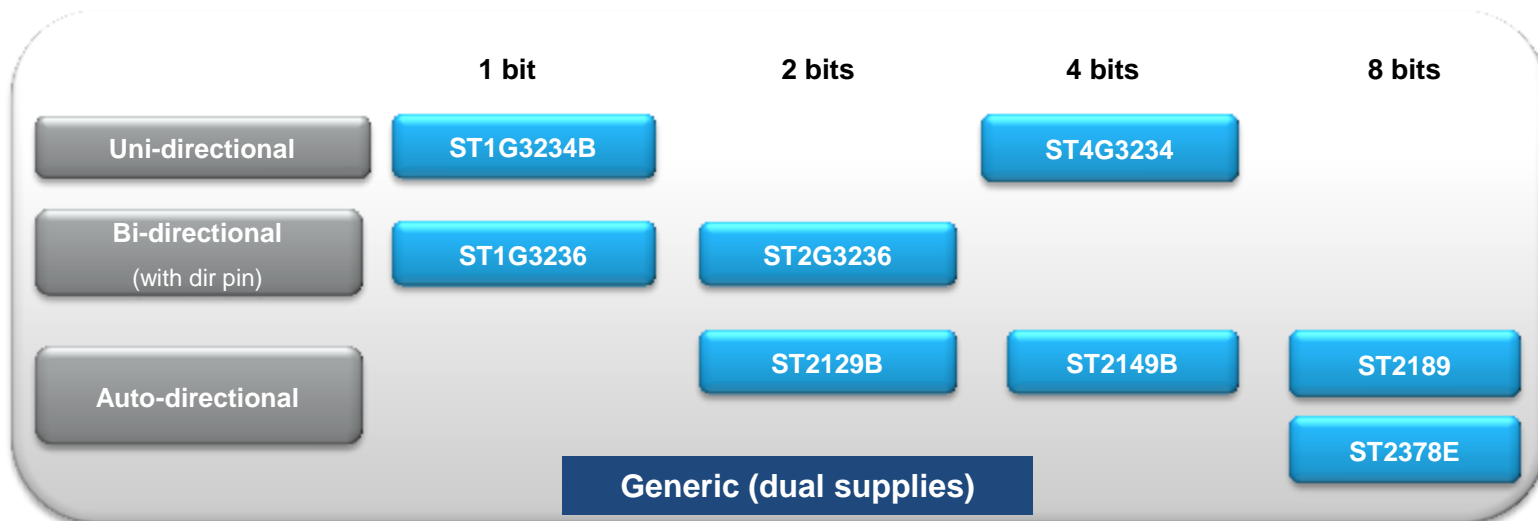


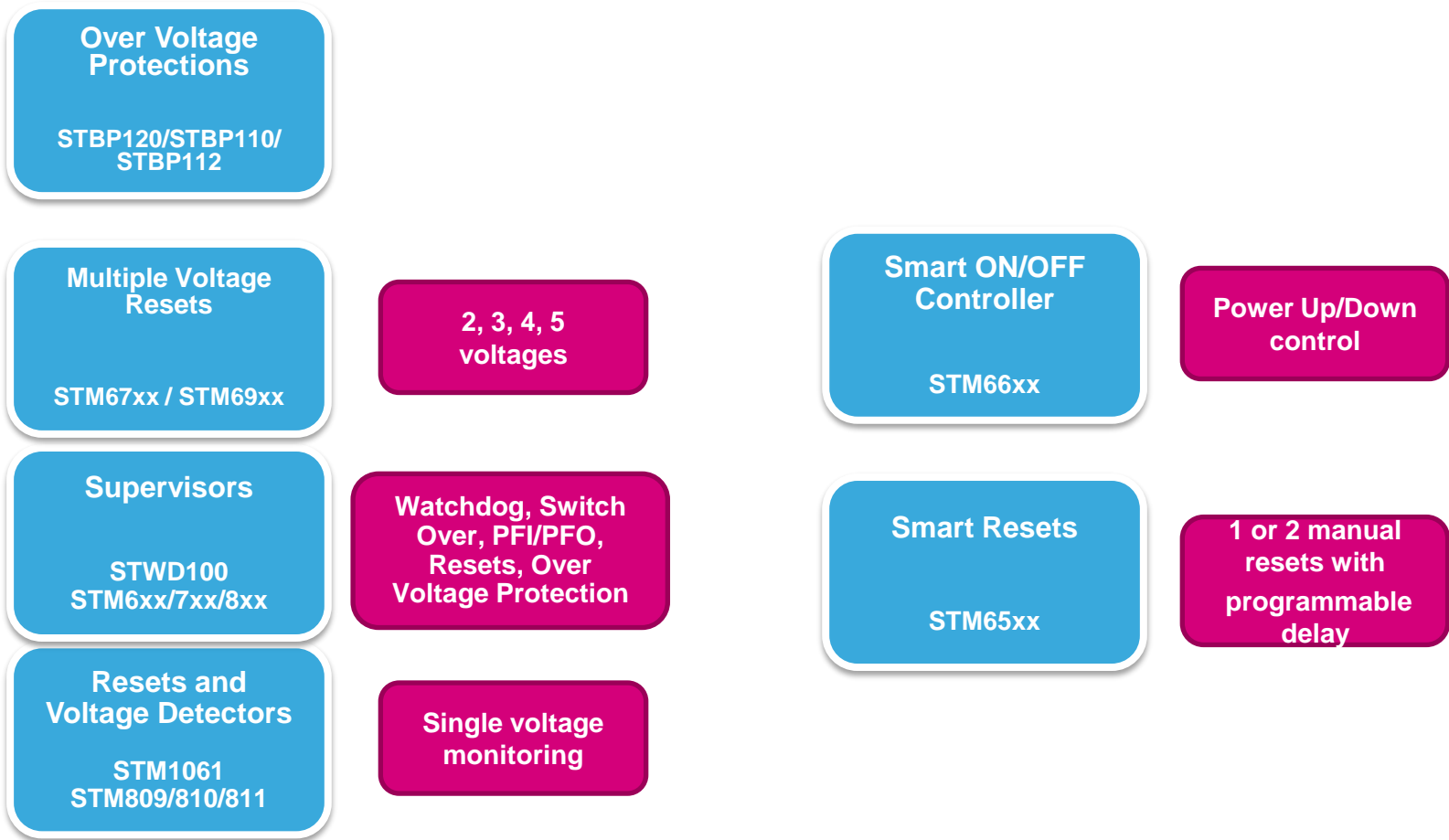
ISO15693 (tag)
1.8V-5.5V
400kHz I2C
4K-64Kbit
Energy Harvesting
32-bit password

Dynamic NFC tags

Optimized for
range and energy
harvesting

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.







life.augmented
is what we stand for,
**today
and tomorrow**

Every time electronics make a positive contribution to people's lives, ST is there.