Serial EEPROM for Automotive
New Advanced series

More parameters, quicker, safer

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http://www.st.com/automotiveEEPROM

Good reasons to use EEPROM in cars

Applications in cars become Smarter, Customized and need Datalogging
Parameters are multiplying quickly…

Flexible
for parameter update

High endurance
Cycling - Retention

Adapts easily with scalability
in package and densities

Reliable device
suited for 0 defect approach

External EEPROM is the first choice for high quality and flexible parameter management

ST EEPROM every where in cars

ADAS
Rear and Front Camera, Night vision
Radars, blind spot detection, line deviation
Head up displays, Head lamp control

Audio/Infotainment/Telematics
AM/FM Tuner, Digital radio, Amplifiers
Navigation, Passenger entertainment,
Emergency/crash call

Body & Comfort
Junction box, gateway, Keyless Entry
Aircon, Door, Seat, Roof modules
Dashboard, cockpit, face plate

Power train
Engine management, transmission control
Fuel pumps/gauge, exhaust control
Hybrid power management

Safety/Chassis
Airbag, Occupant detection, Pedestrian safety
ABS, ESP, active suspension
Steering, Drive by Wire
Electric parking brake, TPMS
Black box, Event recording

Traceability, calibration tables, manufacturing and user settings,
error flags, event recording, datalogging
easy and flexible for parameter management

EEPROM families

SPI, preferred interface

M95xxx-A125

M95xxx-A145

- Robust interface
- Easy for upgrade
- Fast: up to 20MHz clock rate
- High temperature up to 150°C

- *All automotive applications*

I2C, 2 wires interface

M24xxx-A125

- Low cost 2 wires interface
- Easy for upgrade
- Slow: 1MHz clock rate
- 125°C

- *ADAS, Body, multimedia and infotainment*

Microwire

M93Cxx-A125

- Robust interface
- Limited to 16Kbit
- Slow: 2MHz clock rate
- 125°C

- *All automotive applications*

Small packages

SO8N
6mm x 5mm
Thickness 1,75mm
80mg

Fits up to 2Mbit

TSSOP8
6,4mm x 3mm
Thickness 1,2mm
34mg

Fits up to 1Mbit

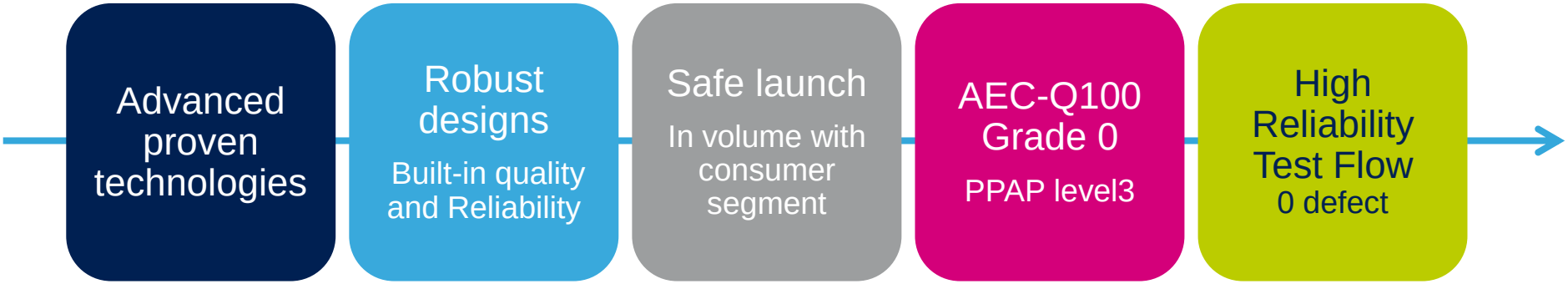
WFDFPN8
3mm x 2mm
Thickness 0,8mm
16mg

Fits up to 512Kbit

Qualified AEC-Q100 Grade 0

Dimension at scale

ST EEPROM – Automotive grade



+++ Long term commitment +++

Advanced series Portfolio

		1Kb	2Kb	4Kb	8Kb	16Kb	32Kb	64Kb	128Kb	256Kb	512Kb	1Mb
SPI	**- A125°C**	-	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8
	- A145°C	-	-	TSSOP8	TSSOP8	TSSOP8	TSSOP8	TSSOP8	SO8N TSSOP8	TSSOP8	TSSOP8	TSSOP8
	>150°C	-	-	-	-	Bare die	-	Bare die	-	Bare die	-	-
I2C	**- A125°C**	-	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8
Micro Wire	**- A125°C**	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8	SO8N TSSOP8 WFDFPN8						

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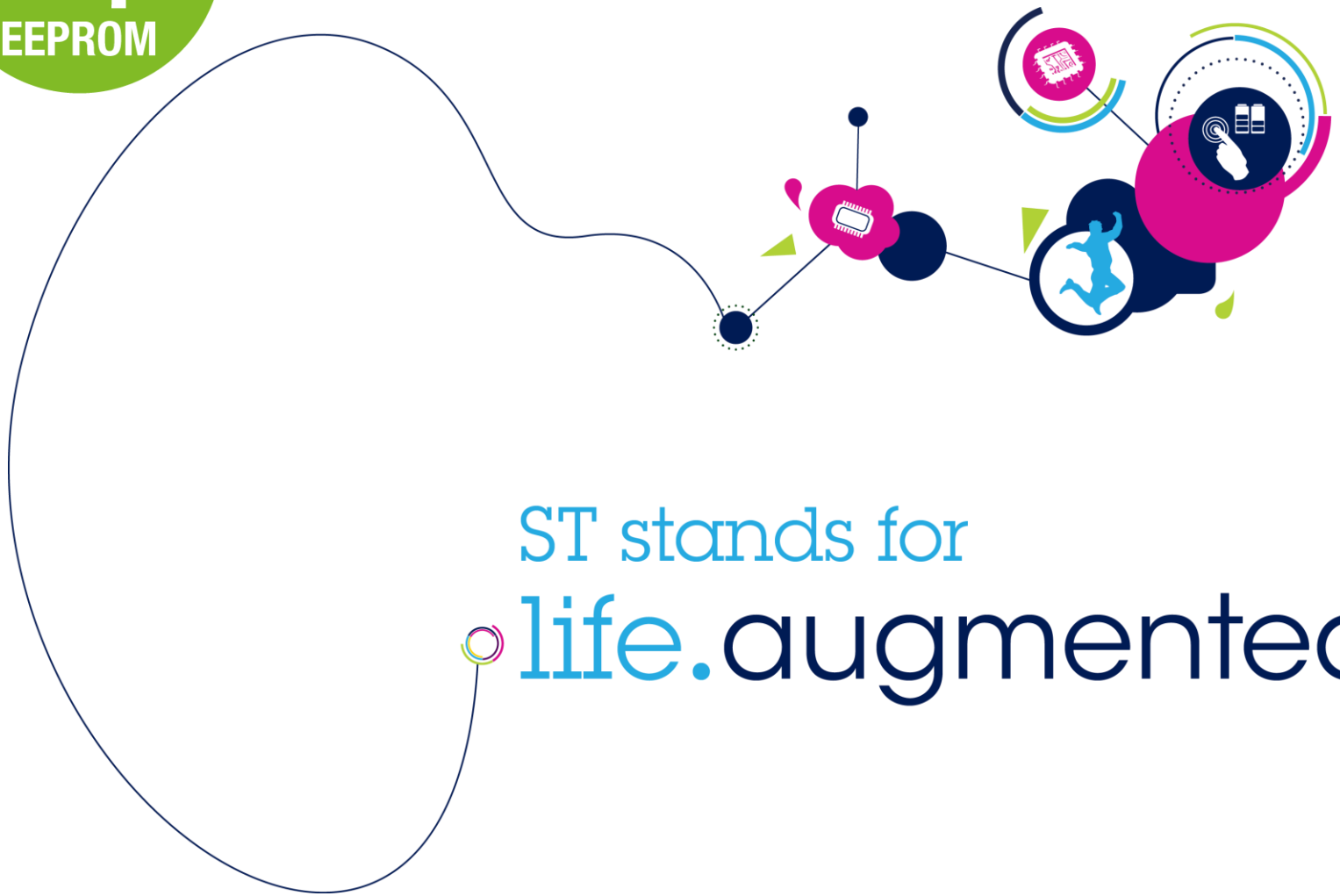
Advanced series features

1 Mbit in TSSOP8	SPI in package 145°C	512 Kbit in WFDFPN8	WFDFPN8 125°C
1.8V to 5.5V	SPI 20MHz I2C 1MHz	4 million cycles per cell	Write time 4ms
Error Code Correction	Software identification	AEC-Q100 Grade 0	Lockable page

Benefits Advanced series

Complete offer	• 1 Kbit **up to 1 Mbit** and 3 serial interface **SPI, I2C, Microwire** • Small low pin count packages: **SO8N, TSSOP, WFDFPN8**
145°C in package	• Designed to run at very high temperature in SO8N or TSSOP packages • Flexibility to choose a **same product in 125°C or 145°C range**
Faster Application Wake Up	• **20MHz max. clock frequency** => gain 50% time in communications • **Short Write time at 4ms** => Store 20% more parameters in same time
For Datalogging & Monitoring	• Up to **4 million cycles per byte** • **Over 100 million cycles per device** => EEPROM as efficient datalogger
Identification & Data protection	• New **Identification page** enables software id => ease platform approach • **Write Lockable page to** store and protect sensitive data in a safer way.
Low power	• Lower consumption in read and write mode • Power supply **1.8V at 125°C**
0 defect	• **AEC-Q100 Grade 0** qualification for all products • **Error Correction Code** and over **100 years data retention** • **100% Cold, Hot** and Ambient testing

Thank you!



ST stands for

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