



Serial EEPROM for automotive with 150 nm* technology

*F8H



Automotive Why use EEPROMs?

Smarter, personalized in-car applications demand more parameter data logging

**Flexible
Parameter updates**

**High-cycling
endurance &
data retention**

**Scalable
Various densities
& packages**

**Reliable
Zero-defect approach**

External EEPROM

First choice for high quality and flexible parameter management



ST EEPROMs everywhere

Multimedia

- AM/FM tuner, digital radio
- Amplifiers, navigation, passenger entertainment
- Emergency/crash call

Powertrain

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



Quickly upgrade in-car applications

*(user settings, error flags,
manufacturing data, and more)*

ADAS

- Rear and front camera, night vision
- Radars, blind spot detection, line deviation
- Head up displays, head lamp control

Body convenience

- Junction box, gateway, keyless entry
- Air con, door, seat, roof modules
- Dashboard, cockpit, face plate

Safety

- Airbag, occupant detection, pedestrian safety
- ABS, ESP, active suspension
- Steering, drive by wire
- Electric parking brake, TPMS*
- Black box, event recording



*Tire Pressure Monitoring System



EEPROM families

SPI, preferred interface

M95xxx-A125
M95xxx-A145

- Robust interface
- Easy for upgrade
- Frequency: up to 20 MHz clock rate
- High temperature up to 145 °C

All automotive applications

I²C, 2-wire interface

M24xxx-A125

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

**ADAS, body, multimedia
and infotainment**

Microwire

M93Cxx-A125

- Robust interface
- Available up to 16-Kbit
- Frequency: Up to 2 MHz clock rate
- Up to 125 °C

All automotive applications



Small packages

SO8N

Fits up to 2 Mbits



6 mm x 4.9 mm
Thickness 1.75 mm
80 mg

TSSOP8

Fits up to 1 Mbit



6.4 mm x 3 mm
Thickness 1.2 mm
34 mg

DFN8

Fits up to 512 Kbits



3 mm x 2 mm
Thickness 0.8 mm
16 mg

Qualified AEC-Q100 grade 0



 Dimension at scale



ST EEPROM

Automotive grade

Advanced proven technologies

Enable advanced automotive applications

Safe launch

In volume with customer segment

High reliability test flow

Zero-defect approach



1



2



3



4



5

Robust design

Built-in quality and reliability

AEC-Q100 Grade 0

PPAP level 3





150 nm technology Automotive EEPROM portfolio

		1 Kb	2 Kb	4 Kb	8 Kb	16 Kb	32 Kb	64 Kb	128 Kb	256 Kb	512 Kb	1 Mb	2 Mb
SPI	125 °C	-	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8	SO8N
	145 °C	-	-	TSSOP8	TSSOP8	TSSOP8	TSSOP8	TSSOP8	TSSOP8	TSSOP8	TSSOP8	TSSOP8	-
I ² C	125 °C	-	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8 DFN8	SO8N TSSOP8	SO8N
Microwire	125 °C	SO8N TSSOP8	SO8N TSSOP8	SO8N TSSOP8	SO8N TSSOP8	SO8N TSSOP8	-	-	-	-	-	-	-



Advanced EEPROM series

Main features

1-Mbit in TSSOP8

TSSOP8 145 °C

512-Kbit in DFN8

DFN8 125 °C

1.7 V to 5.5 V

SPI 20 MHz
I²C 1 MHz

4 million write cycles

Write cycle time
4 ms

Error correction
code

Software
identification

AEC-Q100
Grade 0

Lockage page

Benefits for customers 1/2

Large choice of automotive-grade EEPROMs

- **1-Kbit to 2-Mbit** (SPI, I²C, microwire)
- Low-pin count packages (SO8N, TSSOP8, DFN8)

Running at very high temperatures

- Packages: choose either **125 or 145 °C** (SO8N or TSSOP8)

A zero-defect approach

- **AEC-Q100 grade 0** qualification for all products
- Error Correction Code and 100+ years of data retention
- 100 % cold, ambient, and hot testing

Benefits for customers 2/2

Fast wake up & low-power

- **50% faster** communications at 20 MHz max clock
- 4 ms write time, **20% more** parameters stored
- Power supply 1.7 V at 125°C, low power in read/write

Flexible datalogging & monitoring

- Built for **continuous data capture** (4 million write cycles)
- **High endurance** (100+ million write cycles of reliable datalogging)

Identification & data protection

- **Ease platform** approach: Identification page enables SW ID
- Write lockable page secures sensitive data



Our technology starts with You



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