

# S12 MagniV S12ZVL

## Smallest Integrated LIN Slave MCU

**System in a Package** – Highly integrated part ideal for space constrained applications such as actuators, sensors, LIN nodes, etc.

**Low System Cost** – Direct connection with battery, integrated LIN Phy, EVDD and NGPIOs reduce system, qualification and manufacturing cost.

**High Reliability** – High immunity to EMI and ESD stresses, LIN 2.x compliant with +/- 8kV ESD capability.

**Enablement** – Supported by comprehensive hardware and software system (free low-level drivers to enterprise 3rd party tools) which reduces development costs and time to market.

### S12ZVL Specifications

Flash EEPROM	8–32 KB, 128 Bytes	Timer/PWM	6 ch. + 2 ch. 16-bit/ 8 ch. 8b or 4 ch. 16b
RAM	1 KB	12V VREG	12 V/70 mA, 170 mA w ext ballast
Core	S12Z	EVDD	1 ch. 5 V/20 mA (source)
Speed	32 MHz	NGPIO	3 ch. 5 V/25 mA (sink)
ADC	10 ch. 10-bit	SCI/SPI/I <sup>2</sup> C	2/1/1
HVI	1	Packages	32LQFP, 32QFN, 48LQFP
LIN Phy	1	Op Range	5.5 V–18 V

### Part Numbers

32LQFP	32QFN-EP	48LQFP
S9S12ZVL32F0MLC	S9S12ZVLS3F0MFM	S9S12ZVL32F0MLF
S9S12ZVL16F0MLC	S9S12ZVLS1F0MFM	S9S12ZVL16F0MLF
S9S12ZVL8F0MLC	S9S12ZVLS8F0MFM	S9S12ZVL8F0MLF

### Features



Operates from car battery



Ultra-reliable industrial



Integrated LIN transceiver



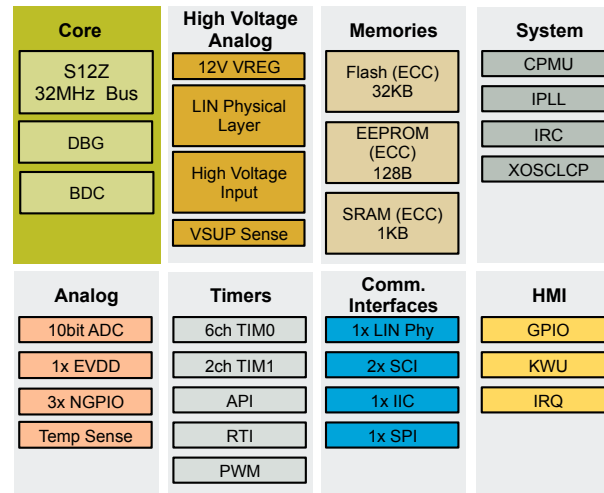
Fast ADC

Get Sample

Data Sheet

Tools

### Block Diagram



### Success Stories

- Lin-based user-interface in Europe and Asia
- Lin-based immobilizer receiver in US
- Lin-based mirror control in Europe
- Lin-based airquality sensor in Europe

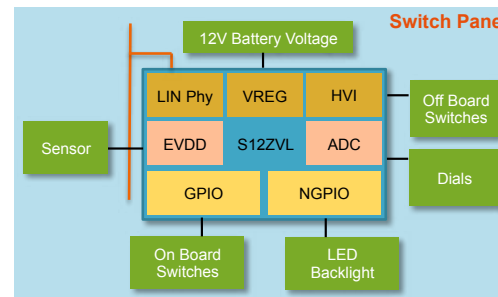
### Target Applications

- LIN nodes
- LIN switch panel/user interface
- LIN actuators, sensors
- HVAC
- Lighting controls
- Ambient lighting
- Seat positioning
- Ultrasonic sensors

### Enablement Tools

- Evaluation boards/hardware
- TRK-S12ZVL
- Reference solutions
  - Ultrasonic distance measurement
  - LIN RGB LED
- CodeWarrior, Cosmic
- LIN drivers

### Switch Panel



For more information, visit [freescale.com/S12ZVL](http://freescale.com/S12ZVL)

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