S12 MagniV® Mixed-Signal MCUs
S12ZVMA Family

Integrated solution with half bridge driver (unidirectional DC-motor or other loads)

Features

- DC Motor Control
- Integrated LIN PHY
- V_{REG} for 12 V Supply
- 2-ch. MOSFET Gate Driver
- Ultra-reliable Industrial
- AEC-Q100 Grade0 (150 °C Ta / 175 °C Tj)

Product One-Pager

System in a package–Highly integrated solution ideal for mechatronic approach to DC Motors controlled by LIN or PWM command

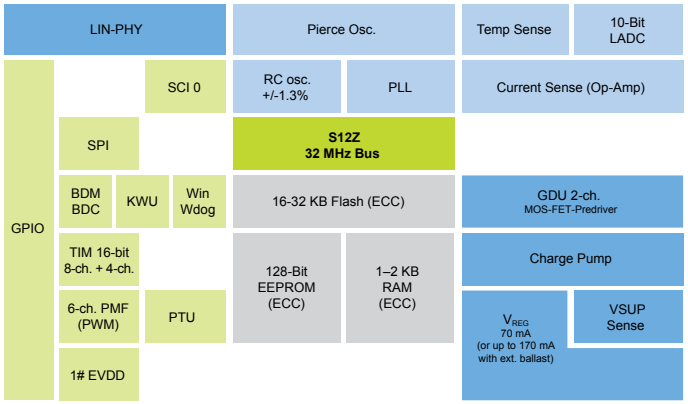
Scalable–32-/48-pin, up to 32 KB flash, up to 150 °C Ta

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

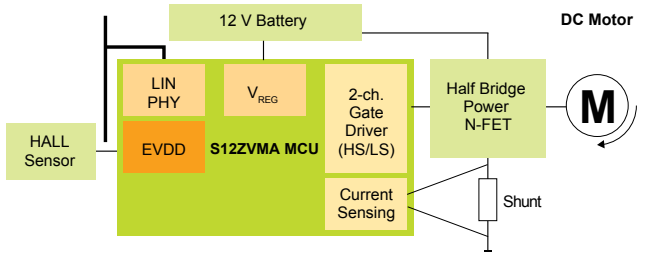
Low system cost–Operating straight from car battery, integrated PHY for LIN, 2-channel motor control MOSFET gate pre-drivers and op-amp for current sensing to reduce BOM

Enablement–Supported by comprehensive hardware and software solution

Product Block Diagram



Application Example Block Diagram



Target Applications

- DC-motor drive
- LIN based actuators
- Solenoids
- Valves
- Smart junction box
- Driving resistive or inductive loads
- Pumps (fuel/water/oil)
- Fans / blower

Enablement Tools

- Evaluation boards/hardware
  - –S12ZVMAEVB
- Compiler/Debugger
  - –CodeWarrior® IDE
  - –Cosmic IDE
- LIN Stack

S12ZVMA Specifications

Core	S12Z; 32 MHz bus	Gate Driver	1–2-ch. FET Gate driver
12V VREG	70 mA/170 mA	PWM	6-ch. motor cotrol PWM
Flash	16-32 KB	PTU	Triggering ADC & PWM
RAM	1–2 KB	ADC	7-ch., 10-bit
EEPROM	128 B	OpAmp	1 x for current sensing
Core	S12Z	EVDD	1-ch. 5 V/ 20 mA (source)
Phy	LIN	Packages	32/48 LQFP
SCI/SPI	1/1	Temperature	Up to 150 °C Ta / 175 °C Tj
Timer	2-ch. + 2-ch., 16-bit	Op Range	3.5V – 20V

Orderable Sample Part Numbers

Part Number	Flash	Temp Range	Package	Available
S912ZVMAL3F0MLF	32 KB	-40 to 125 °C	48-LQFP	Now
S912ZVMAL3F0WLF	32 KB	-40 to 150 °C	48-LQFP	Now
S912ZVMAL3F0MLC	32 KB	-40 to 125 °C	32-LQFP	Now

Product Longevity

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