

Product One-Sheet

S12 MagniV S12ZVC

Smallest Integrated CAN MCU

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

Low System Cost – Directly powered by battery. Integrated CAN phy, Vreg, high voltage pins, and op-amps reduce system, test, qualification and manufacturing cost.

High Reliability – High immunity to EMI and ESD stresses, CAN HS/LS compliant with +/- 8kV ESD capability.

Enablement – Supported by comprehensive hardware and software system (free low-level drivers to enterprise third party tools) reduces development cost and time to market.

S12ZVC(A) Specifications

Fleeh	64-192 KB	12V VREG	12V/70mA, 170mA with ballast		
Flash	04-192 KB	12V VREG	12V/70ITIA, 170ITIA WILIT Dallast		
RAM	4–12 KB	EVDD	1ch 5V/20mA (source)		
EEPROM	1–2 KB	NGPIO	4ch 5V/25mA (sink)		
Core	S12Z	ADC	10-16ch 10 bit (12 bit)		
Speed	32 MHz	DAC	8 bit DAC with OpAmp		
Op Range	5.5 V–18 V	Comparator	2# rail to rail		
HVI	2	Timer	8ch/16B + 4ch/16B (16ns)		
CAN Phy	1	PWM	4ch16B + 4ch/16B (16ns)		
Op range	5.5 V – 18 V	Comms	1MSCAN, 2 SCI, 2 SPI, 1 IIC, 1 SENT-Tx		
Temp	150°C Ta	Packages	64-LQFP-EP, 48-LQFP		

Orderable Samples

Part Number	Temp Range	Package
S912ZVCA19F0MLF	-40°C to 125°C	48 LQFP
S912ZVCA19F0MKH	-40°C to 125°C	64 LQFP-EP
S912ZVCA19F0WKH	-40°C to 150°C	64 LQFP-EP



Get Sample

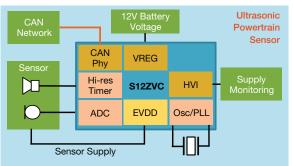
Tools

Block Diagram

Core	High Voltage Analog	Memories	System
S12Z	12 V VREG	Flash (ECC) 192 KB	CPMU
32 MHz Bus	CAN PHY		IPLL
DBG	VREG for CAN	EEPROM	IRC
	PHY	(ECC) 2 KB	XOSCLCP
BDC	2x HV Input	SRAM (ECC)	
	VSUP Sense	12 KB	
Analog	Timers	Comm. Interfaces	НМІ
12-bit ADC	4 1 (10 1 1) (10 1		
12 5107120	4-ch/16-bit(16ns)	1x MSCAN	GPIO
2-ch ACMP	8-ch/16-bit TIM	1x MSCAN SENT Tx	GPIO KWU
2-ch ACMP	8-ch/16-bit TIM 4-ch/16-bit(16ns)	SENT Tx	KWU
2-ch ACMP 8-bit DAC	8-ch/16-bit TIM 4-ch/16-bit(16ns) 8-ch/16-bit PWM	SENT Tx 2x SCI	KWU

Data Sheet

Ultrasonic Powertrain Sensor



Success Stories

- CAN based sensors such as humidity, airmass, NOx, urea sensor
- HVAC Controllers
- Industrial CAN communication
- CAN connected motor control

Target Applications

- CAN nodes
- CAN switch panel/user interface
- CAN actuators, sensors
- HVAC
- Lighting controls
- Seat positioning
- Seatbelt pretentionner
- Ultrasonic sensors
- Occupant detection
- Powertrain sensors (NOx)

Enablement Tools

- Evaluation boards/hardware
 VLG-MC9S12ZVC
- CodeWarrior, Cosmic
- LIN drivers



For more information, visit freescale.com/S12ZVC

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