NXP
freescale™
S12 MagniV

Product One-Sheet

Features

- AEC-Q100 Grade 0 Up to 150°C Ta
- Integrated CAN transceiver
- Fast 12 bit ADC, 2 Op Amps, high-res PWM/Timer
- Ultra-reliable industrial

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

Flash	64-192 KB	12V VREG	12V/70mA, 170mA with ballast
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

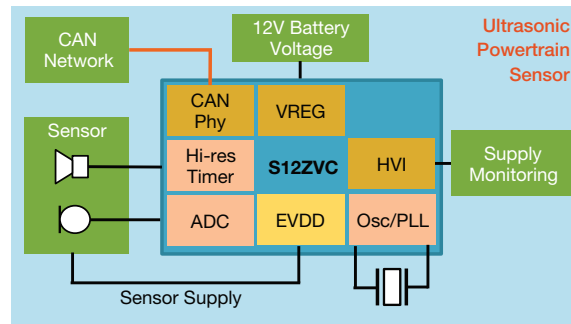| Part Number	Temp Range	Package
S912ZVCA19F0MLF	-40°C to 125°C	48 LQFP
S912ZVCA19F0MKH	-40°C to 125°C	64 LQFP-EP
S912ZVCA19F0WKH	-40°C to 150°C	64 LQFP-EP

Get Sample | Data Sheet | Tools

Block Diagram
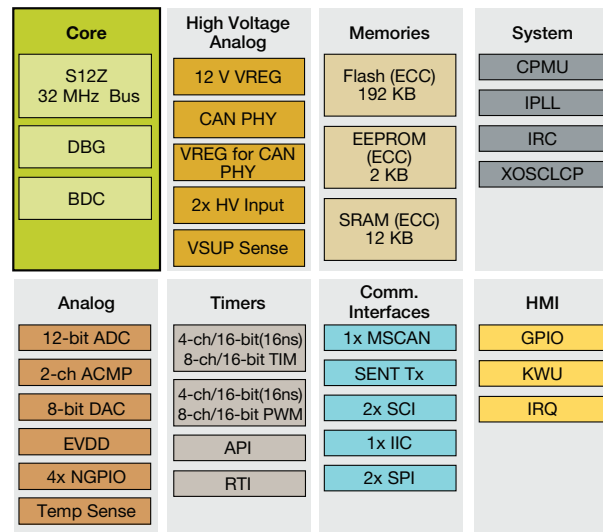
Ultrasonic Powertrain Sensor

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

Product Longevity
SAFE ASSURE™ by Freescale

For more information, visit freescale.com/S12ZVC

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[NXP](#):

S912ZVFP64F1CLQ S912ZVFP64F1VLQ S912ZVFP64F1VLL S912ZVFP64F1CLL S912ZVCA19F0MKH
S912ZVCA19F0WKH S912ZVCA19F0MLF S912ZVCA19F0MLFR S912ZVC19F0MKH S912ZVC19F0MLF
S912ZVC96F0MLF S912ZVC12F0VLFR S912ZVC96F0MLFR S912ZVCA96F0MLF S912ZVCA96F0MLFR
S912ZVC96F0MKH S912ZVC12F0VLF S912ZVCA64F0MLF S912ZVC12F0VKH S912ZVC19F0VKHR
S912ZVC64F0MLF S912ZVC12F0MLF S912ZVC19F0VKH S912ZVCA19F0VLF S912ZVCA19F0VLFR
S912ZVC12F0MLFR S912ZVC64F0MLFR S912ZVC19F0MKHR S912ZVC64F0MKHR S912ZVC64F0VLF
S912ZVC12F0MKH S912ZVC12F0VKHR S912ZVC64F0CLFR S912ZVC19F0VLFR S912ZVC64F0VLFR
S912ZVC19F0VLF S912ZVCA96F0VLF S912ZVCA64F0CLFR S912ZVC64F0CLF S912ZVC12F0MKHR
S912ZVCA64F0VLF S912ZVCA64F0VLFR S912ZVC96F0CLF S912ZVCA64F0MLFR S912ZVC96F0VLF
S912ZVC96F0VLFR