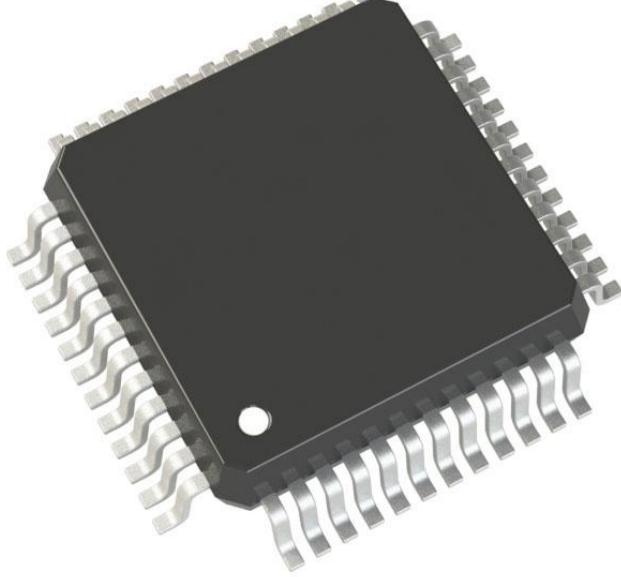


www.digi-electronics.com



S912ZVMAL3F0MLF Datasheet

DiGi Electronics Part Number S912ZVMAL3F0MLF-DG

Manufacturer [NXP USA Inc.](#)

Manufacturer Product Number S912ZVMAL3F0MLF

Description IC MCU 16BIT 32KB FLASH 48LQFP


<https://www.DiGi-Electronics.com>

Detailed Description S12Z S12 MagniV Microcontroller IC 16-Bit 32MHz 3

This model S912ZVMAL3F0MLF is available at [DiGi Electronics](#).
2KB (32K x 8) FLASH 48-LQFP (7x7)

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Tel: +00 852 30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

S912ZVMAL3F0MLF

Series:

S12 MagniV

DiGi-Electronics Programmable:

Not Verified

Core Size:

16-Bit

Connectivity:

LINbus, SCI, SPI

Number of I/O:

22

Program Memory Type:

FLASH

RAM Size:

2K x 8

Data Converters:

A/D 7x10b

Operating Temperature:

-40°C ~ 125°C (TA)

Supplier Device Package:

Manufacturer:

NXP USA Inc.

Product Status:

Active

Core Processor:

S12Z

Speed:

32MHz

Peripherals:

PWM, WDT

Program Memory Size:

32KB (32K x 8)

EEPROM Size:

128 x 8

Voltage - Supply (Vcc/Vdd):

3.5V ~ 20V

Oscillator Type:

Internal

Mounting Type:

Surface Mount

Package / Case:

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

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 control 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

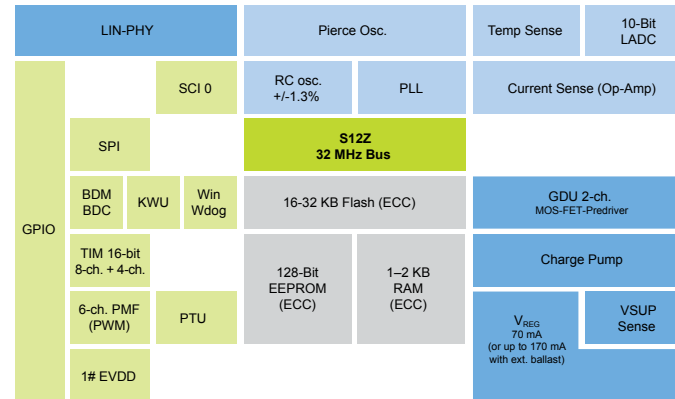
Part Number	Flash	Temp Range	Package	Available
S912ZVMAL3F0MLF	32 KB	-40 to 125 °C	48-LQFP	Now
S912ZVMAL3F0WLF	32 KB	-40 to 150 °C	48-LQFP	Now
S912ZVMAL3F0MLC	32 KB	-40 to 125 °C	32-LQFP	Now

www.NXP.com/S12VMA

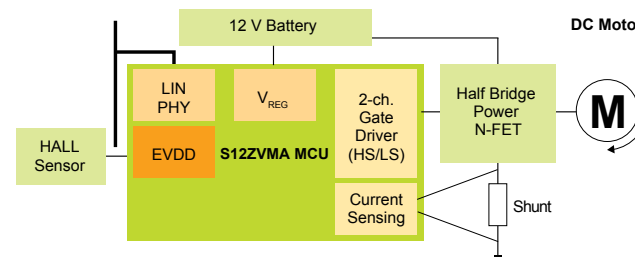
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Document Number: S12ZVMAFSA4 REV 7

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



Product Line



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