Welcome to E-XFL.COM

What is "Embedded - Microcontrollers"?

"Embedded - Microcontrollers" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "Embedded - Microcontrollers"

Details	
Product Status	Active
Core Processor	ARM® Cortex®-M0+
Core Size	32-Bit Single-Core
Speed	40MHz
Connectivity	I²C, LINbus, SPI, UART/USART
Peripherals	LVD, POR, PWM, WDT
Number of I/O	57
Program Memory Size	32KB (32K x 8)
Program Memory Type	FLASH
EEPROM Size	256 x 8
RAM Size	4K x 8
Voltage - Supply (Vcc/Vdd)	2.7V ~ 5.5V
Data Converters	A/D 16x12b
Oscillator Type	Internal
Operating Temperature	-40°C ~ 85°C (TA)
Mounting Type	Surface Mount
Package / Case	64-LQFP
Supplier Device Package	64-LQFP (10x10)
Purchase URL	https://www.e-xfl.com/product-detail/nxp-semiconductors/s9keazn32aclh

Kinetis EA Series Family of Microcontrollers

ARM®-Based MCUs for Ultra-Reliable Applications

Features

- AEC-Q100 Grade1, Ta125 °C
- 12-bit ADC, PWM/Timers
- CAN and LIN Node
- Ultra-reliable MCU

Product One-Sheet

Get Sample **Data Sheet** **Tools**

Performance and Low Power – Up to 48 MHz ARM® Cortex®-M0+ core, single-cycle 32-bit x 32-bit multiplier, less than 2µA in stop mode

High Reliability – AEC-Q100 Grade 1, automotive quality, enhanced ESD/EMC performance up to 6 KV, 125 °C ambient temperature

Features Rich – CAN, LIN, SPI, I²C, analog comparators, multiple timers with PWM functionality

Enablement – Fast time to market with large choice of low-level drivers, reference designs, middleware libraries, and example code

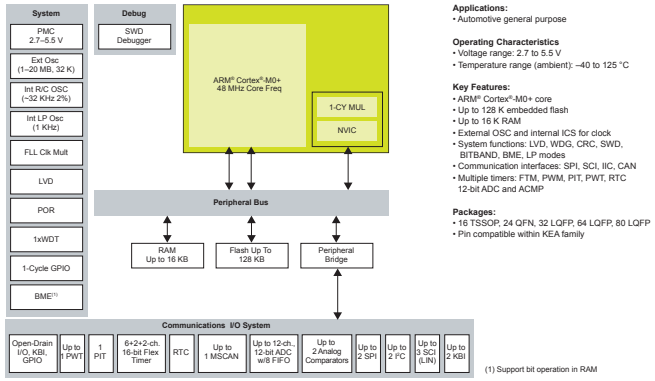
KEAZ128 Specifications

Flash	Up to 128 KB	Timer/PWM	Up to 8-ch., 16-bit
RAM	Up to 16 KB	Other Timer	RTC, PWT, 2 PIT
Core	M0+	Comparator	Two 6-bit DAC
Speed	48 MHz	CAN	1
Package	16 to 80 pins	SCI/SPI/I²C	Up to 3/2/2
Op Range	2.9 V–5.5 V	HMI	Up to 71 GPIO, 2 KBI, 1 IRQ
Temp	125 °C	Security	LVD, WDOG, CRC

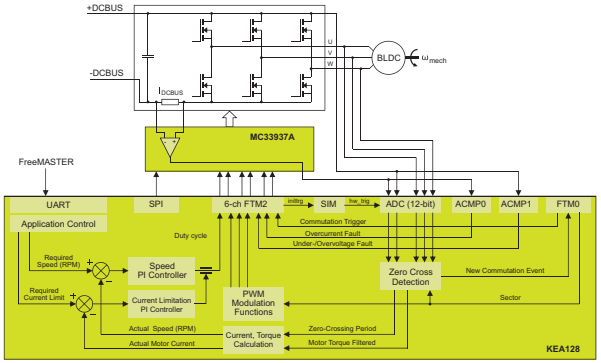
Orderable Samples

Part Number	Temp Range	Package
S9KEAZ128	-40 °C to 125 °C	64 and 80 LQFP
S9KEAZN64	-40 °C to 125 °C	32 and 64 LQFP
S9KEAZN8	-40 °C to 125 °C	16 TSSOP and 24 QFN

Kinetis EA Series MCUs Block Diagram



3 Phases Sensorless BLDC Motor Control



Energy Efficient Solutions by Freescale™

Product Longevity

Success Stories

- Electric motor control
- Air flow system
- Industrial HVAC
- Battery management system

Target Applications

- CAN and LIN nodes
- Peripheral Gateway
- Lighting control
- DC/BLDC motor
- Pump/fan controller
- Battery management
- Generic sensor node
- HVAC

Enablement Tools

- Evaluation boards:
  - TRK-KEA8, TRK-KE64, TRK-KEA128
- Reference designs:
  - KEA128BLDCRD – BLDC Motor Control
  - Lighting Control, CAN/LIN Gateway
- CodeWarrior, KDS, IAR Embedded Workbench®, KEIL®, Cosmic
- NVM, CAN and LIN drivers, LIN stack
- M0+ motor control libraries
- FreeMASTER and MCAT

www.nxp.com/KEA

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