TOSHIBA

TXZ+™ Family
32-bit Microcontroller



Performance and Scalability

Toshiba's TXZ+™ microcontroller family builds on decades of expertise to deliver advanced performance for motor-control and data-processing applications. Featuring Toshiba's proprietary IP, powerful processing capabilities, integrated peripherals, and support for both sensorless and sensored motor control, TXZ+™ devices enable high-performance multi-axis control while reducing software development effort. Comprehensive development tools, free motor-control evaluation software, and readily available evaluation kits help accelerate development and shorten time-to-market.

Applications

- Industrial automation, robotics and motor-control systems
- Office, commercial and building automation equipment
- Home appliances and consumer electronics
- Smart home and IoT devices
- Power tools, e-Bikes, pedelecs and battery-powered equipment

Features

- Motor control hardware acceleration
- Integrated system functions
- Security & functional safety
- Scalable product portfolio
- Complete development ecosystem

Advantages

- Reduced CPU load
- Simplified hardware design
- Enhanced protection & reliability
- Wide device and package choice
- Faster evaluation and development

Benefits

- Higher motor-control performance
- Lower system cost
- More reliable end products
- Reusable designs across platforms
- Faster time-to-market

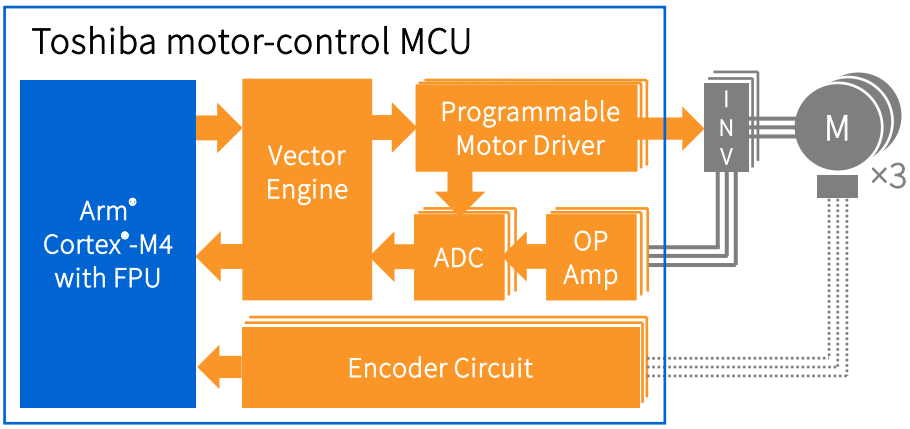
Status	Product Group	Target Application	CPU	Flash Memory	Analog	Motor control	Other Function		
MP	M3H	System	M3/ 120MHz	Up to 1MB	12bit ADC 8bit DAC	PMD*1 / ENC*2	Digital LCD Driver		
MP	M4G	System	M4/ 200MHz	Up to 2MB	12bit ADC 8bit DAC	PMD*1	External Bus Serial Mem.IF	Audio I/F I2S/FIR	
MP	M4N	Connectivity	M4/ 200MHz	Up to 2MB	12bit ADC 8bit DAC	PMD*1	External Bus Serial Mem.IF	CAN, USB EtherMAC	Audio I/F I2S/FIR
MP	M4K(1)	Motor	M4/ 120MHz	Up to 256KB	12bit ADC	PMD*1 / ENC*2			
MP	M4K(2)	Motor	M4/ 160MHz	Up to 1MB	12bit ADC	PMD*1 / ENC*2 VE*3			
MP	M4M	Connectivity	M4/ 160MHz	Up to 1MB	12bit ADC AMP,CMP	PMD*1 / ENC*2 VE*3	CAN		
MP	M4L	Motor	M4/ 80MHz	Up to 256KB	12bit ADC	PMD*1 / ENC*2 VE*3	Serial Mem.IF	Security Gen2	
Under Development	M4H	System	M4/ 120MHz	256KB	12bit ADC	PMD*1			
Under Development	M4V	System	M4/ 80MHz	128KB	12bit ADC	PMD*1	Serial Mem.IF	Security Gen2	

*1:PMD (Programmable Motor Driver) *2:ENC(Encoder) *3:VE (Vector Engine)

Toshiba TXZ+™ motor-control architecture

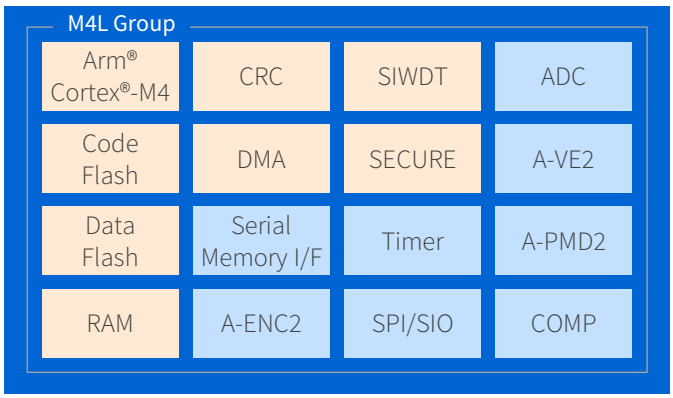
Exclusive Toshiba motor-control technology combines hardware acceleration, precise sensing and advanced PWM generation to deliver higher efficiency, reduced CPU load and faster development of motor-control applications.

- CPU load reduction up to 72%
- High-speed and low-vibration motor operation using high-frequency PWM
- Reduced software development effort



Integrated system functions

Built-in analog peripherals, data flash memory, accurate internal oscillators and communication interfaces reduce external component count, simplify hardware design and help lower overall system cost.



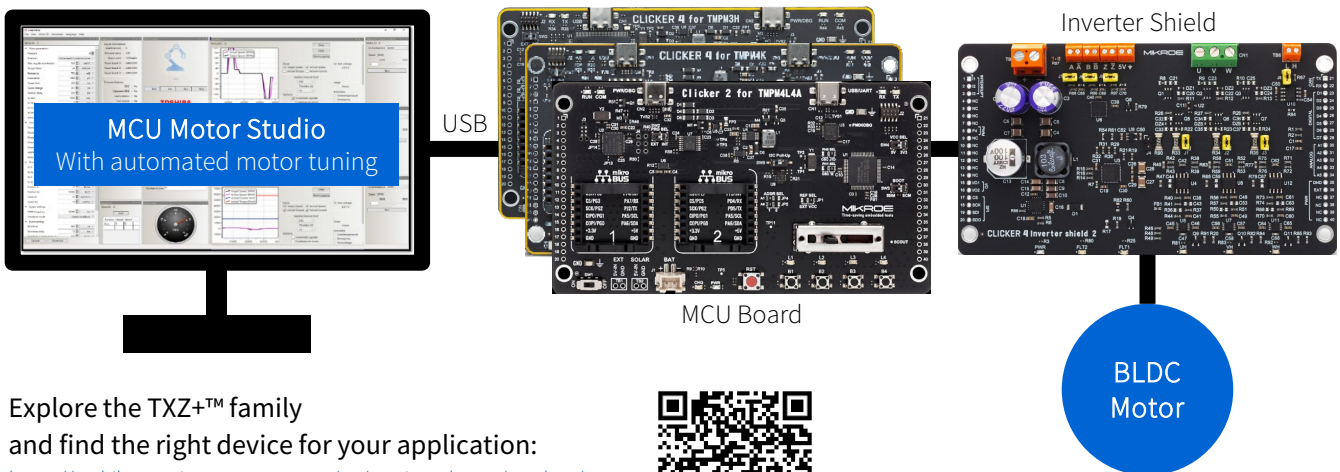
- Analog peripherals
- Data flash memory
- Internal ±1% oscillator
- Communication interfaces
- Security features
- Timers & DMA

→

- Simplified hardware design
- Lower system cost
- Shorter time-to-market

Complete development ecosystem

Comprehensive software tools, evaluation kits, sample software and motor-control development environments help engineers rapidly evaluate, configure and optimize their applications, reducing development effort and shortening time-to-market.



Explore the TXZ+™ family
and find the right device for your application:
https://toshiba.semicon-storage.com/eu/semiconductor/product/microcontrollers.html

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