

Main Specifications

Product group		M4K Group	
Part number ^[5]		TMPM4KNF10AFG TMPM4KNFDADF	TMPM4KLF10AUG TMPM4KLFDADF
		TMPM4KNF10ADFG TMPM4KNFDADFG	TMPM4KLF10AFG TMPM4KLFDADF
CPU core		Arm [®] Cortex [®] -M4 – floating point unit (FPU) – memory protection unit (MPU)	
Maximum operating frequency		160MHz	
Internal oscillator	Oscillation frequency	10MHz (±1%)	
Internal memory	Flash (code)	1024KB/512KB ^[5] (Program/erase cycles: up to 100,000 times) Memory swap method firmware rotation function with two separate code flash areas of 512KB each ^[4]	
	Flash (data)	32KB (Program/erase cycles: up to 100,000 times)	
	RAM	64KB, with parity	
I/O port		87 pin	51 pin
External interrupt		20 factors, 32 pin	15 factors, 20 pin
DMA controller (DMAC)		32 channels	30 channels
Timer function	32-bit Timer Event Counter (T32A)	6 channels (12 channels if used as 16-bit timer)	
Communication function	UART	4 channels	3 channels
	I ² C/EI ² C interface (I2C/EI2C)	2 channels	
	TSPI	2 channels	
Analog function	12-bit AD converter (ADC)	11/5/6 inputs in 3 units	8/3/3 inputs in 3 units
	Operational Amplifier (OPAMP)	3 units	
Motor control circuits	Advanced Programmable Motor Control Circuit (A-PMD)	3 channels	3 channels ^[6]
	Advanced Vector Engine Plus (A-VE+)	1 channel	
	Advanced Encoder Input Circuit (32-bit) (A-ENC32)	3 channels	1 channel

	CRC Calculation Circuit (CRC)	1 channel, CRC32, CRC16	
System function	Watchdog Timer (SIWDT)	1 channel	
	Voltage Detection Circuit (LVD)	1 channel	
	Oscillation Frequency Detector (OFD)	1 channel	
On Chip Debug function		JTAG / SW TRACE(4bits) NBDIF	SW
Operating voltage		2.7 to 5.5V, single voltage supply 4.5 to 5.5 V (All functions), 2.7 to 4.5 V (Without OPAMP, ADC)	
Package / Pin		LQFP100 (14mm x 14mm, 0.5mm pitch)	LQFP64 (10mm x 10mm, 0.5mm pitch)
		QFP100 (14mm x 20mm, 0.65mm pitch)	LQFP64 (14mm x 14mm, 0.8mm pitch)