

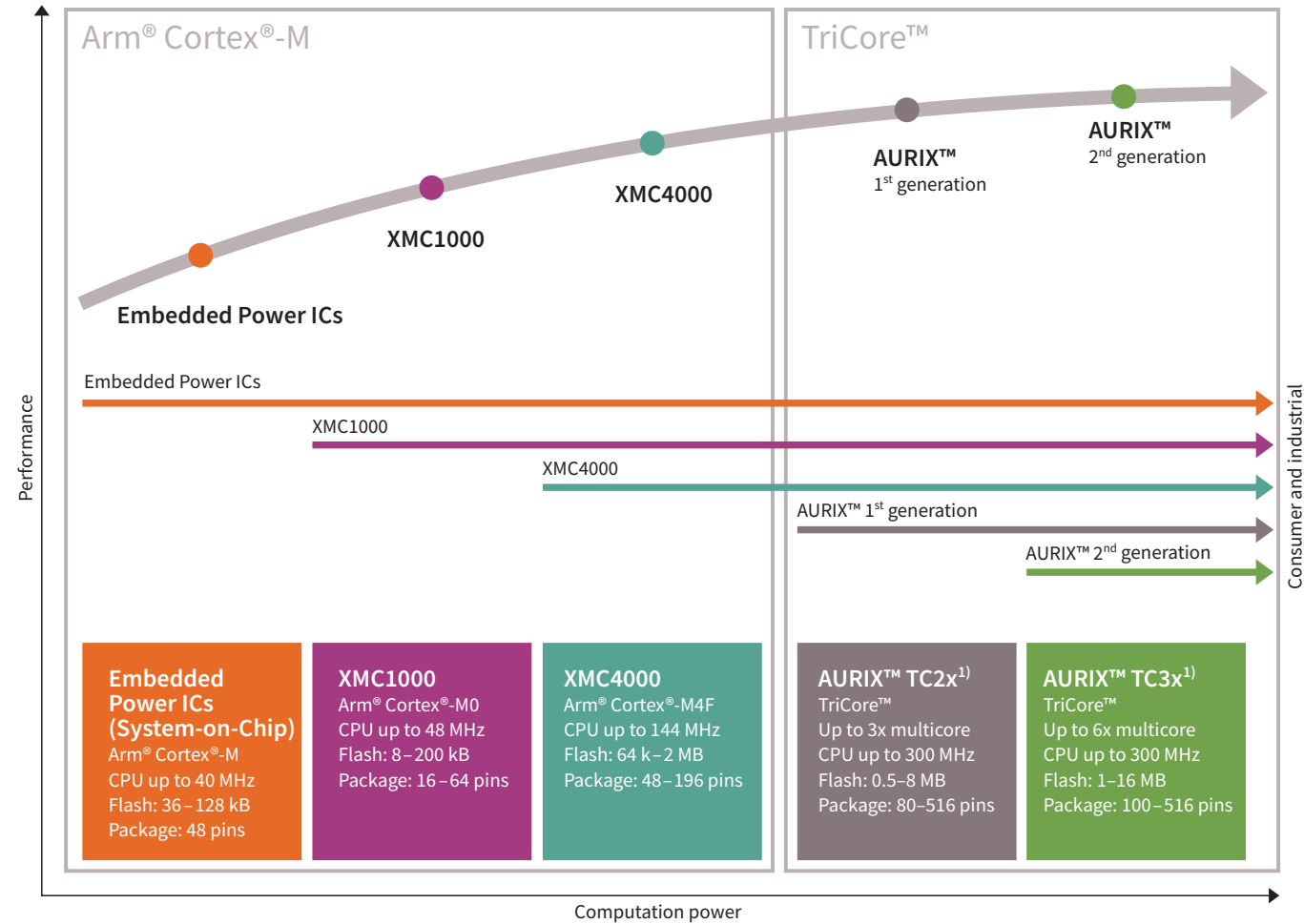


Microcontroller pocket guide

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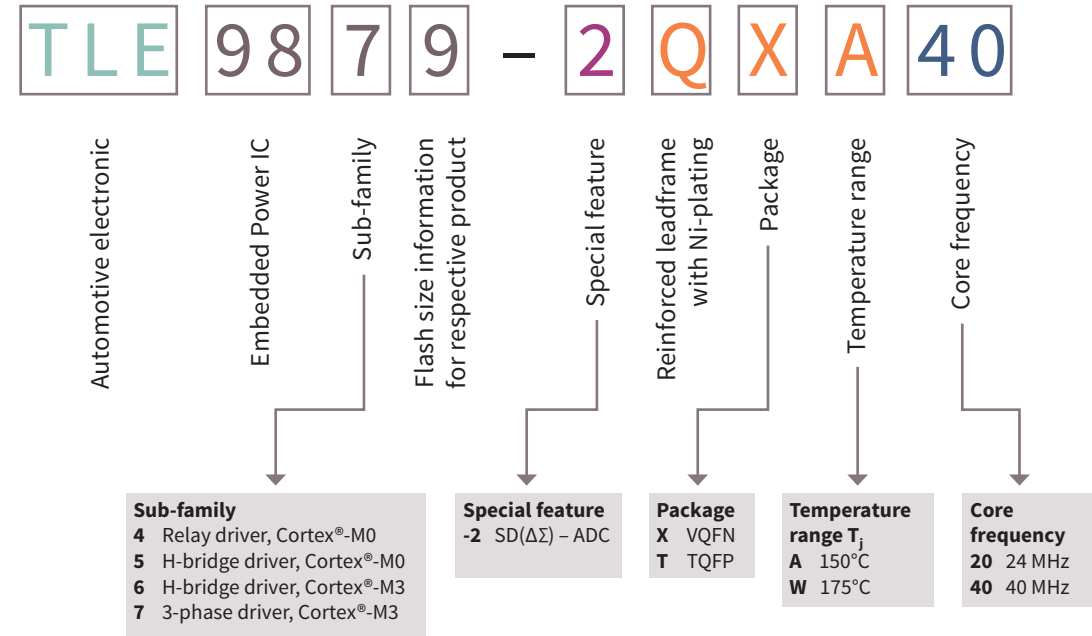


Infineon microcontrollers portfolio



1) AURIX™ devices add safety and CAN FD

32-bit Embedded Power ICs based on Arm® Cortex®-M



Selection table – Embedded Power ICs for Motor Control

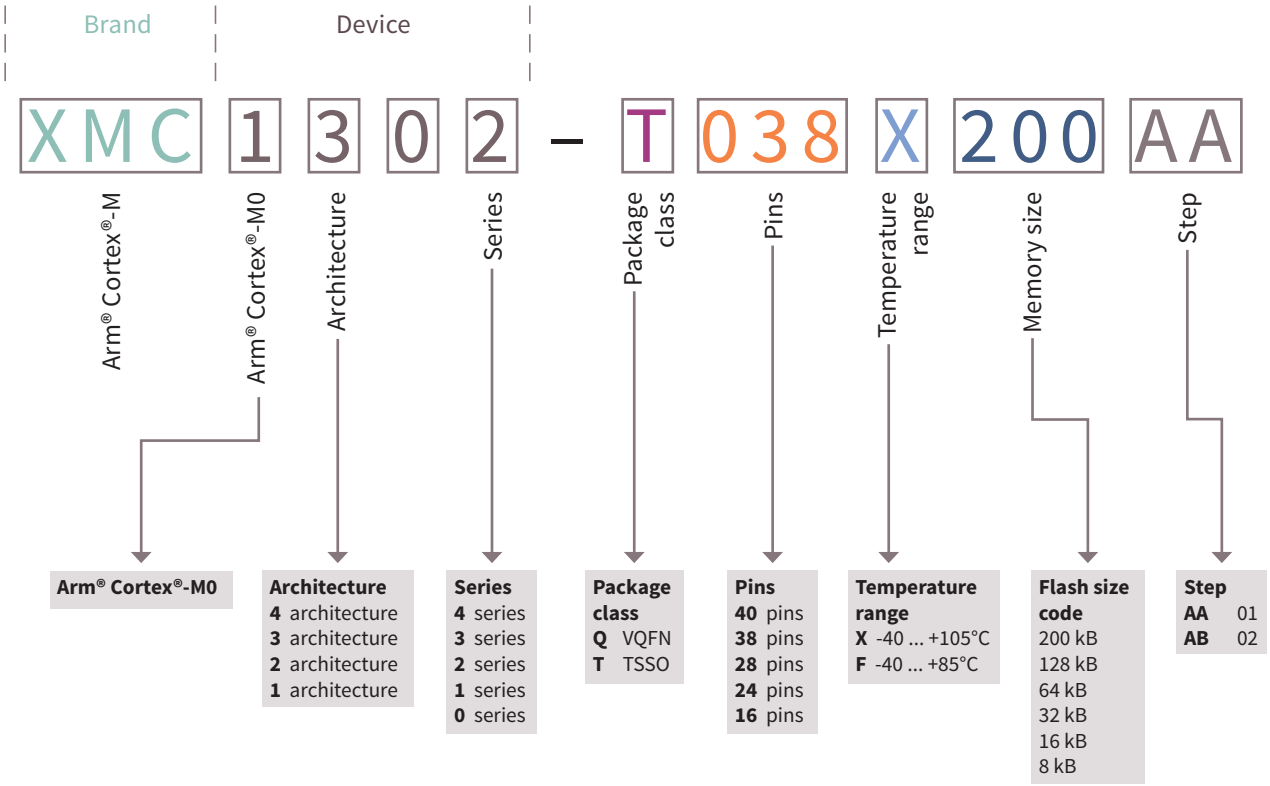
Criteria	TLE984x	TLE9845QX	TLE9850/1QX(W)	TLE985x	TLE986x	TLE987x
Controller	Arm® Cortex®-M0				Arm® Cortex®-M3	
Core frequency	25/40 MHz	40 MHz		24/40 MHz		
Flash size	36–64 KB	48 KB	48/64 KB	48–96 KB	36–128 KB	
Driver stage	Relay	Half-bridge		H-bridge		B6-bridge
		PN FET	NN FET	N FET		N FET
High-voltage monitor inputs	4 – 5	5	4		1	
Junction temperature levels	150°C	150°C	150°C/175°C	150°C/175°C	150°C/175°C	
Package	VQFN-48-31		VQFN-48-29 VQFN-48-31	VQFN-48-29 VQFN-48-31	VQFN-48-29 VQFN-48-31	
Applications	Window lift Sunroof	Engine cooling fan Auxiliary water pump HVAC blower Fuel pump		Window lift Sunroof Wiper Power lift gate	Engine cooling fan Oil/water/fuel pump HVAC blower Power tools	

32-bit Embedded Power ICs based on Arm® Cortex®-M

Product type/ part number	Markets				GPIOs	Core		System					Debug		Supply voltage [V]	Operating temperature range T _A [°C]	Memory					Fast LIN BSL bootloader	Peripherals clock [MHz]	Driver circuits					Analog				Timer			SPI	Dual SPI	Quad SPI	UART/SCI	IIC/I ² C	IIS/I ² S	LIN	
	Automotive	Industrial	Consumer	Package		Processor type	Core frequency [MHz]	ERU	DMA	MPU	Watchdog	Real-time clock	SWD, SPD	JTAG, Trace			Flash [kByte]	ECC	RAM [kByte]	Cache	EEPROM emulation flash [kByte]			MOSFET half bridge driver with double stage charge pump	3 phase	2 phase	1 phase	High side switches	Low side switches	No. of 10-bit ADC channels	No. of 8-bit ADC channels	Operational amplifier	ΔΣ ADC	CCU6	GPT12								Timer2/21
Relay Driver IC																																											
TLE9842QX	●	-	-	VQFN-48	10	Cortex®-M0	25	-	-	●	●	●	-	5.5 to 28	-40 to 150	36	●	2	-	4	●	Selectable	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
TLE9842-2QX	●	-	-	VQFN-48	10	Cortex®-M0	40	-	-	●	●	●	-	5.5 to 28	-40 to 150	40	●	2	-	4	●	Selectable	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
TLE9843QX	●	-	-	VQFN-48	10	Cortex®-M0	25	-	-	●	●	●	-	5.5 to 28	-40 to 150	48	●	4	-	4	●	Selectable	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
TLE9843-2QX	●	-	-	VQFN-48	10	Cortex®-M0	40	-	-	●	●	●	-	5.5 to 28	-40 to 150	52	●	4	-	4	●	Selectable	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
TLE9844QX	●	-	-	VQFN-48	10	Cortex®-M0	25	-	-	●	●	●	-	5.5 to 28	-40 to 150	64	●	4	-	4	●	Selectable	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
TLE9844-2QX	●	-	-	VQFN-48	10	Cortex®-M0	40	-	-	●	●	●	-	5.5 to 28	-40 to 150	64	●	4	-	4	●	Selectable	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Half-Bridge Driver IC																																											
TLE9845QX	●	-	-	VQFN-48	10	Cortex®-M0	40	-	-	●	●	●	-	5.5 to 28	-40 to 150	48	●	4	-	4	●	Selectable	-	-	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
TLE9850QX	●	-	-	VQFN-48	10	Cortex®-M0	40	-	-	●	●	●	-	5.5 to 28	-40 to 150	48	●	4	-	4	-	Selectable	-	-	●	●	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
TLE9851QXW	●	-	-	VQFN-48	10	Cortex®-M0	40	-	-	●	●	●	-	5.5 to 28	-40 to 175	64	●	4	-	4	●	Selectable	-	-	●	●	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
H-Bridge Driver IC																																											
TLE9852QX	●	-	-	VQFN-48	10	Cortex®-M0	40	-	-	●	●	●	-	5.5 to 28	-40 to 150	48	●	4	-	4	●	Selectable	-	●	-	●	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
TLE9853QX	●	-	-	VQFN-48	10	Cortex®-M0	40	-	-	●	●	●	-	5.5 to 28	-40 to 150	48	●	4	-	4	●	Selectable	-	●	-	●	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
TLE9854QX	●	-	-	VQFN-48	10	Cortex®-M0	40	-	-	●	●	●	-	5.5 to 28	-40 to 150	64	●	4	-	4	●	Selectable	-	●	-	●	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
TLE9854QXW	●	-	-	VQFN-48	10	Cortex®-M0	40	-	-	●	●	●	-	5.5 to 28	-40 to 150	64	●	4	-	4	●	Selectable	-	●	-	●	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
TLE9855QX	●	-	-	VQFN-48	10	Cortex®-M0	40	-	-	●	●	●	-	5.5 to 28	-40 to 150	96	●	4	-	4	●	Selectable	-	●	-	●	-	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
TLE9861QXA20	●	-	-	VQFN-48	10	Cortex®-M3	24	-	13 ch	●	●	●	-	5.5 to 28	-40 to 150	36	●	3	-	4	●	Selectable	-	●	-	-	-	7 ch	10 ch	●	-	3 ch	●	●	●	●	●	●	●	●	●	●	
TLE9867QXA20	●	-	-	VQFN-48	10	Cortex®-M3	24	-	13 ch	●	●	●	-	5.5 to 28	-40 to 150	64	●	6	-	4	●	Selectable	-	●	-	-	-	7 ch	10 ch	●	-	3 ch	●	●	●	●	●	●	●	●	●	●	
TLE9867QXA40	●	-	-	VQFN-48	10	Cortex®-M3	40	-	13 ch	●	●	●	-	5.5 to 28	-40 to 150	64	●	6	-	4	●	Selectable	-	●	-	-	-	7 ch	10 ch	●	-	3 ch	●	●	●	●	●	●	●	●	●	●	
TLE9867QXW20	●	-	-	VQFN-48	10	Cortex®-M3	24	-	13 ch	●	●	●	-	5.5 to 28	-40 to 175	64	●	6	-	4	●	Selectable	-	●	-	-	-	7 ch	10 ch	●	-	3 ch	●	●	●	●	●	●	●	●	●	●	
TLE9868QXB20	●	-	-	VQFN-48	10	Cortex®-M3	20	-	-	●	●	-	-	5.5 to 28	-40 to 150	128	●	4	-	5	●	Selectable	-	●	-	-	-	6 ch	10 ch	-	●	●	3 ch	●	●	●	●	●	●	●	●	●	
TLE9869QXA20	●	-	-	VQFN-48	10	Cortex®-M3	24	-	13 ch	●	●	●	-	5.5 to 28	-40 to 150	128	●	6	-	4	●	Selectable	-	●	-	-	-	7 ch	10 ch	●	-	3 ch	●	●	●	●	●	●	●	●	●	●	
3-Phase Bridge Driver IC																																											
TLE9871QXA20	●	-	-	VQFN-48	10	Cortex®-M3	24	-	13 ch	●	●	●	-	5.5 to 28	-40 to 150	36	●	3	-	4	●	Selectable	●	-	-	-	-	7 ch	9 ch	●	-	3 ch	●	●	●	●	●	●	●	●	●	●	
TLE9873QXW40	●	-	-	VQFN-48	10	Cortex®-M3	40	-	13 ch	●	●	●	-	5.5 to 28	-40 to 175	48	●	3	-	4	●	Selectable	●	-	-	-	-	7 ch	9 ch	●	-	3 ch	●	●	●	●	●	●	●	●	●	●	
TLE9877QXA20	●	-	-	VQFN-48	10	Cortex®-M3	24	-	13 ch	●	●	●	-	5.5 to 28	-40 to 150	64	●	6	-	4	●	Selectable	●	-	-	-	-	7 ch	9 ch	●	-	3 ch	●	●	●	●	●	●	●	●	●	●	●
TLE9877QXA40	●	-	-	VQFN-48	10	Cortex®-M3	40	-	13 ch	●	●	●	-	5.5 to 28	-40 to 150	64	●	6	-	4	●	Selectable	●	-	-	-	-	7 ch	9 ch	●	-	3 ch	●	●	●	●	●	●	●	●	●	●	●
TLE9877QXW40	●	-	-	VQFN-48	10	Cortex®-M3	40	-	13 ch	●	●	●	-	5.5 to 28	-40 to 175	64	●	6	-	4	●	Selectable	●	-	-	-	-	7 ch	9 ch	●	-	3 ch	●	●	●	●	●	●	●	●	●	●	●
TLE9879QXA20	●	-	-	VQFN-48	10	Cortex®-M3	24	-	13 ch	●	●	●	-	5.5 to 28	-40 to 150	128	●	6	-	4	●	Selectable	●	-	-	-	-	7 ch	9 ch	●	-	3 ch	●	●	●	●	●	●	●	●	●	●	●
TLE9879QXA40	●	-	-	VQFN-48	10	Cortex®-M3	40	-	13 ch	●	●	●	-	5.5 to 28	-40 to 150	128	●	6	-	4	●	Selectable	●	-	-	-	-	7 ch	9 ch	●	-	3 ch	●	●	●	●	●	●	●	●	●	●	●
TLE9879-2QXA40	●	-	-	VQFN-48	10	Cortex®-M3	40	-	14 ch	●	●	●	-	5.5 to 28	-40 to 150	128	●	6	-	4	●	Selectable	●	-	-	-	-	7 ch	9 ch	●	●	3 ch	●	●	●	●	●	●	●	●	●	●	●
TLE9879QXW40	●	-	-	VQFN-48	10	Cortex®-M3	40	-	13 ch	●	●	●	-	5.5 to 28	-40 to 175	128	●	6	-	4	●	Selectable	●	-	-	-	-	7 ch	9 ch	●	-	3 ch	●	●	●	●	●	●	●	●	●	●	●



32-bit XMC™ Microcontroller – XMC1000 family



32-bit XMC™ Microcontroller – XMC1000 family

Product type/part number	Markets				GPIOs	Core		Co-processor		System					Debug		Supply voltage [V]	Operating temperature range T _A [°C]	Memory				Analog				Timer/PWM					Communication										LED display	Capacitive touch																																				
	Automotive	Industrial	Consumer	Package		Processor type	Core frequency [MHz]	CORDIC/DIV	DSP	FPU	ERU	DMA	MPU	CRC	PRNG	Watchdog			Real-Time Clock	SWD, SPD	JTAG, Trace	Flash	ECC	RAM	Cache	EEPROM emulation in flash	Data/IP protection	Secure bootloader	Peripherals clock [MHz]	No. of 12-bit ADC/ No. of sample & hold/ No. of inputs	12-bit DAC	Comparator	CCU4	CCU8	HRPWM (150 ps)	ΔΣ Demodulator	POSIF	BCCU/LED	EtherCAT®	IEEE1588 Ethernet MAC	CAN 2.0B nodes			USB	SDIO/SD/MMC	USIC (Universal Serial Interface Controller)						External Bus Unit (EBU)																											
XMC1200 series																																																																															
XMC1201-Q040F0032	-	●	●	VQFN-40	34	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 85	32	-	16	-	●	-	●	64	1/2/12	-	3x	4 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	2 ch	●	●	●	●	●	●	●	●	-	2x 64 segment	16 ch																			
XMC1201-Q040F0064	-	●	●	VQFN-40	34	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 85	64	-	16	-	●	-	●	64	1/2/12	-	3x	4 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 ch	●	●	●	●	●	●	●	●	-	2x 64 segment	16 ch																
XMC1201-Q040F0128	-	●	●	VQFN-40	34	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 85	128	-	16	-	●	-	●	64	1/2/12	-	3x	4 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 ch	●	●	●	●	●	●	●	●	-	2x 64 segment	16 ch															
XMC1201-Q040F0200	-	●	●	VQFN-40	34	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 85	200	-	16	-	●	-	●	64	1/2/12	-	3x	4 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 ch	●	●	●	●	●	●	●	●	-	2x 64 segment	16 ch													
XMC1201-T028F0016	-	●	●	TSSOP-28	26	Cortex®-M1	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 85	16	-	16	-	●	-	●	64	1/2/10	-	2x	4 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 ch	●	●	●	●	●	●	●	●	-	2x 64 segment	16 ch															
XMC1201-T028F0032	-	●	●	TSSOP-28	26	Cortex®-M1	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 85	32	-	16	-	●	-	●	64	1/2/10	-	2x	4 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 ch	●	●	●	●	●	●	●	●	-	2x 64 segment	16 ch													
XMC1202-T016X0016	-	●	●	TSSOP-16	14	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 105	16	-	16	-	●	-	●	64	1/2/7	-	2x	4 ch	-	-	-	-	-	9 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 ch	●	●	●	●	●	●	●	●	-	-	-												
XMC1202-T016X0032	-	●	●	TSSOP-16	14	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 105	32	-	16	-	●	-	●	64	1/2/7	-	2x	4 ch	-	-	-	-	-	9 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 ch	●	●	●	●	●	●	●	●	-	-	-											
XMC1202-T028X0016	-	●	●	TSSOP-28	26	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 105	16	-	16	-	●	-	●	64	1/2/10	-	3x	4 ch	-	-	-	-	-	9 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 ch	●	●	●	●	●	●	●	●	-	-	-							
XMC1202-T028X0032	-	●	●	TSSOP-28	26	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 105	32	-	16	-	●	-	●	64	1/2/10	-	3x	4 ch	-	-	-	-	-	9 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 ch	●	●	●	●	●	●	●	●	-	-	-					
XMC1202-T028X0064	-	●	●	TSSOP-28	26	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 105	64	-	16	-	●	-	●	64	1/2/10	-	3x	4 ch	-	-	-	-	-	9 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 ch	●	●	●	●	●	●	●	●	-	-	-			
XMC1202-Q024X0016	-	●	●	VQFN-24	22	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 105	16	-	16	-	●	-	●	64	1/2/9	-	3x	4 ch	-	-	-	-	-	9 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 ch	●	●	●	●	●	●	●	●	-	-	-					
XMC1202-Q024X0032	-	●	●	VQFN-24	22	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 105	32	-	16	-	●	-	●	64	1/2/9	-	3x	4 ch	-	-	-	-	-	9 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-									
XMC1202-Q040X0016	-	●	●	VQFN-40	26	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 105	16	-	16	-	●	-	●	64	1/2/12	-	3x	4 ch	-	-	-	-	-	9 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
XMC1202-Q040X0032	-	●	●	VQFN-40	26	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 105	32	-	16	-	●	-	●	64	1/2/12	-	3x	4 ch	-	-	-	-	-	9 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
XMC1202-T016X0064	-	●	●	TSSOP-16	14	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 106	64	-	16	-	●	-	●	64	1/2/7	-	2x	4 ch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
XMC1300 series																																																																															
XMC1301-T016F0008	-	●	●	TSSOP-16	14	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 85	8	-	16	-	●	-	●	64	1/2/7	-	2x	4 ch	4 ch	-	-	1x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
XMC1301-T016X0008	-	●	●	TSSOP-16	14	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 85	8	-	16	-	●	-	●	64	1/2/7	-	2x	4 ch	4 ch	-	-	1x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
XMC1301-T016F0016	-	●	●	TSSOP-16	14	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 85	16	-	16	-	●	-	●	64	1/2/7	-	2x	4 ch	4 ch	-	-	1x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XMC1301-T016X0016	-	●	●	TSSOP-16	14	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 85	16	-	16	-	●	-	●	64	1/2/7	-	2x	4 ch	4 ch	-	-	1x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
XMC1301-T016F0032	-	●	●	TSSOP-16	14	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 85	32	-	16	-	●	-	●	64	1/2/7	-	2x	-	4 ch	-	-	1x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
XMC1301-T038F0008	-	●	●	TSSOP-38	34	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 85	8	-	16	-	●	-	●	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
XMC1301-T038F0016	-	●	●	TSSOP-38	34	Cortex®-M0	32	-	-	-	1	-	-	-	-	●	●	●	●	●	-	1.8 to 5.5	-40 to 85	16	-	16	-	●	-	●	64																																																

32-bit XMC™ Microcontroller – XMC1000 family

Product type/part number	Markets				GPIOs	Core		Co-processor		System							Debug		Supply voltage [V]	Operating temperature range T _A [°C]	Memory				Secure bootloader	Peripherals clock [MHz]	Analog				Timer/PWM				Communication													Capacitive touch							
	Automotive	Industrial	Consumer	Package		Processor type	Core frequency [MHz]	CORDIC/DIV	DSP	FPU	ERU	DMA	MPU	CRC	PRNG	Watchdog	Real-Time Clock	SWD, SPD			JTAG, Trace	Flash	ECC	RAM			Cache	EEPROM emulation in flash	Data/IP protection	No. of 12-bit ADC/ No. of sample & hold/ No. of inputs	12-bit DAC	Comparator	CCU4	CCU8	HRPWM (1.50 ps)	ΔΣ Demodulator	POSIF	BCCU/LED	EtherCAT®	IEEE1588 Ethernet MAC	CAN 2.0B nodes	USB	SDIO/SD/MMC	USIC (Universal Serial Interface Controller)								External Bus Unit (EBU)			
																																												# channels	SPI	Dual SPI	Quad SPI		UART/SCI	IC/C	IIS/I2S		LIN	LED display	
XMC1300 series																																																							
XMC1301-Q024F0016	-	•	•	VQFN-24	22	Cortex®-M0	32	-	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 85	16	-	16	-	•	-	•	64	1/2/9	-	3x	4 ch	4 ch	-	-	1x	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-	
XMC1301-Q040F0008	-	•	•	VQFN-40	34	Cortex®-M0	32	-	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 85	8	-	16	-	•	-	•	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-	
XMC1301-Q040F0016	-	•	•	VQFN-40	34	Cortex®-M0	32	-	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 85	16	-	16	-	•	-	•	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-	
XMC1301-Q040F0032	-	•	•	VQFN-40	34	Cortex®-M0	32	-	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 85	32	-	16	-	•	-	•	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-	
XMC1302-T016X0008	-	•	•	TSSOP-16	14	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	8	-	16	-	•	-	•	64	1/2/7	-	2x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-T016X0016	-	•	•	TSSOP-16	14	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	16	-	16	-	•	-	•	64	1/2/7	-	2x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-T016X0032	-	•	•	TSSOP-16	14	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	32	-	16	-	•	-	•	64	1/2/7	-	2x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-T028X0016	-	•	•	TSSOP-28	26	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	16	-	16	-	•	-	•	64	1/2/10	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-T028X0032	-	•	•	TSSOP-28	26	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	32	-	16	-	•	-	•	64	1/2/10	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-T028X0064	-	•	•	TSSOP-28	26	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	64	-	16	-	•	-	•	64	1/2/10	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-T028X0128	-	•	•	TSSOP-28	26	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	128	-	16	-	•	-	•	64	1/2/10	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-T028X0200	-	•	•	TSSOP-28	26	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	200	-	16	-	•	-	•	64	1/2/10	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-T038X0016	-	•	•	TSSOP-38	34	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	16	-	16	-	•	-	•	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-T038X0032	-	•	•	TSSOP-38	34	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	32	-	16	-	•	-	•	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-T038X0064	-	•	•	TSSOP-38	34	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	8	-	16	-	•	-	•	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-T038X0128	-	•	•	TSSOP-38	34	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	128	-	16	-	•	-	•	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-T038X0200	-	•	•	TSSOP-38	34	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	200	-	16	-	•	-	•	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-Q024F0016	-	•	•	VQFN-24	22	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 85	16	-	16	-	•	-	•	64	1/2/9	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-Q024X0016	-	•	•	VQFN-24	22	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	16	-	16	-	•	-	•	64	1/2/9	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-Q024F0032	-	•	•	VQFN-24	22	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 85	32	-	16	-	•	-	•	64	1/2/9	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-Q024X0032	-	•	•	VQFN-24	22	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	32	-	16	-	•	-	•	64	1/2/9	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-Q024F0064	-	•	•	VQFN-24	22	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 85	64	-	16	-	•	-	•	64	1/2/9	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-Q024X0064	-	•	•	VQFN-24	22	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	64	-	16	-	•	-	•	64	1/2/9	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-Q040X0016	-	•	•	VQFN-40	34	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	16	-	16	-	•	-	•	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-Q040X0032	-	•	•	VQFN-40	26	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	32	-	16	-	•	-	•	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-Q040X0064	-	•	•	VQFN-40	34	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	64	-	16	-	•	-	•	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-Q040X0128	-	•	•	VQFN-40	34	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	128	-	16	-	•	-	•	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-
XMC1302-Q040X0200	-	•	•	VQFN-40	34	Cortex®-M0	32	•	-	1	-	-	-	•	•	•	•	-	1.8 to 5.5	-40 to 105	200	-	16	-	•	-	•	64	1/2/12	-	3x	4 ch	4 ch	-	-	1x	9 ch	-	-	-	-	-	-	2 ch	•	•	•	•	•	•	•	•	-	-	-

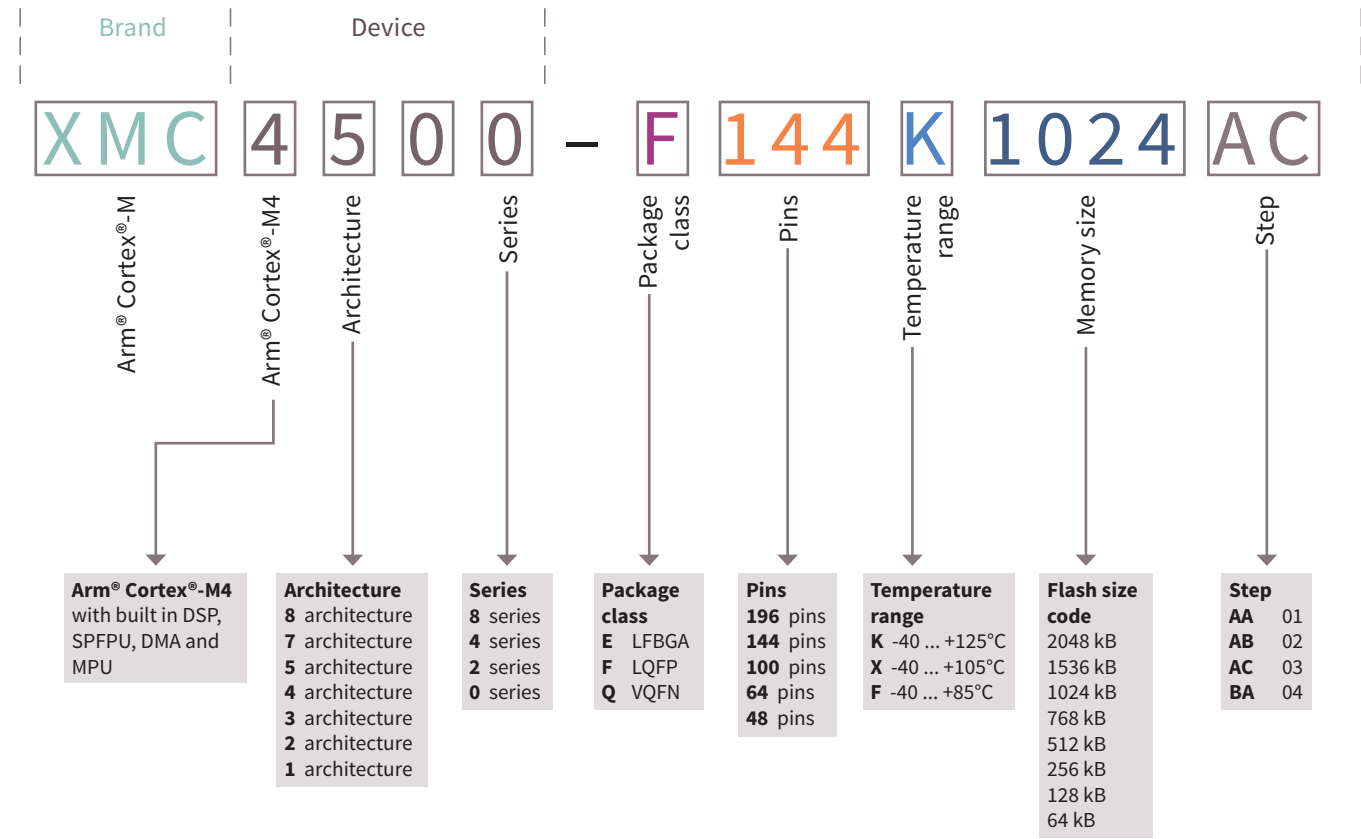
32-bit XMC™ Microcontroller – XMC1000 family

Product type/partnumber	Markets			GPIOs	Core		Co-processor		System							Debug		Supply voltage [V]	Operating temperature range T _A [°C]	Memory				Analog			Timer/PWM					Communication										LED display	Capacitive touch													
	Automotive	Industrial	Consumer		Processor type	Core frequency [MHz]	CORDIC/DIV	DSP	FPU	ERU	DMA	MPU	CRC	PRNG	Watchdog	Real-Time Clock	SWD, SPD			JTAG, Trace	Flash	ECC	RAM	Cache	EEPROM emulation/in flash	Data/IP protection	Secure boot loader	Peripherals clock [MHz]	No. of 12-bit ADC/No. of sample & hold/No. of inputs	12-bit DAC	Comparator	CCU4	CCU8	HRPWM (150 ps)	ΔΣ Demodulator	POSIF	BCCU/LED	EtherCAT®	IEEE1588 Ethernet MAC	CAN 2.0B nodes	USB			SDIO/SD/MMC	USIC (Universal Serial Interface Controller)						External Bus Unit (EBU)					
XMC1400 series																																																								
XMC1403-Q048X0200	-	●	●	VQFN-48	42	Cortex®-M0	48	-	-	-	1	-	-	-	●	●	●	●	-	1.8 to 5.5	-40 to 105	200	-	16	-	●	-	●	96	1/2/12	-	-	8 ch	-	-	-	-	-	-	-	2	-	-	4 ch	●	●	●	●	●	●	●	●	-	-	-	
XMC1403-Q064X0064	-	●	●	VQFN-64	55	Cortex®-M0	48	-	-	-	1	-	-	-	●	●	●	●	-	1.8 to 5.5	-40 to 105	64	-	16	-	●	-	●	96	1/2/12	-	-	8 ch	-	-	-	-	-	-	-	-	2	-	-	4 ch	●	●	●	●	●	●	●	●	-	-	-
XMC1403-Q064X0128	-	●	●	VQFN-64	55	Cortex®-M0	48	-	-	-	1	-	-	-	●	●	●	●	-	1.8 to 5.5	-40 to 105	128	-	16	-	●	-	●	96	1/2/12	-	-	8 ch	-	-	-	-	-	-	-	-	2	-	-	4 ch	●	●	●	●	●	●	●	●	-	-	-
XMC1403-Q064X0200	-	●	●	VQFN-64	55	Cortex®-M0	48	-	-	-	1	-	-	-	●	●	●	●	-	1.8 to 5.5	-40 to 105	200	-	16	-	●	-	●	96	1/2/12	-	-	8 ch	-	-	-	-	-	-	-	-	2	-	-	4 ch	●	●	●	●	●	●	●	●	-	-	-
XMC1404-Q048X0064	-	●	●	VQFN-48	42	Cortex®-M0	48	●	-	-	1	-	-	-	●	●	●	●	-	1.8 to 5.5	-40 to 105	64	-	16	-	●	-	●	96	1/2/12	-	4x	8 ch	8 ch	-	-	2x	9 ch	-	-	2	-	-	4 ch	●	●	●	●	●	●	●	●	-	3x 64 segment	24 ch	
XMC1404-Q048X0128	-	●	●	VQFN-48	42	Cortex®-M0	48	●	-	-	1	-	-	-	●	●	●	●	-	1.8 to 5.5	-40 to 105	128	-	16	-	●	-	●	96	1/2/12	-	4x	8 ch	8 ch	-	-	2x	9 ch	-	-	2	-	-	4 ch	●	●	●	●	●	●	●	●	-	3x 64 segment	24 ch	
XMC1404-Q048X0200	-	●	●	VQFN-48	42	Cortex®-M0	48	●	-	-	1	-	-	-	●	●	●	●	-	1.8 to 5.5	-40 to 105	200	-	16	-	●	-	●	96	1/2/12	-	4x	8 ch	8 ch	-	-	2x	9 ch	-	-	2	-	-	4 ch	●	●	●	●	●	●	●	●	-	3x 64 segment	24 ch	
XMC1404-Q064X0064	-	●	●	VQFN-64	55	Cortex®-M0	48	●	-	-	1	-	-	-	●	●	●	●	-	1.8 to 5.5	-40 to 105	64	-	16	-	●	-	●	96	1/2/12	-	4x	8 ch	8 ch	-	-	2x	9 ch	-	-	2	-	-	4 ch	●	●	●	●	●	●	●	●	-	3x 64 segment	24 ch	
XMC1404-Q064X0128	-	●	●	VQFN-64	55	Cortex®-M0	48	●	-	-	1	-	-	-	●	●	●	●	-	1.8 to 5.5	-40 to 105	128	-	16	-	●	-	●	96	1/2/12	-	4x	8 ch	8 ch	-	-	2x	9 ch	-	-	2	-	-	4 ch	●	●	●	●	●	●	●	●	-	3x 64 segment	24 ch	
XMC1404-Q064X0200	-	●	●	VQFN-64	55	Cortex®-M0	48	●	-	-	1	-	-	-	●	●	●	●	-	1.8 to 5.5	-40 to 105	200	-	16	-	●	-	●	96	1/2/12	-	4x	8 ch	8 ch	-	-	2x	9 ch	-	-	2	-	-	4 ch	●	●	●	●	●	●	●	●	-	3x 64 segment	24 ch	
XMC1404-F064X0064	-	●	●	LQFP-64	55	Cortex®-M0	48	●	-	-	1	-	-	-	●	●	●	●	-	1.8 to 5.5	-40 to 105	64	-	16	-	●	-	●	96	1/2/12	-	4x	8 ch	8 ch	-	-	2x	9 ch	-	-	2	-	-	4 ch	●	●	●	●	●	●	●	●	-	3x 64 segment	24 ch	
XMC1404-F064X0128	-	●	●	LQFP-64	55	Cortex®-M0	48	●	-	-	1	-	-	-	●	●	●	●	-	1.8 to 5.5	-40 to 105	128	-	16	-	●	-	●	96	1/2/12	-	4x	8 ch	8 ch	-	-	2x	9 ch	-	-	2	-	-	4 ch	●	●	●	●	●	●	●	●	-	3x 64 segment	24 ch	
XMC1404-F064X0200	-	●	●	LQFP-64	55	Cortex®-M0	48	●	-	-	1	-	-	-	●	●	●	●	-	1.8 to 5.5	-40 to 105	200	-	16	-	●	-	●	96	1/2/12	-	4x	8 ch	8 ch	-	-	2x	9 ch	-	-	2	-	-	4 ch	●	●	●	●	●	●	●	●	-	3x 64 segment	24 ch	

BCCU = Brightness and Color Control Unit for LED lighting
CCU = Capture Compare Unit
FPU = Floating Point Unit
MMC = Multi Media Card

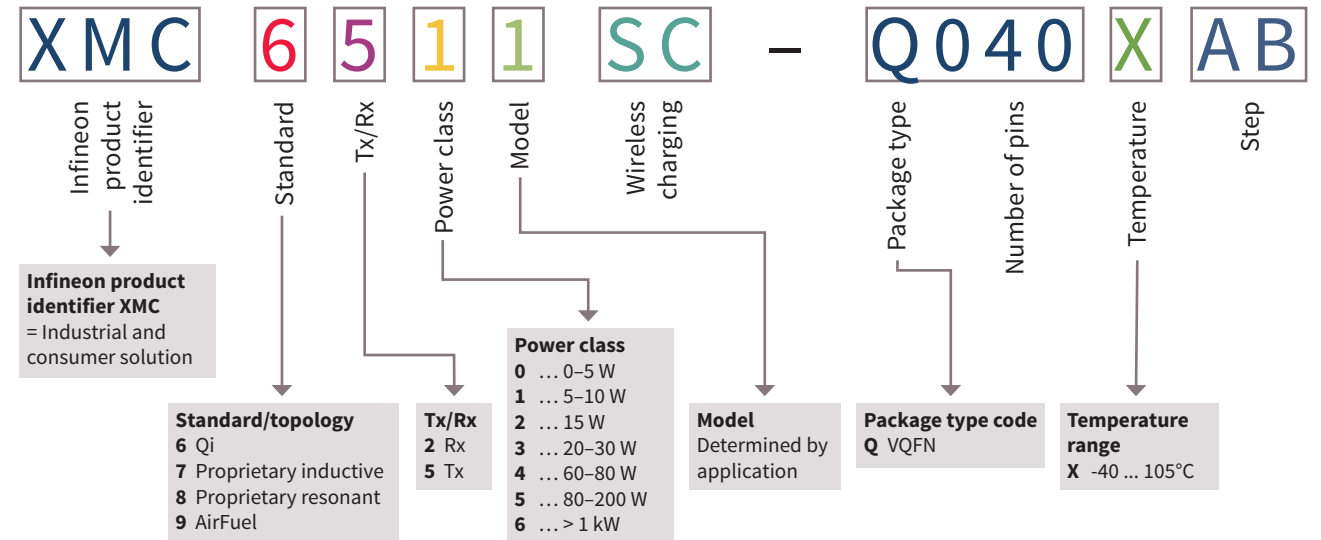
POSIF = Motor Position Interface
SDIO = SD Card Interface with Input/Output
USIC = UART/SCI, SPI, Dual-SPI, Quad-SPI, IIC/I²C, IIS/I²S, LIN

32-bit XMC™ Microcontroller – XMC4000 family





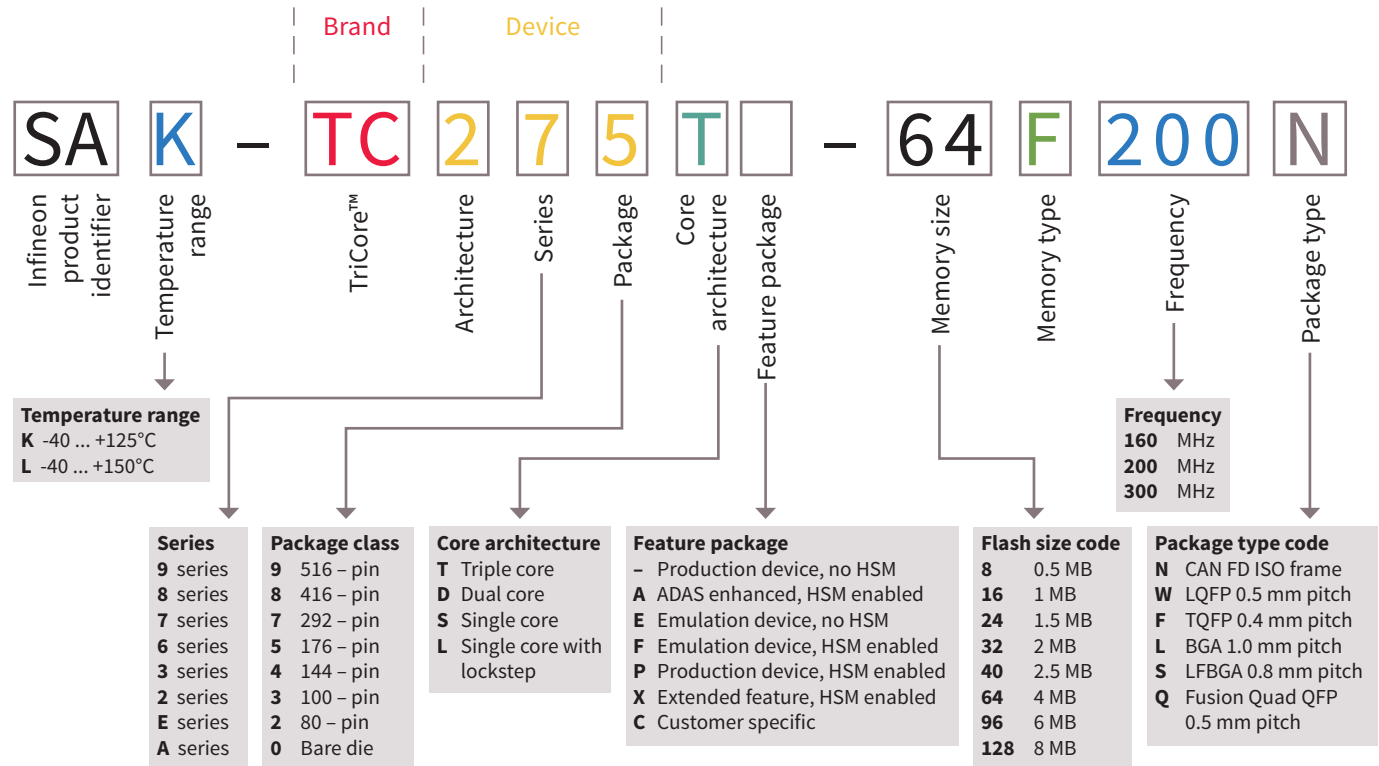
Wireless power controller



Wireless charging series

Product type/ partnumber	Automotive	Industrial	Consumer	Package	GPIOs	Topology	Power [W]	Transmitter	Receiver	Certification	CAN	NFC
XMC8201SC-Q024X		•	•	VQFN-24	-	Resonant	2.5		•	-	-	-
XMC8501SC-Q040X		•	•	VQFN-40	-	Resonant	2.5	•		-	CAN 2.0	SPI
XMC8231SC-Q024X		•	•	VQFN-24	-	Resonant	30		•	-	-	-
XMC8531SC-Q040X		•	•	VQFN-40	-	Resonant	30	•		-	CAN 2.0	SPI
XMC7201SC-Q024X		•	•	VQFN-24	-	Inductive	<5		•	-	-	-
XMC7501SC-Q040X		•	•	VQFN-40	-	Inductive	<5	•		-	CAN 2.0	SPI
XMC6511SC-Q040X		•	•	VQFN-40	-	Inductive	10	•		Qi-Certified	-	-
XMC6521SC-Q040X		•	•	VQFN-40	-	Inductive	15	•		Qi-Certified	-	-
XMC7231SC-Q024X		•	•	VQFN-24	-	Custom	30		•	-	-	-
XMC7531SC-Q040X		•	•	VQFN-40	-	Custom	30	•		-	-	-
XMC7234SC-Q040X		•	•	VQFN-41	-	Custom	30		•	-	-	-
XMC7533SC-Q040X		•	•	VQFN-42	-	Custom	30	•		-	-	-
XMC7241SC-Q024X		•	•	VQFN-43	-	Inductive	80		•	-	CAN 2.0	SPI
XMC7541SC-Q040X		•	•	VQFN-44	-	Inductive	80	•		-	CAN 2.0	SPI
SAK-TC212S-8F133SC	•			TQFP-80	-	Inductive	15	•		Qi-Certified	CAN FD	SPI

AURIX™ Microcontroller – TC2x family



32-bit AURIX™ Microcontroller – TC2x family

Product type	Package		TriCore™		Program flash		Data flash		SRAM	DMA	ADC		Timer - GTM				Timer	Interfaces												Safety	Security	Power					
	Temperature T _A [°C]	Package (Pitch)	# Cores/checker	Max frequency [MHz]	Size [MB]	Data retention	Physical size [kb]	Erase cycles	Data retention	Total (DMI, PMI) [KB]	Channels	Modules 12-bit (SAR)/16-bit (DS)	Channels VADC/DSADC	GTM input/output channels	TOM – standard 16-bit PWM ch.	ATOM – complex 24-bit PWM ch.	DTM – 2x 4 ch	CCU/GPT modules	FlexRay (#/ch.)	CAN-FD (nodes/obj) (DIS 2014)	CAN-FD (nodes/obj) (DIS 2015)	Queued Synchronous Peripheral Interface (QSPI)	Asynchronous/Synchronous Interface (ASCLIN)	Inter-Integrated Circuit Bus Interface (I ² C)	Single Edge Nibble Transmission (SENT)	Peripheral Sensor Interface (PSI5)	PSI with Serial PHY Connection (PSI5S)	High-Speed Communication Tunnel (HSCT)	Micro Second Channel (MSC)	External bus interface e.g. ext. memory	FFT accelerator engine	Camera (incl. pixel preprocessing) & ext. ADC 16-bit interface (CIF)	Ethernet MAC 100 Mbit/s	SIL level	Hardware Security Module (HSM)	Embedded Voltage Regulator (EVR)	Standby control unit
AURIX™ TC2x – family																																					
SAK-TC299TX-128F300	125	LFBGA-516 (0.8 mm)	3/1	300	8	20 years	768	125 k	10 years	2776	128	11/10	84/10 diff	48/152	80	72	–	2/1	2/4	6/384	4	6	4	2	15	5	1	1	3 diff LVDS	1	–	–	1	ASIL-D	Yes	Yes	SRAM
SAK-TC299TY-128F300	125	LFBGA-516 (0.8 mm)	3/1	300	8	20 years	768	125 k	10 years	2776	128	11/10	84/10 diff	48/152	80	72	–	2/1	2/4	6/384	4	6	4	2	15	5	1	1	3 diff LVDS	1	–	–	1	ASIL-D	No	Yes	SRAM
SAK/L-TC299TP-128F300	125, 150	LFBGA-516 (0.8 mm)	3/1	300	8	20 years	768	125 k	10 years	728	128	11/10	84/10 diff	48/152	80	72	–	2/1	2/4	6/384	4	6	4	2	15	5	1	1	3 diff LVDS	1	–	–	1	ASIL-D	Yes	Yes	SRAM
SAK/L-TC298TP-128F300	125, 150	LFBGA-416 (1.0 mm)	3/1	300	8	20 years	768	125 k	10 years	728	128	11/10	62/10 diff	48/152	80	72	–	2/1	2/4	6/384	4	4	4	2	15	5	1	1	3 diff LVDS	1	–	–	1	ASIL-D	Yes	Yes	SRAM
SAK-TC297TA-128F300	125	LFBGA-292 (0.8 mm)	3/1	300	8	20 years	768	125 k	10 years	2776	128	11/10	60/6 diff	48/152	80	72	–	2/1	2/4	6/384	4	5	4	2	15	5	1	1	3 diff LVDS	–	1	1	1	ASIL-D	Yes	Yes	SRAM
SAK-TC297TB-128F300	125	LFBGA-292 (0.8 mm)	3/1	300	8	20 years	768	125 k	10 years	2776	128	11/10	60/6 diff	48/152	80	72	–	2/1	2/4	6/384	4	5	4	2	15	5	1	1	3 diff LVDS	–	1	1	1	ASIL-D	No	Yes	SRAM
SAK-TC297TX-128F300	125	LFBGA-292 (0.8 mm)	3/1	300	8	20 years	768	125 k	10 years	2776	128	11/10	60/6 diff	48/152	80	72	–	2/1	2/4	6/384	4	5	4	2	15	5	1	1	3 diff LVDS	–	–	–	1	ASIL-D	Yes	Yes	SRAM
SAK-TC297TY-128F300	125	LFBGA-292 (0.8 mm)	3/1	300	8	20 years	768	125 k	10 years	2776	128	11/10	60/6 diff	48/152	80	72	–	2/1	2/4	6/384	4	5	4	2	15	5	1	1	3 diff LVDS	–	–	–	1	ASIL-D	No	Yes	SRAM
SAK/L-TC297TP-128F300	125, 150	LFBGA-292 (0.8 mm)	3/1	300	8	20 years	768	125 k	10 years	728	128	11/10	60/6 diff	48/152	80	72	–	2/1	2/4	6/384	4	5	4	2	15	5	1	1	3 diff LVDS	–	–	–	1	ASIL-D	Yes	Yes	SRAM
SAK/L-TC297T-128F300	125, 150	LFBGA-292 (0.8 mm)	3/1	300	8	20 years	768	125 k	10 years	728	128	11/10	60/6 diff	48/152	80	72	–	2/1	2/4	6/384	4	5	4	2	15	5	1	1	3 diff LVDS	–	–	–	1	ASIL-D	No	Yes	SRAM
SAK/L-TC277TP-64F200	125, 150	LFBGA-292 (0.8 mm)	3/2	200	4	20 years	384	125 k	10 years	472	64	8/6	60/6 diff	32/88	48	40	–	2/1	1/2	4/256	4	4	4	1	10	3	1	1	2 diff LVDS	–	–	–	1	ASIL-D	Yes	Yes	SRAM
SAK/L-TC277T-64F200	125, 150	LFBGA-292 (0.8 mm)	3/2	200	4	20 years	384	125 k	10 years	472	64	8/6	60/6 diff	32/88	48	40	–	2/1	1/2	4/256	4	4	4	1	10	3	1	1	2 diff LVDS	–	–	–	1	ASIL-D	No	Yes	SRAM
SAK/L-TC275TP-64F200	125, 150	LQFP-176 (0.5 mm)	3/2	200	4	20 years	384	125 k	10 years	472	64	8/6	48/6 diff	32/88	48	40	–	2/1	1/2	4/256	4	4	4	1	10	3	1	1	2 diff LVDS	–	–	–	1	ASIL-D	Yes	Yes	SRAM
SAK/L-TC275T-64F200	125, 150	LQFP-176 (0.5 mm)	3/2	200	4	20 years	384	125 k	10 years	472	64	8/6	48/6 diff	32/88	48	40	–	2/1	1/2	4/256	4	4	4	1	10	3	1	1	2 diff LVDS	–	–	–	1	ASIL-D	No	Yes	SRAM
SAK/L-TC267D-40F200	125, 150	LFBGA-292 (0.8 mm)	2/1	200	2.5	20 years	96	125 k	10 years	240	48	4/3	56/3 diff	24/ 64	32	32	–	2/1	1/2	5/256	No	4	4	1	6	2	1	1	2 diff LVDS	–	–	–	1	ASIL-D	No	Yes	Yes
SAK/L-TC265D-40F200	125, 150	LQFP-176 (0.5 mm)	2/1	200	2.5	20 years	96	125 k	10 years	240	48	4/3	50/3 diff	24/ 64	32	32	–	2/1	1/2	5/256	4	4	4	1	6	2	1	1	2 diff LVDS	–	–	–	1	ASIL-D	No	Yes	Yes
SAK-TC264DA-40F200	125	LQFP-144 (0.5 mm)	2/1	200	2.5	20 years	96	125 k	10 years	752	48	4/3	40/3 diff	24/ 64	32	32	–	2/1	1/2	5/256	4	4	4	1	6	2	1	1	2 diff LVDS	–	1	1	1	ASIL-D	No	Yes	Yes
SAK/L-TC264D-40F200	125, 150	LQFP-144 (0.5 mm)	2/1	200	2.5	20 years	96	125 k	10 years	240	48	4/3	40/3 diff	24/ 64	32	32	–	2/1	1/2	5/256	4	4	4	1	6	2	1	1	2 diff LVDS	–	–	–	1	ASIL-D	No	Yes	Yes
SAK-TC234LA-32F200	125	TQFP-144 (0.4 mm)	1/1	200	2	20 years	128	125 k	10 years	704	16	4/–	24/–	8/32	32	–	2	2/1	1/2	6/256	No	4	2	–	4	–	–	–	–	–	1	–	1	ASIL-D	Yes	Yes	WUT + SRAM
SAK-TC234LX-32F200	125	TQFP-144 (0.4 mm)	1/1	200	2	20 years	128	125 k	10 years	704	16	2/–	24/–	8/32	32	–	2	2/1	1/2	6/256	No	4	2	–	4	–	–	–	–	–	–	–	1	ASIL-D	Yes	Yes	WUT + SRAM
SAK/L-TC237LP-32F200	125, 150	LFBGA-292 (0.8 mm)	1/1	200	2	20 years	128	125 k	10 years	192	16	2/–	24/–	8/32	32	–	2	2/1	1/2	6/256	4	4	2	–	4	–	–	–	–	–	–	–	–	ASIL-D	Yes	Yes	WUT + SRAM
SAK/L-TC234LP-32F200	125, 150	TQFP-144 (0.4 mm)	1/1	200	2	20 years	128	125 k	10 years	192	16	2/–	24/–	8/32	32	–	2	2/1	1/2	6/256	4	4	2	–	4	–	–	–	–	–	–	–	–	ASIL-D	Yes	Yes	WUT + SRAM
SAK/L-TC234L-32F200	125, 150	TQFP-144 (0.4 mm)	1/1	200	2	20 years	128	125 k	10 years	192	16	2/–	24/–	8/32	32	–	2	2/1	1/2	6/256	4	4	2	–	4	–	–	–	–	–	–	–	–	ASIL-D	No	Yes	WUT + SRAM
SAK/L-TC233L-32F200	125, 150	TQFP-100 (0.4 mm)	1/1	200	2	20 years	128	125 k	10 years	192	16	2/–	24/–	8/32	32	–	2	2/1	1/2	6/256	4	4	2	–	4	–	–	–	–	–	–	–	–	ASIL-D	No	Yes	WUT + SRAM
SAK/L-TC233LP-32F200	125, 150	TQFP-100 (0.4 mm)	1/1	200	2	20 years	128	125 k	10 years	192	16	2/–	24/–	8/32	32	–	2	2/1	1/2	6/256	4	4	2	–	4	–	–	–	–	–	–	–	–	ASIL-D	Yes	Yes	WUT + SRAM

32-bit AURIX™ Microcontroller – TC2x family

Product type	Package		TriCore™		Program flash		Data flash			SRAM	DMA	ADC		Timer - GTM				Timer	Interfaces													Safety	Security	Power		
	Temperature T _A [°C]	Package (Pitch)	# Cores/checker	Max frequency [MHz]	Size [MB]	Data retention	Physical size [kb]	Erase cycles	Data retention	Total (DMI, PMI) [KB]	Channels	Modules 12-bit (SAR)/16-bit (DS)	Channels VADC/DSADC	GTM input/output channels	TOM – standard 16-bit PWM ch.	ATOM – complex 24-bit PWM ch.	DTM – 2x 4 ch	CCU/GPT modules	FlexRay (#/ch.)	CAN-FD (nodes/obj)(DIS 2014)	CAN-FD (nodes/obj)(DIS 2015)	Queued Synchronous Peripheral Interface (QSPI)	Asynchronous/Synchronous Interface (ASCLIN)	Inter-Integrated Circuit Bus Interface (I ² C)	Single Edge Nibble Transmission (SENT)	Peripheral Sensor Interface (PSI5)	PSI with Serial PHY Connection (PSI5S)	High-Speed Communication Tunnel (HSCT)	Micro Second Channel (MSC)	External bus interface e.g. ext. memory	FFT accelerator engine	Camera (incl. pixel preprocessing) & ext. ADC 16-bit interface (CIF)	Ethernet MAC 100 Mbit/s	SIL level	Hardware Security Module (HSM)	Embedded Voltage Regulator (EVR)

AURIX™ TC2x – family

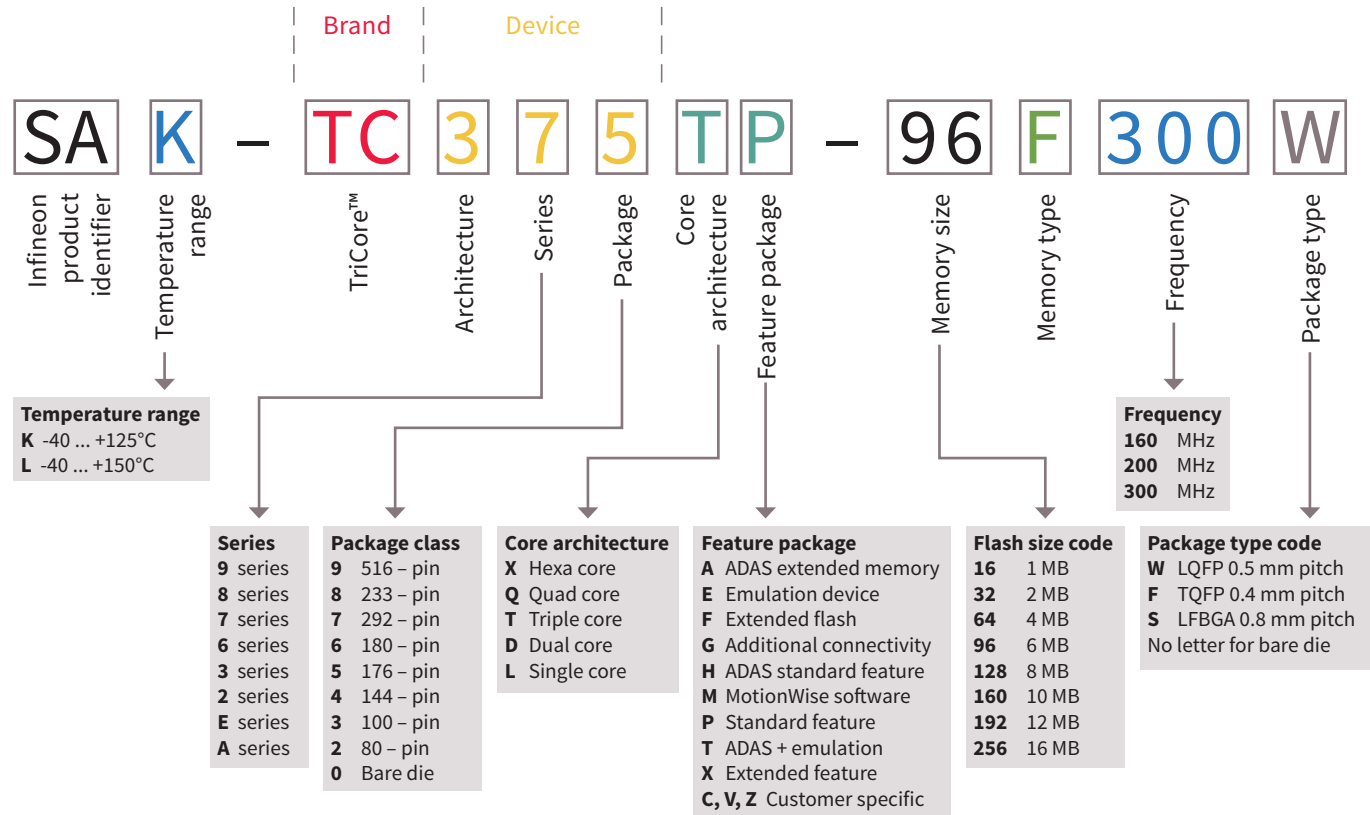
SAK/L-TC224L-16F133	125, 150	TQFP-144 (0.4 mm)	1/1	133	1	20 years	96	125 k	10 years	96	16	2/-	24/-	8/32	32	-	2	2/1	-	3/128	3	4	2	-	4	-	-	-	-	-	-	-	-	-	-	ASIL-D	No	Yes	WUT + SRAM
SAK/L-TC224S-16F133	125, 150	TQFP-144 (0.4 mm)	1/0	133	1	20 years	96	125 k	10 years	96	16	2/-	24/-	8/32	32	-	2	2/1	-	3/128	3	4	2	-	4	-	-	-	-	-	-	-	-	-	-	ASIL-B	No	Yes	WUT + SRAM
SAK/L-TC223L-16F133	125, 150	TQFP-100 (0.4 mm)	1/1	133	1	20 years	96	125 k	10 years	96	16	2/-	24/-	8/32	32	-	2	2/1	-	3/128	3	4	2	-	4	-	-	-	-	-	-	-	-	-	-	ASIL-D	No	Yes	WUT + SRAM
SAK/L-TC223S-16F133	125, 150	TQFP-100 (0.4 mm)	1/0	133	1	20 years	96	125 k	10 years	96	16	2/-	24/-	8/32	32	-	2	2/1	-	3/128	3	4	2	-	4	-	-	-	-	-	-	-	-	-	-	ASIL-B	No	Yes	WUT + SRAM
SAK/L-TC222L-16F133	125, 150	TQFP-80 (0.4 mm)	1/1	133	1	20 years	96	125 k	10 years	96	16	2/-	24/-	8/32	32	-	2	2/1	-	3/128	3	4	2	-	4	-	-	-	-	-	-	-	-	-	-	ASIL-D	No	Yes	WUT + SRAM
SAK/L-TC222S-16F133	125, 150	TQFP-80 (0.4 mm)	1/0	133	1	20 years	96	125 k	10 years	96	16	2/-	24/-	8/32	32	-	2	2/1	-	3/128	3	4	2	-	4	-	-	-	-	-	-	-	-	-	-	ASIL-B	No	Yes	WUT + SRAM
SAK/L-TC214L-8F133	125, 150	TQFP-144 (0.4 mm)	1/1	133	0.5	20 years	64	125 k	10 years	56	16	2/-	24/-	8/32	32	-	2	2/1	-	3/128	3	4	2	-	4	-	-	-	-	-	-	-	-	-	-	ASIL-D	No	Yes	WUT + SRAM
SAK/L-TC214S-8F133	125, 150	TQFP-144 (0.4 mm)	1/0	133	0.5	20 years	64	125 k	10 years	56	16	2/-	24/-	8/32	32	-	2	2/1	-	3/128	3	4	2	-	4	-	-	-	-	-	-	-	-	-	-	ASIL-B	No	Yes	WUT + SRAM
SAK/L-TC213L-8F133	125, 150	TQFP-100 (0.4 mm)	1/1	133	0.5	20 years	64	125 k	10 years	56	16	2/-	24/-	8/32	32	-	2	2/1	-	3/128	3	4	2	-	4	-	-	-	-	-	-	-	-	-	-	ASIL-D	No	Yes	WUT + SRAM
SAK/L-TC213S-8F133	125, 150	TQFP-100 (0.4 mm)	1/0	133	0.5	20 years	64	125 k	10 years	56	16	2/-	24/-	8/32	32	-	2	2/1	-	3/128	3	4	2	-	4	-	-	-	-	-	-	-	-	-	-	ASIL-B	No	Yes	WUT + SRAM
SAK/L-TC212L-8F133	125, 150	TQFP-80 (0.4 mm)	1/1	133	0.5	20 years	64	125 k	10 years	56	16	2/-	24/-	8/32	32	-	2	2/1	-	3/128	3	4	2	-	4	-	-	-	-	-	-	-	-	-	-	ASIL-D	No	Yes	WUT + SRAM
SAK/L-TC212S-8F133	125, 150	TQFP-80 (0.4 mm)	1/0	133	0.5	20 years	64	125 k	10 years	56	16	2/-	24/-	8/32	32	-	2	2/1	-	3/128	3	4	2	-	4	-	-	-	-	-	-	-	-	-	-	ASIL-B	No	Yes	WUT + SRAM

ASC = Asynchronous Serial Channel
EVR = Embedded Voltage Regulator

MSC = Micro Second Channel
SENT = Single Edge Nibble Transmission

Ambient temperature range:
K = -40 ... 125°C, L = -40 ... 150°C

AURIX™ Microcontroller – TC3x family



32-bit AURIX™ Microcontroller – TC3x family

Product type	TriCore™	Package		Program flash		Data flash			SRAM	DMA	Timer	Interfaces														Safety	Security	Power	
	Max frequency [MHz]	Temperature T _A [°C]	Package (Pitch)	Size [MB]	Data retention	Physical size [kb]	Erase cycles	Data retention	Total (DMI, PMI) [KB]	Channels	GTM/CCU/GPT modules	FlexRay (#/ch.)	CAN-FD	Queued Synchronous Peripheral Interface (QSPI)	Asynchronous/Synchronous Interface (ASCLIN)	Inter-Integrated Circuit Bus Interface (I ² C)	Single Edge Nibble Transmission (SENT)	Peripheral Sensor Interface (PSI5)	PSI with Serial PHY Connection (PSI5S)	High-Speed Communication Tunnel (HSCT)	Micro Second Channel (MSC)	External bus interface e.g. ext. memory	Signal Processing Unit (SPU)	Camera (incl. pixel preprocessing) & ext. ADC 16-bit interface (CIF)	Ethernet MAC 100 Mbit/s	SIL level	Hardware Security Module (HSM)	Embedded Voltage Regulator (EVR) (5V/3.3V)	Standby control unit
AURIX™ TC3x – family																													
SAK-TC397XA-256F300S	300	125	LFBGA-292 (0.8 mm)	16	20 years	1024	125 k	10 years	6912	128	Yes/Yes/Yes	4	12	6	12	2	17	4	Yes	2	1	–	2	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC399XX-256F300S	300	125–150	LFBGA-516 (0.8 mm)	16	20 years	1024	125 k	10 years	6912	128	Yes/Yes/Yes	4	12	6	12	2	25	4	Yes	2	4	Yes	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC399XP-256F300S	300	125–150	LFBGA-516 (0.8 mm)	16	20 years	1024	125 k	10 years	2816	128	Yes/Yes/Yes	4	12	6	12	2	25	4	Yes	2	4	Yes	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC397XX-256F300S	300	125–150	LFBGA-292 (0.8 mm)	16	20 years	1024	125 k	10 years	6912	128	Yes/Yes/Yes	4	12	6	12	2	20	4	Yes	2	2	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC397XP-256F300S	300	125–150	LFBGA-292 (0.8 mm)	16	20 years	1024	125 k	10 years	2816	128	Yes/Yes/Yes	4	12	6	12	2	20	4	Yes	2	2	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK-TC397QA-160F300S	300	125	LFBGA-292 (0.8 mm)	16	20 years	1024	125 k	10 years	6368	128	Yes/Yes/Yes	4	12	6	12	2	20	4	Yes	2	1	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK-TC397XM-256F300S	300	125	LFBGA-292 (0.8 mm)	16	20 years	1024	125 k	10 years	2816	128	Yes/Yes/Yes	4	12	6	12	2	20	4	Yes	2	2	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC389QP-160F300S	300	125–150	LFBGA-516 (0.8 mm)	10	20 years	512	125 k	10 years	1568	128	Yes/Yes/Yes	4	12	5	24	2	25	4	Yes	1	3	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC387QP-160F300S	300	125–150	LFBGA-292 (0.8 mm)	10	20 years	512	125 k	10 years	1568	128	Yes/Yes/Yes	4	12	5	24	2	20	4	Yes	1	2	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK-TC3E7QG-160F300S	300	125	LFBGA-292 (0.8 mm)	10	20 years	512	125 k	10 years	1696	128	Yes/Yes/Yes	4	20	5	24	2	20	4	Yes	1	2	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC3E7QF-192F300S	300	125–150	LFBGA-292 (0.8 mm)	12	20 years	512	125 k	10 years	1696	128	Yes/Yes/Yes	4	16	5	24	2	20	4	Yes	1	2	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC3E7QX-192F300S	300	125–150	LFBGA-292 (0.8 mm)	12	20 years	512	125 k	10 years	1696	128	Yes/Yes/Yes	4	20	5	24	2	20	4	Yes	1	2	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK-TC377TX-96F300S	300	125	LFBGA-292 (0.8 mm)	6	20 years	256	125 k	10 years	4208	128	Yes/Yes/Yes	2	12	5	12	1	15	2	Yes	1	2	–	–	1	2/2	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC377TP-96F300S	300	125–150	LFBGA-292 (0.8 mm)	6	20 years	256	125 k	10 years	1136	128	Yes/Yes/Yes	2	8	5	12	1	15	2	Yes	1	2	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC375TP-96F300W	300	125–150	LQFP-176 (0.5 mm)	6	20 years	256	125 k	10 years	1136	128	Yes/Yes/Yes	2	8	5	12	1	15	2	Yes	1	2	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC367DP-64F300S	300	125–150	LFBGA-292 (0.8 mm)	4	20 years	128	125 k	10 years	672	64	Yes/Yes/Yes	2	8	4	12	1	10	2	Yes	1	1	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC365DP-64F300W	300	125–150	LQFP-176 (0.5 mm)	4	20 years	128	125 k	10 years	672	64	Yes/Yes/Yes	2	8	4	12	1	10	2	Yes	1	1	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC364DP-64F300W	300	125–150	LQFP-176 (0.5 mm)	4	20 years	128	125 k	10 years	672	64	Yes/Yes/Yes	2	8	4	12	1	10	2	Yes	1	1	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC364DP-64F300F	300	125–150	TQFP-144 (0.4 mm)	4	20 years	128	125 k	10 years	672	64	Yes/Yes/Yes	2	8	4	12	1	10	2	Yes	1	1	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC367DP-64F300S	300	125–150	LFBGA-292 (0.8 mm)	4	20 years	128	125 k	10 years	672	64	Yes/Yes/Yes	2	8	4	12	1	10	2	Yes	1	1	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC366DP-64F300S	300	125–150	BGA-180 (0.8 mm)	4	20 years	128	125 k	10 years	672	64	Yes/Yes/Yes	2	8	4	12	1	10	2	Yes	1	1	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC365DP-64F300W	300	125–150	LQFP-176 (0.5 mm)	4	20 years	128	125 k	10 years	672	64	Yes/Yes/Yes	2	8	4	12	1	10	2	Yes	1	1	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC364DP-64F300W	300	125–150	LQFP-176 (0.5 mm)	4	20 years	128	125 k	10 years	672	64	Yes/Yes/Yes	2	8	4	12	1	10	2	Yes	1	1	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC364DP-64F300F	300	125–150	TQFP-144 (0.4 mm)	4	20 years	128	125 k	10 years	672	64	Yes/Yes/Yes	2	8	4	12	1	10	2	Yes	1	1	–	–	–	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)

32-bit AURIX™ Microcontroller – TC3x family

Product type	TriCore™	Package		Program flash		Data flash			SRAM	DMA	Timer	Interfaces														Safety	Security	Power	
	Max frequency [MHz]	Temperature T _A [°C]	Package (Pitch)	Size [MB]	Data retention	Physical size [kb]	Erase cycles	Data retention	Total (DMI, PMI) [KB]	Channels	GTM/CCU/GPT modules	FlexRay (#/ch.)	CAN-FD	Queued Synchronous Peripheral Interface (QSPI)	Asynchronous/Synchronous Interface (ASCLIN)	Inter-Integrated Circuit Bus Interface (I ² C)	Single Edge Nibble Transmission (SENT)	Peripheral Sensor Interface (PSI5)	PSI with Serial PHY Connection (PSI5S)	High-Speed Communication Tunnel (HSCT)	Micro Second Channel (MSC)	External bus interface e.g. ext. memory	Signal Processing Unit (SPU)	Camera (incl. pixel preprocessing) & ext. ADC 16-bit interface (CIF)	Ethernet MAC 100 Mbit/s	SIL level	Hardware Security Module (HSM)	Embedded Voltage Regulator (EVR) (5V/3.3V)	Standby control unit
AURIX™ TC3x – family																													
SAK-TC357TA-64F300S	300	125	LFBGA-292 (0.8 mm)	4	20 years	128	125 k	10 years	3664	64	Yes/Yes/Yes	2	8	4	4	1	-	-	-	-	-	-	2	-	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK-TC357TH-64F300S	300	125	LFBGA-292 (0.8 mm)	4	20 years	128	125 k	10 years	3152	64	Yes/Yes/Yes	2	8	4	4	1	-	-	-	-	-	-	2	-	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK-TC356TH-64F300S	300	125	BGA-180 (0.8 mm)	4	20 years	128	125 k	10 years	3152	64	Yes/Yes/Yes	2	8	4	4	1	-	-	-	-	-	-	2	-	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK-TC356TA-64F300S	300	125	BGA-180 (0.8 mm)	4	20 years	128	125 k	10 years	3664	64	Yes/Yes/Yes	2	8	4	4	1	-	-	-	-	-	-	2	-	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK-TC337DA-32F200S	200	125	LFBGA-292 (0.8 mm)	2	20 years	128	125 k	10 years	1576	16	No/Yes/Yes	2	4	4	6	-	6	-	-	-	-	-	1	-	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC337LP-32F200S	200	125-150	LFBGA-292 (0.8 mm)	2	20 years	128	125 k	10 years	248	16	Yes/Yes/Yes	2	8	4	12	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC334LP-32F200F	200	125-150	TQFP-144 (0.4 mm)	2	20 years	128	125 k	10 years	248	16	Yes/Yes/Yes	2	8	4	12	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC333LP-32F200F	200	125-150	TQFP-100 (0.4 mm)	2	20 years	128	125 k	10 years	248	16	Yes/Yes/Yes	2	6	4	5	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC337LP-32F300S	300	125-150	LFBGA-292 (0.8 mm)	2	20 years	128	125 k	10 years	248	16	Yes/Yes/Yes	2	8	4	12	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)
TC337DA-32F300S	300	125	LFBGA-292 (0.8 mm)	2	20 years	128	125 k	10 years	1576	16	No/Yes/Yes	2	4	4	6	-	6	-	-	-	-	-	1	-	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC336LP-32F300S	300	125-150	BGA-180 (0.8 mm)	2	20 years	128	125 k	10 years	248	16	Yes/Yes/Yes	2	8	4	12	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC336LP-32F200S	200	125-150	BGA-180 (0.8 mm)	2	20 years	128	125 k	10 years	248	16	Yes/Yes/Yes	2	8	4	12	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK-TC336DA-32F300S	300	125	BGA-180 (0.8 mm)	2	20 years	128	125 k	10 years	1576	16	No/Yes/Yes	2	4	4	5	-	6	-	-	-	-	-	1	-	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK-TC336DA-32F200S	200	125	BGA-180 (0.8 mm)	2	20 years	128	125 k	10 years	1576	16	No/Yes/Yes	2	4	4	5	-	6	-	-	-	-	-	1	-	1/1	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC334LP-32F300F	300	125-150	TQFP-144 (0.4 mm)	2	20 years	128	125 k	10 years	248	16	Yes/Yes/Yes	2	8	4	12	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC333LP-32F300F	300	125-150	TQFP-100 (0.4 mm)	2	20 years	128	125 k	10 years	248	16	Yes/Yes/Yes	2	6	4	5	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC332LP-32F300F	300	125-150	TQFP-80 (0.4 mm)	2	20 years	128	125 k	10 years	248	16	Yes/Yes/Yes	2	6	4	5	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC332LP-32F200F	200	125-150	TQFP-80 (0.4 mm)	2	20 years	128	125 k	10 years	248	16	Yes/Yes/Yes	2	6	4	5	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC327LP-16F160S	160	125-150	LFBGA-292 (0.8 mm)	1	20 years	96	125 k	10 years	152	16	Yes/Yes/Yes	2	8	4	4	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC324LP-16F160F	160	125-150	TQFP-144 (0.4 mm)	1	20 years	96	125 k	10 years	152	16	Yes/Yes/Yes	2	8	4	4	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC323LP-16F160F	160	125-150	TQFP-100 (0.4 mm)	1	20 years	96	125 k	10 years	152	16	Yes/Yes/Yes	2	6	4	4	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)
SAK/L-TC322LP-16F160F	160	125-150	TQFP-80 (0.4 mm)	1	20 years	96	125 k	10 years	152	16	Yes/Yes/Yes	2	6	4	4	-	6	-	-	-	-	-	-	-	-/-	ASIL-D	Full eVita	Yes	Yes (8 bit)

ASC = Asynchronous Serial Channel
EVR = Embedded Voltage Regulator

MSC = Micro Second Channel
SENT = Single Edge Nibble Transmission

Ambient temperature range:
K = -40 ... 125°C, L = -40 ... 150°C

Legacy: 16/32-bit microcontroller

Product type	Automotive	Industrial	Consumer	Temperature ranges	Package	Max clock frequency [MHz]	Program memory [kByte]	SRAM (incl. cache) [kByte]	Co-processor	Digital I/O lines	Number of ADC channels	Timed IO channels (PWM, capture)	External bus interface	CAN nodes	Ethernet	Communication interfaces	Additional features / remarks
XC2000 for automotive applications																	
XC2200 for body applications																	
U-series																	
XC2220U	●	-	-	F, K	VQFN-48	40	32-64	8	MAC	33	10	17	✓	-	-	1x USIC	-
L-series																	
XC2224L	●	-	-	F, K	VQFN-48	66	96-160	12	MAC	33	10	23	✓	2	-	2x USIC	-
XC2234L	●	-	-	F, K	LQFP-64	66	96-160	12	MAC	49	19	24	✓	2	-	2x USIC	CuWb
N-series																	
XC2238N	●	-	-	F, K	LQFP-64	80	192-320	34	MAC	38	9	22	✓	6	-	4x USIC	CuWb
XC2268N	●	-	-	F, K	LQFP-100	80	192-320	34	MAC	76	16	32	✓	6	-	6x USIC	CuWb
M-series																	
XC2237M	●	-	-	F, K	LQFP-64	80	448-832	50	MAC	38	9	22	✓	6	-	6x USIC	-
XC2267M	●	-	-	F, K	LQFP-100	80	448-832	50	MAC	76	16	32	✓	6	-	8x USIC	CuWb
XC2287M	●	-	-	F, K	LQFP-144	80	448-832	50	MAC	119	24	44	✓	6	-	8x USIC	CuWb
I-series																	
XC2269I	●	-	-	F, K	LQFP-100	128	1088	90	MAC	76	19	32	✓	6	-	10x USIC, 2x FlexRay	CuWb
XC2289I	●	-	-	F, K	LQFP-144	128	1088	90	MAC	118	28	44	✓	6	-	10x USIC, 2x FlexRay	CuWb
H-series																	
XC2289H	●	-	-	F, K	LQFP-144	100	1600	138	MAC	119	24	44	✓	4	-	10x USIC, 2x FlexRay	-
XC2299H	●	-	-	F, K	LQFP-176	100	1600	138	MAC	150	30	66	✓	6	-	10x USIC, 2x FlexRay	-
XC2300 for safety applications																	
A-series																	
XC2336A	●	-	-	F, K	LQFP-64	40	448-832	50	MAC	38	9	24	✓	2	-	4x USIC	-
XC2365A	●	-	-	F, K	LQFP-100	80	448-832	50	MAC	76	16	24	✓	3	-	6x USIC	CuWb
XC2387A	●	-	-	F, K	LQFP-144	80	448-832	50	MAC	119	24	32	✓	3	-	6x USIC	CuWb
B-series																	
XC2336B	●	-	-	F, K	LQFP-64	80	320	34	MAC	38	9	20	✓	2	-	4x USIC	CuWb
XC2365B	●	-	-	F, K	LQFP-100	80	192-320	18-34	MAC	76	16	24	✓	3	-	6x USIC	CuWb
C-series																	
XC2388C	●	-	-	F, K	LQFP-144	100	1088-1600	138	MAC	119	24	32	✓	4	-	10x USIC, 2x FlexRay	-

Legacy: 16/32-bit microcontroller

Product type	Automotive	Industrial	Consumer	Temperature ranges	Package	Max clock frequency [MHz]	Program memory [kByte]	SRAM (incl. cache) [kByte]	Co-processor	Digital I/O lines	Number of ADC channels	Timed IO channels (PWM, capture)	External bus interface	CAN nodes	Ethernet	Communication interfaces	Additional features / remarks
XC2300 for safety applications																	
D-series																	
XC2321D	●	-	-	F, K	VQFN-48	80	96-160	12	MAC	33	10	23	✓	2	-	2x USIC	-
XC2331D	●	-	-	F, K	LQFP-64	80	96-160	12	MAC	49	19	24	✓	2	-	2x USIC	CuWb
E-series																	
XC2368E	●	-	-	F, K	LQFP-100	128	576-1088	90	MAC	75	16	32	✓	3	-	6x USIC, 2x FlexRay	CuWb
XC2388E	●	-	-	F, K	LQFP-144	128	576-1088	90	MAC	118	24	32	✓	3	-	8x USIC, 2x FlexRay	CuWb
S-series																	
XC2320S	●	-	-	F, K	VQFN-48	66	32-64	8	MAC	33	10	17	✓	-	-	1x USIC	-
XC2700 for powertrain applications																	
2-series																	
XC2722X	●	-	-	K	VQFN-48	40	64	8	MAC	33	10	17	✓	-	-	2x USIC	-
3-series																	
XC2723X	●	-	-	K	VQFN-48	66	160	12	MAC	33	10	23	✓	2	-	2x USIC	-
XC2733X	●	-	-	K	LQFP-64	66	160	12	MAC	49	19	24	✓	2	-	2x USIC	CuWb
4-series																	
XC2734X	●	-	-	K	LQFP-64	80	320	34	MAC	38	9	20	✓	2	-	4x USIC	CuWb
XC2764X	●	-	-	K	LQFP-100	80	320	34	MAC	76	16	24	✓	2	-	4x USIC	CuWb
5-series																	
XC2765X	●	-	-	K	LQFP-100	80	576-832	50	MAC	76	16	37	✓	2	-	4x USIC	CuWb
XC2785X	●	-	-	K	LQFP-144	80	576-832	50	MAC	119	24	44	✓	2	-	4x USIC	CuWb
7-series																	
XC2787X	●	-	-	K	LQFP-144	100	1600	138	MAC	119	24	60	✓	2	-	6x USIC	-
8-series																	
XC2768X	●	-	-	K	LQFP-100	128	1088	90	MAC	76	19	32	✓	2	-	10x USIC, 2x FlexRay	CuWb
XC2788X	●	-	-	K	LQFP-144	128	1088	90	MAC	118	28	44	✓	2	-	10x USIC, 2x FlexRay	CuWb

MAC = Multiply-Accumulate-Unit (DSP)

F = -40/+85 °C

USIC = ASC, SPI, I²C, I²S

K = -40/+125 °C

Legacy: 16-bit industrial microcontroller

Product type	Automotive	Industrial	Consumer	Temperature ranges	Package	Max clock frequency [MHz]	Program memory [kByte]	SRAM (incl. cache) [kByte]	Co-processor	Digital I/O lines	Number of ADC channels	Timed I/O channels (PWM, capture)	External bus interface	CAN nodes	Ethernet	Communication interfaces	Additional features / remarks
XE166 real time signal controller for industrial and multi market																	
Classic series - alpha line																	
XE164x	-	•	•	F, K	LQFP-100	66/80	768	24-82	MAC	75	11-16	30-37	✓	0-4	-	4-6x USIC	-
XE167x	-	•	•	F, K	LQFP-144	66/80	768	28-82	MAC	118	16-24	30-44	✓	0-5	-	4-6x USIC	-
U series - compact line																	
XE161x	-	•	•	F, K	VQFN-48	40/66	64	8	MAC	33	10	15	-	-	-	2x USIC	-
L series - econo line																	
XE161x	-	•	•	F, K	VQFN-48	66/80	128-160	12	MAC	33	10	21	-	1	-	4x USIC	-
XE162x	-	•	•	F, K	LQFP-64	66/80	96-160	12	MAC	48	19	21	-	2	-	4x USIC	CuWb
N series - value line																	
XE162xN	-	•	•	F, K	LQFP-64	80	128-320	18-34	MAC	40	9	23	✓	0-2	-	6x USIC	CuWb
XE164xN	-	•	•	F, K	LQFP-100	-	128-320	18-34	MAC	75	11-16	30	✓	0-2	-	4-6x USIC	CuWb
M series - base line																	
XE162xM	-	•	•	F, K	LQFP-64	80	384-576	24-50	MAC	40	9	23	-	0-2	-	6x USIC	-
XE164xM	-	•	•	F, K	LQFP-100	80	384-576	26-50	MAC	76	11-16	30-37	✓	0-4	-	4-6x USIC	CuWb
XE167xM	-	•	•	F, K	LQFP-144	80	384-576	34-50	MAC	119	16-24	30-44	✓	0-6	-	4-8x USIC	CuWb
H series - high line																	
XE167xH	-	•	•	F, K	LQFP-144	100	1.024-1.600	138	MAC	98-118	24	60	✓	6	-	10x USIC	-
XE169xH	-	•	•	F, K	LQFP-176	100	1.024-1.600	138	MAC	98-118	30	60	✓	6	-	10x USIC	-

MAC = Multiply-Accumulate-Unit (DSP)

F = -40/+85 °C

USIC = ASC, SPI, I²C, I²S

K = -40/+125 °C

Legacy: 8-bit microcontroller

Product type	Automotive	Industrial	Consumer	Temperature ranges	Package	Max clock frequency [MHz]	Program memory [KByte]	SRAM (incl. cache) [KByte]	Co-processor	Digital I/O lines	Number of ADC channels	Timed I/O channels (PWM, capture)	External bus interface	CAN nodes	Ethernet	Communication interfaces	Additional features / remarks
C500 family																	
C505CA-4EM /-IM	•	•	•	F, B, K	MQFP-44	20	0	1.25	-	34	8	4	-	1	-	1x USART	OTP, ROM less
C515C-8EM	•	•	•	F, B, K	MQFP-80	10	64	2.25	-	49	8	4	-	1	-	1x USART, 1x SSC	OTP
XC800 family																	
XC82x-series																	
XC822MT	•	•	•	F, K	TSSOP-16	24	2-4	0.5	-	17	4	4	-	-	-	1x UART, 1x SSC, IIN	-
XC83x-series																	
XC836MT	•	•	•	F, K, L	TSSOP-28	24	4-8	0.5	VC	25	8	4	-	-	-	1x UART, 1x SSC, IIN	-
XC86x-series																	
XC866	•	•	•	F, K, A, L	TSSOP-38	26.67	4-16	0.75	-	27	8	4	-	-	-	1x UART, 1x SSC	-
XC866I	•	•	•	F, K, A, L	TSSOP-38	26.67	4-16	0.75	-	27	8	4	-	-	-	1x UART, IIN BSI, 1x SSC	-
XC87x-series																	
XC878	•	•	•	F, K, X	LQFP-64	27	52-64	3	[VC]	48	8	10	✓	[2]	-	2x UART, 1x SSC, [IIN]	-
XC88x-series																	
XC886	•	•	•	F, K, A, L	TQFP-48	24	24-32	1.75	[VC]	34	8	4	-	[2]	-	2x UART, [IIN BSI], [1x SSC]	-
XC888	•	•	•	F, K, [A], [L]	TQFP-64	24	24-32	1.74	[VC]	48	8	4	-	[2]	-	2x UART, [IIN BSI], [1x SSC]	-
CIC family (companion IC)																	
CIC61508	•	•	-	K	TSSOP-38	26.67	-	0.25	-	-	-	-	-	-	-	Safety signature watchdog	Flash

- [] = Optional features
- MDU = Multiply Divide Unit
- IIN BSL = LIN Bootstrap Loader
- SSC = Synchronous Serial Channel
- VC = Vector Computer (MDU + CORDIC)
- A = -40/+140 °C
- F = -40/+85 °C
- K = -40/+125 °C
- L = -40/+150 °C
- X = -40/+105 °C

Voltage regulators for Microcontrollers

Microcontroller family	Output voltage [V]	Output current (max) [mA]	Safety support	Voltage regulator	Automotive	Industrial
Legacy 8/16-bit Microcontrollers						
XC8xxx	3.3/5	30		IFX20001	•	
XC8xxx	3.3/5	30		IFX20002	•	
XC8xxx	5	300		IFX24401	•	
XC8xxx	5	100		IFX2931	•	
XC8xxx	3.3/5	400		IFX25001	•	
XC8xxx	3.3/5	50		IFX21401	•	
XC8xxx	5	100		IFX4949	•	
XE166/XC2000	3.3/5	400		IFX25401	•	
XE166/XC2001	5	300		IFX24401	•	
XE166/XC2002	5	100		IFX2931	•	
XE166/XC2003	5	100		IFX4949	•	
32-bit XMC™ Arm® Microcontroller						
XMC1000 series	3.3/5	300		IFX54441		•
XMC1000 series	3.3	150		IFX54211		•
XMC1000 series	5	100		IFX4949		•
XMC1000 series	5	100		IFX2931		•
XMC1000 series	3.3/5	400		IFX25001		•
XMC4000 series	3.3/5	500		IFX1763		•
XMC4000 series	3.3/5	300		IFX54441		•
32-bit AURIX™ TriCore™ Microcontroller						
AURIX TC21x/22x/23x	3.3	150/500	ASIL-D	TLF35584	•	
AURIX TC21x/22x/23x	3.3	150/500	QM/ASIL-B	TLF502x1/TLS4120	•	
AURIX TC21x/22x/23x	3.3	150/500	QM/ASIL-B	TLE9461/TLE9471	•	
AURIX TC26x/27x/29x	3.3/5	250/400/500	ASIL-D	TLF35584	•	
AURIX TC26x	3.3/5	250/400/500	QM/ASIL-B	TLE926xB/TLE9471	•	
AURIX TC27x/29x	3.3/5	500	QM/ASIL-B	TLE9471	•	
AURIX TC33x	3.3/5	250/400/500	QM/ASIL-B	TLE926xB/TLE9471	•	
AURIX TC33x A	3.3/5		QM/ASIL-B	TLF30681	•	
AURIX TC35x A	3.3/5	750	ASIL-B	TLF30682	•	
AURIX TC35x A	3.3/5	750	QM/ASIL-B	TLE927x/TLE9278B	•	
AURIX TC36x/37x	3.3/5	500	QM/ASIL-B	TLE9471	•	
AURIX TC37x	3.3/5	500	ASIL-D	TLF35584	•	
AURIX TC38x/TC39x	3.3/5	750	ASIL-D	TLF35584 & TLF11251	•	
AURIX TC38x/TC39x	3.3/5	750	QM/ASIL-B	TLE927x/TLE9278B	•	
AURIX TC2xx & TC3xx	3.3/5	1000	-	IFX27001		•
AURIX TC2xx & TC3xx	3.3/5	1800	-	IFX91041		•
AURIX TC2xx & TC3xx	3.3/5	2300	-	IFX80471		•
AURIX TC2xx & TC3xx	3.3/5	400	-	IFX25001		•
AURIX TC2xx & TC3xx	3.3/5	1000	-	IFX1117		•



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