



# Microcontroller Pocket Guide

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Product Type	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	Temperature Ranges	Packages	Additional Features/Remarks
<b>C500 Family</b>														
C505CA-4EM/-LM	20	0	1.25	-	34	8	4	-	1	-	1x USART	F, B, K	PG-MQFP-44	OTP, ROM less
C515C-8EM	10	64	2.25	-	49	8	4	-	1	-	1x USART, 1x SSC	F, B, K	PG-MQFP-80	OTP
<b>XC800 A-Family (Automotive)</b>														
<b>XC82x-Series</b>														
XC822MT-1FRA	24	2-4	0.5	-	17	4	4	-	-	-	1x UART, 1x SSC, LIN	F, K	PG-TSSOP-16	
<b>XC83x-Series</b>														
XC836MT	24	4-8	0.5	VC	25	8	4	-	-	-	1x UART, 1x SSC, LIN	F, K	PG-TSSOP-28	
<b>XC86x-Series</b>														
XC866-1FRA	26.67	4-16	0.75	-	27	8	4	-	-	-	1x UART, 1x SSC	F, K, A, L	PG-TSSOP-38	
XC866L-1FRA	26.67	4-16	0.75	-	27	8	4	-	-	-	1x UART, LIN BSL, 1x SSC	F, K, A, L	PG-TSSOP-38	
<b>XC87x-Series</b>														
XC874[CM][LM][CLM]	27	52-64	3.0	[VC]	48	8	10	✓	[2]	-	2x UART, 1x SSC, LIN	F, K	PG-VQFN-48	
XC878[CM][LM][CLM]	27	52-64	3.0	[VC]	48	8	10	✓	[2]	-	2x UART, 1x SSC, [LIN]	F, K, X	PG-LQFP-64	
<b>XC88x-Series</b>														
XC886[LM][CM][CLM]	24	24-32	1.75	[VC]	34	8	4	-	[2]	-	2x UART, [LIN BSL], [1x SSC]	F, K, A, L	PG-TQFP-48	
XC888[LM][CM][CLM]	24	24-32	1.74	[VC]	48	8	4	-	[2]	-	2x UART, [LIN BSL], [1x SSC]	F, K, [A], [L]	PG-TQFP-64	
<b>XC800 I-Family (Industrial and Multi Market)</b>														
<b>XC82x-Series</b>														
XC822[M][T]	24	2-4	0.5	[MDU]	13	4	4	-	-	-	1x UART, 1SSC, I <sup>2</sup> C	F, K, X	PG-TSSOP-16	[TP]
<b>XC83x-Series</b>														
XC836[M][T]	24	4-8	0.5	[VC]	25	8	4	-	-	-	1x UART, 1SSC, I <sup>2</sup> C	F	PG-TSSOP-28	HCP, [TP]
<b>XC86x-Series</b>														
XC866	26.67	4-16	0.75	-	27	8	4	-	-	-	1x UART, 1x SSC	F, K	PG-TSSOP-38	
<b>XC87x-Series</b>														
XC878[C][M]	27	52-64	3.0	[VC]	48	8	10	✓	[2]	-	2x UART, 1SSC	F, K	PG-TQFP-64	
<b>XC88x-Series</b>														
XC886[C][M]	24	24-32	1.75	[VC]	34	8	4	-	[2]	-	2x UART, 1SSC	F, K	PG-TSSOP-48	
XC888[C][M]	24	24-32	1.75	[VC]	48	8	4	-	[2]	-	2x UART, 1SSC	F, K	PG-TSSOP-64	
<b>CIC-Family (Companion IC)</b>														
CIC61508	26.67		0.25								Safety signature watchdog	K	PG-TSSOP-38	ROM, Flash

[ ] = Optional features

HCP = High Current Pads

MAC = Multiply-Accumulate-Unit (DSP)

MDU = Multiply Divide Unit

LIN BSL = LIN Bootstrap Loader

SSC = Synchronous Serial Channel

TP = Touchpad Library in ROM

VC = Vector Computer (MDU + CORDIC)

A = -40/+140°C

B = 0/+70°C

F = -40/+85°C

K = -40/+125°C

L = -40/+150°C

X = -40/+105°C

Product Type	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	Temperature Ranges	Packages	Additional Features/Remarks
<b>C166 Family</b>														
<b>C161</b>														
C161CS-LF	25	256/-	10	-	93	12	32	✓	2	-	2x ASC, 1x SSC, 1x I <sup>2</sup> C, J1850	B, F, K	PG-TQFP-128	ROM less
C161O/K/S-LM/-L25M/3V	20/25	-	2/1/2	-	63	-	-	✓	-	-	1x ASC, 1x SSC	B, F	PG-MQFP-80	ROM less
C161PI-LM/-L25M/3V	20/25	-	3	-	76	4	-	✓	-	-	1x ASC, 1x SSC, 1x I <sup>2</sup> C	B, F	PG-MQFP-100	ROM less
C161PI-LF/-L25F/3V	20/25	-	3	-	76	4	-	✓	-	-	1x ASC, 1x SSC, 1x I <sup>2</sup> C	B, F	PG-TQFP-100	ROM less
<b>C164</b>														
C164CI/CL-8EM/-8E25M	20/25	64	4	-	59	8	12	✓	1	-	1x ASC, 1x SSC	F, K	PG-MQFP-80	OTP
C164CI-LM/-L25M/3V	20	-	4	-	59	8	12	✓	1	-	1x ASC, 1x SSC	F, K	PG-MQFP-80	ROM less
C164CM-4EF	20	32	2	-	50	8	16	✓	1	-	1x ASC, 1x SSC	F, K	PG-TQFP-64	OTP
<b>C165</b>														
C165-LF/-L25F/3V	20/25	-	2	-	77	-	-	✓	-	-	1x ASC, 1x SSC	B, F	PG-TQFP-100	ROM less
C165-LM/-L25M/3V	20/25	-	2	-	77	-	-	✓	-	-	1x ASC, 1x SSC	B, F	PG-MQFP-100	ROM less
<b>C167</b>														
C167SR-LM	25	-	4	-	111	16	36	✓	-	-	1x UART, 1x SSC	F, B, K	PG-MQFP-144	ROM less
C167CS-L16M/-LM/-L33M/-L40M 3V	16/25/33/40	-	11	-	111	24	36	✓	2	-	1x UART, 1x SSC	F, B, K	PG-MQFP-144	ROM less
<b>XC166 Family</b>														
<b>XC164CM</b>														
XC164CM	40	64-128	6-8	MAC	47	14	20	✓	2	-	2x ASC, 2x SSC	F, K	PG-TQFP-64	
<b>XC164CI</b>														
XC161CI	40	128	8	MAC	99	12	32	✓	2	-	2x ASC, 2x SSC, 1x SDLM, 1x I <sup>2</sup> C, J1850	F, K	PG-TQFP-144	
<b>XC164CS</b>														
XC164CS	40	128-256	8-12	MAC	79	14	36	✓	2	-	2x ASC, 2x SSC	F, K	PG-TQFP-100	
<b>XC167CI</b>														
XC167CI	40	128-256	8-12	MAC	103	16	36	✓	2	-	2x ASC, 2x SSC, 1x I <sup>2</sup> C	F, K	PG-TQFP-144	
<b>XE166 Real Time Signal Controller for Industrial and Multi Market</b>														
<b>Classic Series - Alpha Line</b>														
XE164x	66/80	768	24-82	MAC	75	11-16	30-37	✓	0-4	-	4-6x USIC	F, K	PG-LQFP-100	
XE167x	66/80	768	28-82	MAC	118	16-24	30-44	✓	0-5	-	4-6x USIC	F, K	PG-LQFP-144	
<b>U Series - Compact Line</b>														
XE160x	40/66	32-64	8	MAC	28	8	15	-	-	-	2x USIC	F, K	PG-TSSOP-38	
XE161x	40/66	64	8	MAC	33	10	15	-	-	-	2x USIC	F, K	PG-VQFN-48	
<b>L Series - Econo Line</b>														
XE161x	66/80	128-160	12	MAC	33	10	21	-	1	-	4x USIC	F, K	PG-VQFN-48	
XE162x	66/80	96-160	12	MAC	48	19	21	-	2	-	4x USIC	F, K	PG-LQFP-64	
<b>N Series - Value Line</b>														
XE162xN	80	128-320	18-34	MAC	40	9	23	✓	0-2	-	6x USIC	F, K	PG-LQFP-64	pls. use Copper-Wire-Bonding
XE164xN		128-320	18-34	MAC	75	11-16	30	✓	0-2	-	4-6x USIC	F, K	PG-LQFP-100	pls. use Copper-Wire-Bonding
<b>M Series - Base Line</b>														
XE162xM	80	384-576	24-50	MAC	40	9	23	-	0-2	-	6x USIC	F, K	PG-LQFP-64	
XE164xM	80	384-576	26-50	MAC	76	11-16	30-37	✓	0-4	-	4-6x USIC	F, K	PG-LQFP-100	pls. use Copper-Wire-Bonding
XE167xM	80	384-576	34-50	MAC	119	16-24	30-44	✓	0-6	-	4-8x USIC	F, K	PG-LQFP-144	pls. use Copper-Wire-Bonding
<b>H Series - High Line</b>														
XE167xH	100	1024-1600	138	MAC	98-118	24	60	✓	6	-	10x USIC	F, K	PG-LQFP-144	
XE169xH	100	1024-1600	138	MAC	98-118	30	60	✓	6	-	10x USIC	F, K	PG-LQFP-176	

**ASC** = Asynchronous Serial Channel      **B** = 0/+70°C  
**MAC** = Multiply-Accumulate-Unit (DSP)      **F** = -40/+85°C  
**SDLM** = Serial Data Link Module      **K** = -40/+125°C  
**SSC** = Synchronous Serial Channel  
**USIC** = ASC, SPI, I<sup>2</sup>C, I<sup>2</sup>S

# 16-bit Microcontroller

Product Type	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	Temperature Ranges	Packages	Additional Features/Remarks
<b>XC2000 Family - 16/32-bit Microcontrollers for Automotive Applications</b>														
<b>XC2200 for Body Applications</b>														
<b>U-Series</b>														
XC2210U	40	32-64	8	MAC	28	7	17	✓	-	-	1x USIC	F, K	PG-TSSOP-38	
XC2220U	40	32-64	8	MAC	33	10	17	✓	-	-	1x USIC	F, K	PG-VQFN-48	
<b>L-Series</b>														
XC2224L	66	96-160	12	MAC	33	10	23	✓	2	-	2x USIC	F, K	PG-VQFN-48	
XC2234L	66	96-160	12	MAC	49	19	24	✓	2	-	2x USIC	F, K	PG-LQFP-64	
<b>N-Series</b>														
XC2238N	80	192-320	34	MAC	38	9	22	✓	6	-	4x USIC	F, K	PG-LQFP-64	
XC2268N	80	192-320	34	MAC	76	16	32	✓	6	-	6x USIC	F, K	PG-LQFP-100	
<b>M-Series</b>														
XC2237M	80	448-832	50	MAC	38	9	22	✓	6	-	6x USIC	F, K	PG-LQFP-64	
XC2267M	80	448-832	50	MAC	76	16	32	✓	6	-	8x USIC	F, K	PG-LQFP-100	
XC2287M	80	448-832	50	MAC	119	24	44	✓	6	-	8x USIC	F, K	PG-LQFP-144	
<b>I-Series</b>														
XC2269I	128	1088	90	MAC	76	19	32	✓	6	-	10x USIC, 2x FlexRay	F, K	PG-LQFP-100	
XC2289I	128	1088	90	MAC	118	28	44	✓	6	-	10x USIC, 2x FlexRay	F, K	PG-LQFP-144	
<b>H-Series</b>														
XC2289H	100	1600	138	MAC	119	24	44	✓	4	-	10x USIC, 2x FlexRay	F, K	PG-LQFP-144	
XC2299H	100	1600	138	MAC	150	30	66	✓	6	-	10x USIC, 2x FlexRay	F, K	PG-LQFP-176	
<b>XC2300 for Safety Applications</b>														
<b>A-Series</b>														
XC2336A	40	448-832	50	MAC	38	9	24	✓	2	-	4x USIC	F, K	PG-LQFP-64	
XC2365A	80	448-832	50	MAC	76	16	24	✓	3	-	6x USIC	F, K	PG-LQFP-100	
XC2387A	80	448-832	50	MAC	119	24	32	✓	3	-	6x USIC	F, K	PG-LQFP-144	
<b>B-Series</b>														
XC2336B	80	320	34	MAC	38	9	20	✓	2	-	4x USIC	F, K	PG-LQFP-64	
XC2365B	80	192-320	18-34	MAC	76	16	24	✓	3	-	6x USIC	F, K	PG-LQFP-100	
<b>C-Series</b>														
XC2388C	100	1088-1600	138	MAC	119	24	32	✓	4	-	10x USIC, 2x FlexRay	F, K	PG-LQFP-144	
<b>D-Series</b>														
XC2321D	80	96-160	12	MAC	33	10	23	✓	2	-	2x USIC	F, K	PG-VQFN-48	
XC2331D	80	96-160	12	MAC	49	19	24	✓	2	-	2x USIC	F, K	PG-LQFP-64	
<b>E-Series</b>														
XC2368E	128	576-1088	90	MAC	75	16	32	✓	3	-	6x USIC, 2x FlexRay	F, K	PG-LQFP-100	
XC2388E	128	576-1088	90	MAC	118	24	32	✓	3	-	8x USIC, 2x FlexRay	F, K	PG-LQFP-144	
<b>S-Series</b>														
XC2310S	66	32-64	8	MAC	28	7	17	✓	-	-	1x USIC	F, K	PG-TSSOP-38	
XC2320S	66	32-64	8	MAC	33	10	17	✓	-	-	1x USIC	F, K	PG-VQFN-48	
<b>XC2700 for Powertrain Applications</b>														
<b>2-Series</b>														
XC2712X	40	64	8	MAC	28	7	17	✓	-	-	2x USIC	K	PG-TSSOP-38	
XC2722X	40	64	8	MAC	33	10	17	✓	-	-	2x USIC	K	PG-VQFN-48	
<b>3-Series</b>														
XC2723X	66	160	12	MAC	33	10	23	✓	2	-	2x USIC	K	PG-VQFN-48	
XC2733X	66	160	12	MAC	49	19	24	✓	2	-	2x USIC	K	PG-LQFP-64	
<b>4-Series</b>														
XC2734X	80	320	34	MAC	38	9	20	✓	2	-	4x USIC	K	PG-LQFP-64	
XC2764X	80	320	34	MAC	76	16	24	✓	2	-	4x USIC	K	PG-LQFP-100	
<b>5-Series</b>														
XC2765X	80	576-832	50	MAC	76	16	37	✓	2	-	4x USIC	K	PG-LQFP-100	
XC2785X	80	576-832	50	MAC	119	24	44	✓	2	-	4x USIC	K	PG-LQFP-144	
<b>7-Series</b>														
XC2787X	100	1600	138	MAC	119	24	60	✓	2	-	6x USIC	K	PG-LQFP-144	
XC2797X	100	1600	138	MAC	150	30	60	✓	2	-	6x USIC	K	PG-LQFP-176	
<b>8-Series</b>														
XC2768X	128	1088	90	MAC	76	19	32	✓	2	-	10x USIC, 2x FlexRay	K	PG-LQFP-100	
XC2788X	128	1088	90	MAC	118	28	44	✓	2	-	10x USIC, 2x FlexRay	K	PG-LQFP-144	

MAC = Multiply-Accumulate-Unit (DSP)      F = -40/+85°C  
 USIC = ASC, SPI, I<sup>2</sup>C, I<sup>2</sup>S                      K = -40/+125°C

Product Type	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	USIC	USB	SDIO	ASC	SSC	I <sup>2</sup> C	Temperature Ranges	Packages	Additional Features / Remarks
<b>XMC1000 Microcontroller for Industrial and Multi Market powered by ARM® Cortex™-M0 Processor</b>																				
<b>XMC1100 Series</b>																				
XMC1100-T016	32	8-64	16	-	14	6	4	-	-	-	2x USIC	2x						F, X	PG-TSSOP-16	
XMC1100-T038	32	16-64	16	-	34	12	4	-	-	-	2x USIC	2x						F, X	PG-TSSOP-38	
XMC1100-Q024	32	8-64	16	-	22	8	4	-	-	-	2x USIC	2x						F	PG-VQFN-24	
XMC1100-Q040	32	16-64	16	-	35	12	4	-	-	-	2x USIC	2x						F	PG-VQFN-40	
<b>XMC1200 Series</b>																				
XMC1201-T038	32	16-200	16	-	34	12	6	-	-	-	2x USIC	2x						F	PG-TSSOP-38	LEDTS
XMC1201-Q040	32	16-200	16	-	35	12	6	-	-	-	2x USIC	2x						F	PG-VQFN-40	LEDTS
XMC1202-T016	32	16-32	16	-	14	6	11	-	-	-	2x USIC	2x						X	PG-TSSOP-16	2x Comparator, BCCU
XMC1202-T028	32	16-32	16	-	26	10	13	-	-	-	2x USIC	2x						X	PG-TSSOP-28	3x Comparator, BCCU
XMC1202-Q024	32	16-32	16	-	22	8	13	-	-	-	2x USIC	2x						X	PG-VQFN-24	3x Comparator, BCCU
XMC1202-Q040	32	16-32	16	-	35	12	13	-	-	-	2x USIC	2x						X	PG-VQFN-40	3x Comparator, BCCU
<b>XMC1300 Series</b>																				
XMC1301-T016	32	8-16	16	-	14	6	12	-	-	-	2x USIC	2x						F, X	PG-TSSOP-16	2x Comparator, CCU8 special purpose timer, POSIF
XMC1301-T038	32	8-32	16	-	34	12	20	-	-	-	2x USIC	2x						F, X	PG-TSSOP-38	3x Comparator, CCU8 special purpose timer, POSIF
XMC1301-Q024	32	8-16	16	-	22	8	20	-	-	-	2x USIC	2x						F	PG-VQFN-24	3x Comparator, CCU8 special purpose timer, POSIF
XMC1301-Q040	32	8-32	16	-	35	12	29	-	-	-	2x USIC	2x						F	PG-VQFN-40	3x Comparator, CCU8 special purpose timer, POSIF
XMC1302-T016	32	8-32	16	-	14	6	12	-	-	-	2x USIC	2x						X	PG-TSSOP-16	2x Comparator, CCU8 special purpose timer, POSIF, BCCU
XMC1302-T038	32	16-200	16	MATH	33	12	29	-	-	-	2x USIC	2x						X	PG-TSSOP-38	3x Comparator, CCU8 special purpose timer, POSIF, BCCU
XMC1302-Q024	32	16-64	16	MATH	22	8	20	-	-	-	2x USIC	2x						F, X	PG-VQFN-24	3x Comparator, CCU8 special purpose timer, POSIF, BCCU
XMC1302-Q040	32	16-128	16	MATH	35	12	29	-	-	-	2x USIC	2x						X	PG-VQFN-40	3x Comparator, CCU8 special purpose timer, POSIF, BCCU
<b>XMC4000 Microcontroller for Industrial and Multi Market powered by ARM® Cortex™-M4 Processor</b>																				
<b>XMC4100 Series</b>																				
XMC4100-F64	80	128	20+1	FPU	35	9	31	-	2	-	4x USIC, USB FS DEV	4x	USB FS DEV					F, K	PG-LQFP-64	POSIF, LETDS, 12-bit 2 channel DAC
XMC4100-Q48	80	128	20+1	FPU	21	8	21	-	2	-	4x USIC, USB FS DEV	4x	USB FS DEV					F, K	PG-VQFN-48	POSIF, LETDS, 12-bit 2 channel DAC
XMC4104-F64	80	64-128	20+1	FPU	35	9	31	-	0	-	4x USIC	4x						F, K	PG-LQFP-64	POSIF, LETDS, 12-bit 2 channel DAC
XMC4104-Q48	80	64-128	20+1	FPU	21	8	21	-	0	-	4x USIC	4x						F, K	PG-VQFN-48	POSIF, LETDS, 12-bit 2 channel DAC
XMC4108-Q48	80	64	20+1	FPU	21	8	21	-	1	-	4x USIC	4x						K	PG-VQFN-48	POSIF, 12-bit 2 channel DAC
<b>XMC4200 Series</b>																				
XMC4200-F64	80	256	40+1	FPU	35	9	31	-	2	-	4x USIC, USB FS DEV	4x	USB FS OTG					F, K	PG-LQFP-64	POSIF, LETDS, 12-bit 2 channel DAC
XMC4200-Q48	80	256	40+1	FPU	21	8	21	-	2	-	4x USIC, USB FS DEV	4x	USB FS OTG					F, K	PG-VQFN-48	POSIF, LETDS, 12-bit 2 channel DAC
<b>XMC4400 Series</b>																				
XMC4400-F100	120	256-512	80+4	FPU	55	18	46	-	2	✓	4x USIC, USB FS OTG	4x	USB FS OTG					F, K	PG-LQFP-100	POSIF, LETDS, 12-bit 2 channel DAC
XMC4400-F64	120	256-512	80+4	FPU	31	9	29	-	2	✓	4x USIC, USB FS OTG	4x	USB FS OTG					F, K	PG-LQFP-64	POSIF, LETDS, 12-bit 2 channel DAC
XMC4402-F100	120	256	80+4	FPU	55	18	46	-	2	-	4x USIC, USB FS OTG	4x	USB FS OTG					F, K	PG-LQFP-100	POSIF, LETDS, 12-bit 2 channel DAC
XMC4402-F64	120	256	80+4	FPU	31	9	29	-	2	-	4x USIC, USB FS OTG	4x	USB FS OTG					F, K	PG-LQFP-64	POSIF, LETDS, 12-bit 2 channel DAC
<b>XMC4500 Series</b>																				
XMC4500-E144	120	1024	160+4	FPU	91	26	74	✓	3	✓	6x USIC, USB FS OTG, SDIO/SD/MMC	6x	USB FS OTG	SDIO/SD/MMC				F, X	PG-LFBGA-144	POSIF, LETDS, 12-bit 2 channel DAC
XMC4500-F100	120	768-1024	160+4	FPU	55	18	44	-	3	✓	6x USIC, USB FS OTG, SDIO/SD/MMC	6x	USB FS OTG	SDIO/SD/MMC				F, K	PG-LQFP-100	POSIF, LETDS, 12-bit 2 channel DAC
XMC4500-F144	120	768-1024	160+4	FPU	91	26	74	✓	3	✓	6x USIC, USB FS OTG, SDIO/SD/MMC	6x	USB FS OTG	SDIO/SD/MMC				F, K	PG-LQFP-144	POSIF, LETDS, 12-bit 2 channel DAC
XMC4502-F100	120	768	160+4	FPU	55	18	44	-	3	-	6x USIC, USB FS OTG, SDIO/SD/MMC	6x	USB FS OTG	SDIO/SD/MMC				F, K	PG-LQFP-100	POSIF, LETDS, 12-bit 2 channel DAC
XMC4504-F100	120	512	160+4	FPU	55	18	44	-	0	-	6x USIC, USB FS OTG, SDIO/SD/MMC	6x	USB FS OTG	SDIO/SD/MMC				F, K	PG-LQFP-100	POSIF, LETDS, 12-bit 2 channel DAC
XMC4504-F144	120	512	160+4	FPU	91	26	74	✓	0	-	6x USIC, USB FS OTG, SDIO/SD/MMC	6x	USB FS OTG	SDIO/SD/MMC				F, K	PG-LQFP-144	POSIF, LETDS, 12-bit 2 channel DAC

**ASC** = Asynchronous Serial Channel  
**BCCU** = Brightness and Color Control unit for LED lighting  
**CCU** = Capture Compare Unit  
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**PCP** = Peripheral Control Processor  
**PSI5** = Peripheral Sensor Interface  
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**SENT** = Single Edge Nibble Transmission  
**SSC** = Synchronous Serial Channel  
**USIC** = ASC, SPI, I<sup>2</sup>C, I<sup>2</sup>S

**F** = -40/+85°C  
**K** = -40/+125°C  
**X** = -40/+105°C

Product Type	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, CAPCOM, GPTA)	External Bus Interface	CAN Nodes	Ethernet	Communication Interfaces	USIC	USB	SDIO	ASC	SSC	I <sup>2</sup> C	Temperature Ranges	Packages	Additional Features/Remarks
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**TriCore™ Microcontroller for Industrial and Multi Market**

**AUDO – Future Family**

TC1767-256F133	133	2000	128	FPU, PCP	88	36	80	-	2	-	2x ASC, 2x SSC, 1x MSC, 1x MLI				2x	2x		K	PG-LQFP-176	
TC1797-512F180	180	4000	224	FPU, PCP	221	48	118	✓	4	-	2x ASC, 2x SSC, 2x MSC, 2x MLI				2x	2x		K	PG-BGA-416	

**AUDO-MAX – Family**

TC1724N-192F80	80	1500	152	FPU, PCP	95	28	77	-	3	-	2x ASC, 4x SSC, 1x MSC, 1x MLI				2x	4x		K	PG-LQFP-144	EVR
TC1728N-192F133	133	1500	152	FPU, PCP	127	36	94	-	3	-	2x ASC, 4x SSC, 1x MSC, 1x MLI				2x	4x		K	PG-LQFP-176	EVR
TC1782F-320F180	180	2500	152	FPU, PCP	86	36	80	-	3	-	2x ASC, 4x SSC, 1x MSC, 1x MLI				2x	4x		K	PG-LQFP-176	
TC1784F-320F180	180	2500	152	FPU, PCP	139	36	122	✓	3	-	2x ASC, 4x SSC, 1x MSC, 1x MLI				2x	4x		K	PG-LFBGA-292	
TC1791F-512F240	200	3000	320	FPU, PCP	144	48	100	-	4	-	2x ASC, 4x SSC, 2x MSC, 2x MLI, 8x SENT				2x	4x		K	PG-LFBGA-292	
TC1793F-512F270	270	4000	320	FPU, PCP	235	44	140	✓	4	-	2x ASC, 4x SSC, 2x MSC, 2x MLI, 8x SENT				2x	4x		K	PG-BGA-416	
TC1798F-512F300	300	4000	320	FPU, PCP	252	72	138	✓	4	-	2x ASC, 4x SSC, 2x MSC, 2x MLI, 8x SENT				2x	4x		K	PG-BGA-516	

**TriCore™ Microcontroller for Automotive Applications**

**AUDO – Next Generation Family**

TC1762-1128F	66-80	1000	52	FPU	81	32	48	-	2	-	2x ASC, 1x SSC, 1x MSC, 1x MLI				2x	1x		K	PG-LQFP-176	
TC1766-192F80HL	80	1500	108	FPU, PCP	81	32	48	-	2	-	2x ASC, 2x SSC, 1x MSC, 2x MLI				2x	2x		K	PG-LQFP-176	
TC1796-256F150E	150	2000	256	FPU, PCP	123	44	126	✓	4	-	2x ASC, 2x SSC, 2x MSC, 2x MLI				2x	2x		K	PG-BGA-416	

**AUDO – Future Family**

TC1736-128F80HL	80	1000	48	FPU	70	24	53	-	2	-	2x ASC, 2x SSC, 1x MSC, 1x MLI				2x	2x		K	PG-LQFP-144	
TC1767-256F	80-133	2000	128	FPU, PCP	88	36	80	-	2	-	2x ASC, 2x SSC, 1x MSC, 1x MLI				2x	2x		K	PG-LQFP-176	
TC1797-512F180E	180	4000	224	FPU, PCP	221	48	118	✓	4	-	2x ASC, 2x SSC, 2x MSC, 2x MLI				2x	2x		K	PG-BGA-416	

**AUDO-MAX – Family**

TC1724N-192F80HR	80	1500	152	FPU, PCP	95	28	77	-	3	-	2x ASC, 4x SSC, 1x MSC, 1x MLI				2x	4x		K	PG-LQFP-144	EVR
TC1728N-192F133HR	133	1500	152	FPU, PCP	127	36	93	-	3	-	2x ASC, 4x SSC, 1x MSC, 1x MLI				2x	4x		K	PG-LQFP-176	EVR
TC1782F-320F180HR	180	2500	176	FPU/PCP	86	36	80	-	3	-	2x ASC, 3x SSC, 1x MSC, 1x MLI, 2x FlexRay				2x	3x		K	PG-LQFP-176	
TC1784F-320F180EP	180	2500	176	FPU/PCP	91	36	122	✓	3	-	2x ASC, 3x SSC, 1x MSC, 1x MLI, 2x FlexRay				2x	3x		K	PG-LFBGA-292-2	
TC1791F-512F240EP	240	4000	288	FPU/PCP	128	48	97	-	4	-	2x ASC, 4x SSC, 2x MSC, 2x MLI, 8x SENT, 2x FlexRay				2x	4x		K	PG-LFBGA-292	
TC1793F-512F270EF	270	4000	288	FPU/PCP	221	44	112	✓	4	-	2x ASC, 4x SSC, 2x MSC, 2x MLI, 8x SENT, 2x FlexRay				2x	4x		K	PG-LBGA-416	
TC1798F-512F300EP	300	4000	288	FPU/PCP	238	72	138	✓	4	-	2x ASC, 4x SSC, 2x MSC, 2x MLI, 8x SENT, 2x FlexRay				2x	4x		K	PG-BGA-516	

**AURIX™ – Family**

TC233LP-32F200	200	2048	192	FPU	54	24	40	-	6	-	2x FlexRay, 4x QSPI, 2ASC, 4x SENT				2x	2x		K	PG-TQFP-100	EVR, Single core with LS
TC234LP-32F200	200	2048	192	FPU	96	24	40	-	6	-	2x FlexRay, 4x QSPI, 2ASC, 4x SENT				2x	2x		K	PG-TQFP-144	EVR, Single core with LS
TC237LP-32F200	200	2048	192	FPU	96	24	40	-	6	-	2x FlexRay, 4x QSPI, 2ASC, 4x SENT				2x	2x		K	PG-LFBGA-292	EVR, Single core with LS
TC275T-64F200	200	4000	472	FPU	112	60/6 DS	110	-	4	✓	2x FlexRay, 4x QSPI, 4x ASC, 1x I <sup>2</sup> C, 10x Sent, 3x PSI5, 1x HSSL, 2x MSC				4x	4x	1x	K	PG-LQFP-176	EVR, Triple core with LS

- |                                                                  |                                                                                                           |                                                            |                       |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-----------------------|
| <b>ASC</b> = Asynchronous Serial Channel                         | <b>LEDTS</b> = Unit for LED display and capacitive touch control                                          | <b>PCP</b> = Peripheral Control Processor                  | <b>F</b> = -40/+85°C  |
| <b>BCCU</b> = Brightness and Color Control unit for LED lighting | <b>LS</b> = Lock Step                                                                                     | <b>PSI5</b> = Peripheral Sensor Interface                  | <b>K</b> = -40/+125°C |
| <b>CCU</b> = Capture Compare Unit                                | <b>MATH</b> = Peripheral for CORDIC and division operations: CORDIC (24-bit) and Divide (32-bit) at 64MHz | <b>POSIF</b> = Motor Position Interface                    | <b>X</b> = -40/+105°C |
| <b>EVR</b> = Embedded Voltage Regulator                          | <b>MLI</b> = Micro Link Interface                                                                         | <b>QSPI</b> = Queued Serial Peripheral Interface           |                       |
| <b>FPU</b> = Floating Point Unit                                 | <b>MMC</b> = Multi Media Card                                                                             | <b>SDIO</b> = SD Card Interface with Input/Output          |                       |
| <b>FS DEV</b> = Full Speed Device                                | <b>MSC</b> = Micro Second Channel                                                                         | <b>SENT</b> = Single Edge Nibble Transmission              |                       |
| <b>FS OTG</b> = Full Speed On To Go                              |                                                                                                           | <b>SSC</b> = Synchronous Serial Channel                    |                       |
| <b>HSSL</b> = High Speed Serial Link                             |                                                                                                           | <b>USIC</b> = ASC, SPI, I <sup>2</sup> C, I <sup>2</sup> S |                       |

Product Type	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, CAPCOM, GPTA)	External Bus Interface	CAN Nodes	Ethernet	Communication Interfaces	USIC	USB	SDIO	ASC	SSC	I <sup>2</sup> C	Temperature Ranges	Packages	Additional Features/Remarks
<b>AURIX™ – Family</b>																				
TC299TP-128F300S	300	8000	728	FPU		84/10 DS	263	✓	6	✓	2x FlexRay, 4x ASCLIN, 6x QSPI, 3x MSC, 2x I <sup>2</sup> C, 15x SENT, 5x PSIS				4x	2x	K	PG-LFBGA5-16	EVR, STBU, HSM	
TC299TX-128F300S	300	8000	2728	FPU		84/10 DS	263	✓	6	✓	2x FlexRay, 4x ASCLIN, 6x QSPI, 3x MSC, 2x I <sup>2</sup> C, 15x SENT, 5x PSIS				4x	2x	K	PG-LFBGA5-16	EVR, STBU, HSM	
TC299TY-128F300S	300	8000	2728	FPU		84/10 DS	263	✓	6	✓	2x FlexRay, 4x ASCLIN, 6x QSPI, 3x MSC, 2x I <sup>2</sup> C, 15x SENT, 5x PSIS				4x	2x	K	PG-LFBGA5-16	EVR, STBU	
TC298TP-128F300S	300	8000	728	FPU		60/10 DS	232	✓	6	✓	2x FlexRay, 4x ASCLIN, 6x QSPI, 3x MSC, 2x I <sup>2</sup> C, 15x SENT, 5x PSIS				4x	2x	K	PG-LBGA-416	EVR, STBU, HSM	
TC297T-128F300S	300	8000	728	FPU		60/10 DS	169	-	6	✓	2x FlexRay, 4x ASCLIN, 6x QSPI, 3x MSC, 2x I <sup>2</sup> C, 15x SENT, 5x PSIS				4x	2x	K	PG-LFBGA-292	EVR, STBU	
TC297TP-128F300S	300	8000	728	FPU		60/10 DS	169	-	6	✓	2x FlexRay, 4x ASCLIN, 6x QSPI, 3x MSC, 2x I <sup>2</sup> C, 15x SENT, 5x PSIS				4x	2x	K	PG-LFBGA-292	EVR, STBU, HSM	
TC297TA-128F300S	300	8000	2728	FPU, FFT, CIF		60/10 DS	169	-	6	✓	2x FlexRay, 4x ASCLIN, 6x QSPI, 3x MSC, 2x I <sup>2</sup> C, 15x SENT, 5x PSIS				4x	2x	K	PG-LFBGA-292	EVR, STBU, HSM	
TC297TB-128F300S	300	8000	2728	FPU, FFT, CIF		60/10 DS	169	-	6	✓	2x FlexRay, 4x ASCLIN, 6x QSPI, 3x MSC, 2x I <sup>2</sup> C, 15x SENT, 5x PSIS				4x	2x	K	PG-LFBGA-292	EVR, STBU	
TC297TX-128F300S	300	8000	2728	FPU		60/10 DS	263	-	6	✓	2x FlexRay, 4x ASCLIN, 6x QSPI, 3x MSC, 2x I <sup>2</sup> C, 15x SENT, 5x PSIS				4x	2x	K	PG-LFBGA-292	EVR, STBU, HSM	
TC297TY-128F300S	300	8000	2728	FPU		60/10 DS	263	-	6	✓	2x FlexRay, 4x ASCLIN, 6x QSPI, 3x MSC, 2x I <sup>2</sup> C, 15x SENT, 5x PSIS				4x	2x	K	PG-LFBGA-292	EVR, STBU	
TC277T-64F200S	200	4000	472	FPU		60/6 DS	169	-	4	✓	FlexRay, 4x ASCLIN, 4x QSPI, 2x MSC, HSSL, I <sup>2</sup> C, 10x SENT, 3x PSIS				4x	1x	K	PG-LFBGA-292	EVR, WUT	
TC277TP-64F200S	200	4000	472	FPU		60/6 DS	169	-	4	✓	FlexRay, 4x ASCLIN, 4x QSPI, 2x MSC, HSSL, I <sup>2</sup> C, 10x SENT, 3x PSIS				4x	1x	K	PG-LFBGA-292	EVR, WUT, HSM	
TC275T-64F200W	200	4000	472	FPU		60/6 DS	112	-	4	✓	FlexRay, 4x ASCLIN, 4x QSPI, 2x MSC, HSSL, I <sup>2</sup> C, 10x SENT, 3x PSIS				4x	1x	K	PG-LQFP-176	EVR, WUT	
TC275TP-64F200W	200	4000	472	FPU		60/6 DS	112	-	4	✓	FlexRay, 4x ASCLIN, 4x QSPI, 2x MSC, HSSL, I <sup>2</sup> C, 10x SENT, 3x PSIS				4x	1x	K	PG-LQFP-176	EVR, WUT, HSM	
TC267D-40F200S	200	2500	240	FPU		50/3 DS	169	-	5	✓	FlexRay, 4x ASCLIN, 4x QSPI, 2x MSC, I <sup>2</sup> C, 10x SENT, 3x PSIS				4x	1x	K	PG-LFBGA-292	EVR, STBU	
TC265D-40F200W	200	2500	240	FPU		50/3 DS	112	-	5	✓	FlexRay, 4x ASCLIN, 4x QSPI, 2x MSC, I <sup>2</sup> C, 10x SENT, 3x PSIS				4x	1x	K	PG-LQFP-176	EVR, STBU	
TC264D-40F200W	200	2500	240	FPU		40/3 DS	88	-	5	✓	FlexRay, 4x ASCLIN, 4x QSPI, 2x MSC, I <sup>2</sup> C, 10x SENT, 3x PSIS				4x	1x	K	PG-LQFP-144	EVR, STBU	
TC264DA-40F200W	200	2500	752	FPU, FFT, CIF		40/3 DS	88	-	5	✓	FlexRay, 4x ASCLIN, 4x QSPI, 2x MSC, I <sup>2</sup> C, 10x SENT, 3x PSIS				4x	1x	K	PG-LQFP-144	EVR, STBU	
TC237L-32F200S	200	2000	192	FPU		24	120	-	6	-	FlexRay, 2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-LFBGA-292	EVR, WUT	
TC234L-32F200F	200	2000	192	FPU		24	120	-	6	-	FlexRay, 2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-TQFP-144	EVR, WUT	
TC233L-32F200F	200	2000	192	FPU		24	78	-	6	-	FlexRay, 2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-TQFP-100	EVR, WUT	
TC237LP-32F200S	200	2000	192	FPU		24	120	-	6	-	FlexRay, 2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-LFBGA-292	EVR, WUT, HSM	
TC234LP-32F200F	200	2000	192	FPU		24	120	-	6	-	FlexRay, 2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-TQFP-144	EVR, WUT, HSM	
TC233LP-32F200F	200	2000	192	FPU		24	78	-	6	-	FlexRay, 2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-TQFP-100	EVR, WUT, HSM	
TC234LA-32F200F	200	2000	704	FPU, FFT		24	120	-	6	✓	FlexRay, 2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-TQFP-144	EVR, WUT, HSM	
TC234LX-32F200F	200	2000	704	FPU		24	120	-	6	✓	FlexRay, 2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-TQFP-144	EVR, WUT, HSM	
TC237LA-32F200F	200	2000	704	FPU, FFT		24	120	-	6	✓	FlexRay, 2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-LFBGA-292	EVR, WUT, HSM	
TC237LX-32F200F	200	2000	704	FPU		24	120	-	6	✓	FlexRay, 2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-LFBGA-292	EVR, WUT, HSM	
TC224L/S-16F133F	133	1000	96	FPU		24	120	-	3	-	2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-TQFP-144	EVR, WUT	
TC223L/S-16F133F	133	1000	96	FPU		24	78	-	3	-	2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-TQFP-100	EVR, WUT	
TC222L/S-16F133F	133	1000	96	FPU		24	59	-	3	-	2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-TQFP-80	EVR, WUT	
TC214L/S-8F133F	133	500	96	FPU		14	120	-	3	-	2x ASCLIN, 4x QSPI, 4x SFNT				2x	-	K	PG-TQFP-144	EVR, WUT	
TC213L/S-8F133F	133	500	96	FPU		24	78	-	3	-	2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-TQFP-100	EVR, WUT	
TC212L/S-8F133F	133	500	96	FPU		24	59	-	3	-	2x ASCLIN, 4x QSPI, 4x SENT				2x	-	K	PG-TQFP-80	EVR, WUT	

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SSC = Synchronous Serial Channel

USIC = ASC, SPI, I<sup>2</sup>C, I<sup>2</sup>S

F = -40/+85°C

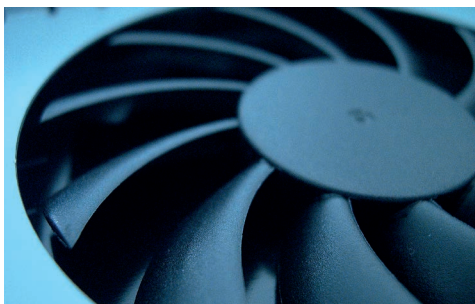
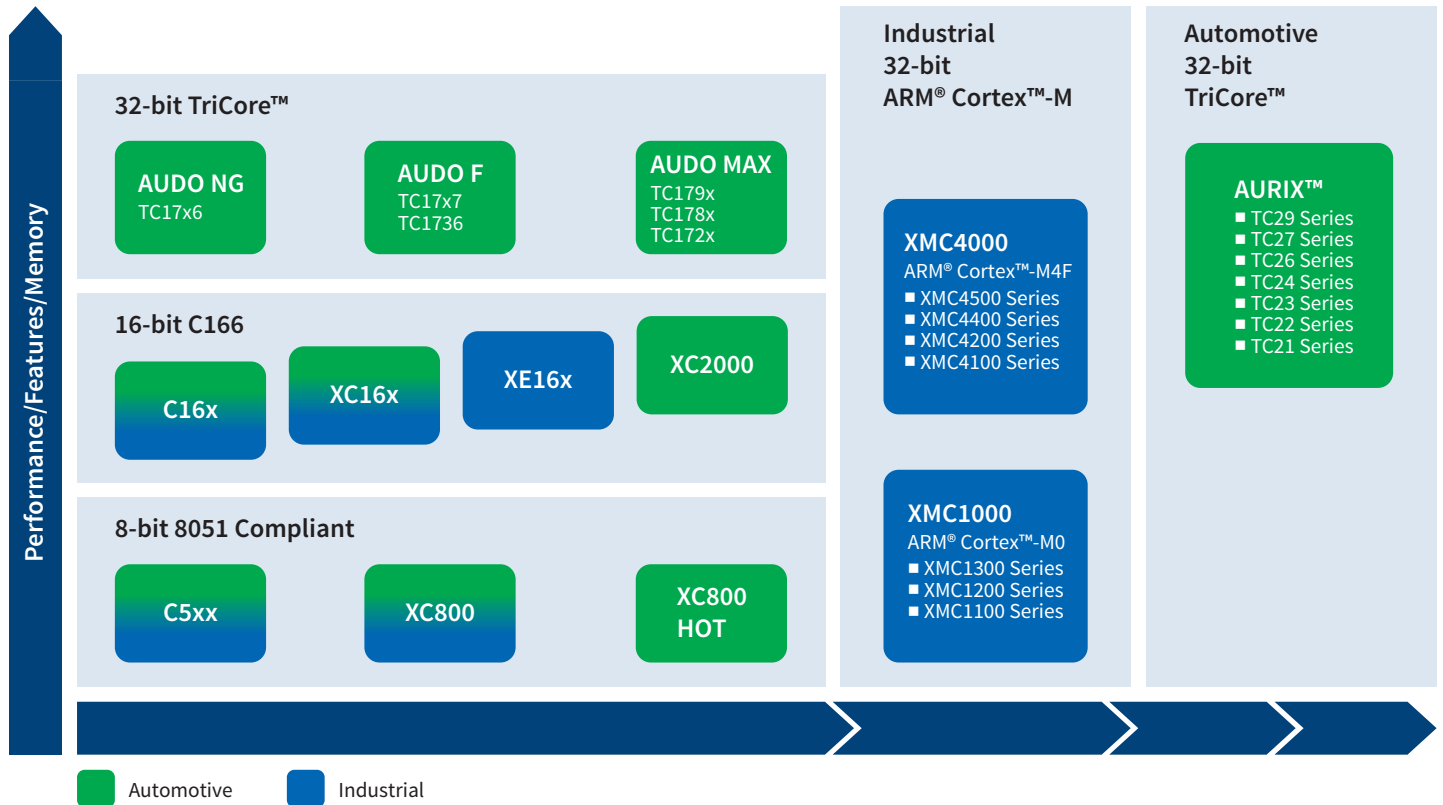
K = -40/+125°C

X = -40/+105°C

## Voltage Regulators

Microcontroller Family	Input Voltage [V]	Voltage Regulator
XMC1000 Family	1.8 ... 5.5	IFX54211/IFX2931/IFX4949/IFX25001/IFX544xx
XMC4000 Family	3.3	IFX1763/IFX544xx/IFX1117
XC8xx	3.3 ... 5.0	IFX20001/IFX24401/IFX2931/IFX21401/IFX4949/IFX544xx
XE166/XC2000	1.5 and 3.3 or 5.0	IFX25401/IFX24401/IFX2931/IFX4949
TriCore™	1.5 ... 3.3	IFX27001/IFX8117/IFX91041/IFX80471/IFX25001/IFX1117/TLE7368x
AURIX™	3.0 ... 5.5	TLF35584 (Safety Power Supply)

## Infinion Microcontrollers Roadmap





## Ask Infineon. Get connected with the answers.

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