

Microcontroller Pocket Guide

| 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 |
|---|---------------------------|------------------------|----------------------------|--------------|-------------------|------------------------|-----------------------------------|------------------------|-----------|----------|-----------------------------------|--------------------|-------------|-----------------------------|
| C500 Family | | | | | | | | | | | | | | |
| C505CA-4EM/-LM | 20 | 0 | 1.25 | - | 34 | 8 | 4 | N | 1 | N | 1x USART | F, B, K | PG-MQFP-44 | OTP, ROM less |
| C505CA-2/-4RM | 20 | 16/32 | 1.25 | - | 34 | 8 | 4 | N | 1 | N | 1x USART | F, B, K | PG-MQFP-44 | ROM |
| C515C-8EM | 10 | 64 | 2.25 | - | 49 | 8 | 4 | N | 1 | N | 1x USART, 1x SSC | F, B, K | PG-MQFP-80 | OTP |
| XC800 A-Family (Automotive) | | | | | | | | | | | | | | |
| XC82x-Series | | | | | | | | | | | | | | |
| XC822MT-1FRA | 24 | 2-4 | 0.5 | - | 17 | 4 | 4 | N | - | N | 1x UART, 1x SSC, LIN | F, K | PG-TSSOP-16 | |
| XC83x-Series | | | | | | | | | | | | | | |
| XC836MT | 24 | 4-8 | 0.5 | VC | 25 | 8 | 4 | N | - | N | 1x UART, 1x SSC, LIN | F, K | PG-TSSOP-28 | |
| XC86x-Series | | | | | | | | | | | | | | |
| XC866-1FRA | 26.67 | 4-16 | 0.75 | - | 27 | 8 | 4 | N | - | N | 1x UART, 1x SSC | F, K, A, L | PG-TSSOP-38 | |
| XC866L-1FRA | 26.67 | 4-16 | 0.75 | - | 27 | 8 | 4 | N | - | N | 1x UART, LIN BSL, 1x SSC | F, K, A, L | PG-TSSOP-38 | |
| XC87x-Series | | | | | | | | | | | | | | |
| XC874[CM][LM][CLM] | 27 | 52-64 | 3.0 | [VC] | 48 | 8 | 10 | Y | [2] | N | 2x UART, 1x SSC, LIN | F, K | PG-VQFN-48 | |
| XC878[CM][LM][CLM] | 27 | 52-64 | 3.0 | [VC] | 48 | 8 | 10 | Y | [2] | N | 2x UART, 1x SSC, [LIN] | F, K, X | PG-LQFP-64 | |
| XC88x-Series | | | | | | | | | | | | | | |
| XC886[LM][CM][CLM] | 24 | 24-32 | 1.75 | [VC] | 34 | 8 | 4 | N | [2] | N | 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 | N | [2] | N | 2x UART, [LIN BSL], [1x SSC] | F, K, [A], [L] | PG-TQFP-64 | |
| XC800 I-Family (Industrial and Multi Market) | | | | | | | | | | | | | | |
| XC82x-Series | | | | | | | | | | | | | | |
| XC822[T] | 24 | 2-4 | 0.5 | - | 13 | 4 | 4 | N | - | N | 1x UART, 1x SSC, I ² C | X, F | PG-TSSOP-16 | [TP] |
| XC822M[T]-1FRI | 24 | 4 | 0.5 | MDU | 13 | 4 | 4 | N | - | N | 1x UART, 1x SSC, I ² C | F, K, X | PG-TSSOP-16 | [TP] |
| XC83x-series | | | | | | | | | | | | | | |
| XC836[M][T] | 24 | 4-8 | 0.5 | [VC] | 25 | 8 | 4 | N | - | N | 1x UART, 1x SSC, I ² C | F | PG-TSSOP-28 | HCP, [TP] |
| XC86x-Series | | | | | | | | | | | | | | |
| XC866 | 26.67 | 4-16 | 0.75 | - | 27 | 8 | 4 | N | - | N | 1x UART, 1x SSC | F, K | PG-TSSOP-38 | |
| XC87x-Series | | | | | | | | | | | | | | |
| XC878[C][M] | 27 | 52-64 | 3.0 | [VC] | 48 | 8 | 10 | Y | [2] | N | 2x UART, 1x SSC | F, K | PG-TQFP-64 | |
| XC88x-Series | | | | | | | | | | | | | | |
| XC886[C][M] | 24 | 24-32 | 1.75 | [VC] | 34 | 8 | 4 | N | [2] | N | 2x UART, 1x SSC | F, K | PG-TSSOP-48 | |
| XC888[C][M] | 24 | 24-32 | 1.75 | [VC] | 48 | 8 | 4 | N | [2] | N | 2x UART, 1x SSC | F, K | PG-TSSOP-64 | |
| CIC-Family (Companion IC) | | | | | | | | | | | | | | |
| CIC61508 | 26.67 | - | 0.25 | - | - | - | - | N | - | N | Safety signature watchdog | K | PG-TSSOP-38 | ROM, Flash |

[] = Optional features
HCP = High Current Pads
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 |
|--|---------------------------|------------------------|----------------------------|--------------|-------------------|------------------------|-----------------------------------|------------------------|-----------|----------|---|--------------------|-------------|-----------------------------|
| C166 Family | | | | | | | | | | | | | | |
| C161 | | | | | | | | | | | | | | |
| C161CS-32RF/LF | 25 | 256/- | 10 | - | 93 | 12 | 32 | Y | 2 | N | 2x ASC, 1x SSC, 1x I ² C, J1850 | B, F, K | PG-TQFP-128 | ROM/-less |
| C1610/K/S-LM/-L25M/3V | 20/25 | - | 2/1/2 | - | 63 | - | - | Y | - | N | 1x ASC, 1x SSC | B, F | PG-MQFP-80 | ROM less |
| C161PI-LM/-L25M/3V | 20/25 | - | 3 | - | 76 | 4 | - | Y | - | N | 1x ASC, 1x SSC, 1x I ² C | B, F | PG-MQFP-100 | ROM less |
| C161PI-LF/-L25F/3V | 20/25 | - | 3 | - | 76 | 4 | - | Y | - | N | 1x ASC, 1x SSC, 1x I ² C | B, F | PG-TQFP-100 | ROM less |
| C164 | | | | | | | | | | | | | | |
| C164CI/CL-8EM/-8E25M/-8RM/-8R25M | 20/25 | 64 | 4 | - | 59 | 8 | 12 | Y | 1 | N | 1x ASC, 1x SSC | F, K | PG-MQFP-80 | OTP/ROM |
| C164CI-LM/-L25M/3V | 20 | - | 4 | - | 59 | 8 | 12 | Y | 1 | N | 1x ASC, 1x SSC | F, K | PG-MQFP-80 | ROM less |
| C164SI-8RM/-8R25M | 20/25 | 64 | 4 | - | 59 | 8 | 12 | Y | - | N | 1x ASC, 1x SSC | F, K | PG-MQFP-80 | ROM |
| C164CM-4RF/EF | 20 | 32 | 2 | - | 50 | 8 | 16 | Y | 1 | N | 1x ASC, 1x SSC | F, K | PG-TQFP-64 | ROM/OTP |
| C164SM/SV-2RF/-4RF | 20 | 16/32 | 1/2 | - | 50 | 8 | 16 | Y | - | N | 1x ASC, 1x SSC | K | PG-TQFP-64 | ROM |
| C165 | | | | | | | | | | | | | | |
| C165-LF/-L25F/3V | 20/25 | - | 2 | - | 77 | - | - | Y | - | N | 1x ASC, 1x SSC | B, F | PG-TQFP-100 | ROM less |
| C165-LM/-L25M/3V | 20/25 | - | 2 | - | 77 | - | - | Y | - | N | 1x ASC, 1x SSC | B, F | PG-MQFP-100 | ROM less |
| C167 | | | | | | | | | | | | | | |
| C167SR-LM | 25 | - | 4 | - | 111 | 16 | 36 | Y | - | N | 1x UART, 1x SSC | F, B, K | PG-MQFP-144 | ROM less |
| C167CR-4RM/-16RM/-LM/-L33M | 25/33 | - | 4 | - | 111 | 16 | 36 | Y | 1 | N | 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 | Y | 2 | N | 1x UART, 1x SSC | F, B, K | PG-MQFP-144 | ROM less |
| C167CS-4RM/-4R40M | 25/40 | 32 | 11 | - | 111 | 24 | 36 | Y | 2 | N | 1x USART, 1x SSC | F, B, K | PG-MQFP-144 | ROM |
| XC166 Family | | | | | | | | | | | | | | |
| XC164CM | | | | | | | | | | | | | | |
| XC164CM | 40 | 64-128 | 6-8 | MAC | 47 | 14 | 20 | Y | 2 | N | 2x ASC, 2x SSC | F, K | PG-TQFP-64 | |
| XC164CI | | | | | | | | | | | | | | |
| XC161CI | 40 | 128 | 8 | MAC | 99 | 12 | 32 | Y | 2 | N | 2x ASC, 2x SSC, 1x SDLM, 1x I ² C, J1850 | F, K | PG-TQFP-144 | |
| XC164CS | | | | | | | | | | | | | | |
| XC164CS | 40 | 128-256 | 8-12 | MAC | 79 | 14 | 36 | Y | 2 | N | 2x ASC, 2x SSC | F, K | PG-TQFP-100 | |
| XC167CI | | | | | | | | | | | | | | |
| XC167CI | 40 | 128-256 | 8-12 | MAC | 103 | 16 | 36 | Y | 2 | N | 2x ASC, 2x SSC, 1x I ² C | F, K | PG-TQFP-144 | |
| XE166 Real Time Signal Controller for Industrial and Multi Market | | | | | | | | | | | | | | |
| Classic Series – Alpha Line | | | | | | | | | | | | | | |
| XE164x | 66/80 | 768 | 24-82 | MAC | 75 | 11-16 | 30-37 | Y | 0-4 | N | 4-6x USIC | F, K | PG-LQFP-100 | |
| XE167x | 66/80 | 768 | 28-82 | MAC | 118 | 16-24 | 30-44 | Y | 0-5 | N | 4-6x USIC | F, K | PG-LQFP-144 | |
| U Series – Compact Line | | | | | | | | | | | | | | |
| XE160x | 40/66 | 32-64 | 8 | MAC | 28 | 8 | 15 | N | - | N | 2x USIC | F, K | PG-TSSOP-38 | |
| XE161x | 40/66 | 64 | 8 | MAC | 33 | 10 | 15 | N | - | N | 2x USIC | F, K | PG-VQFN-48 | |
| L Series – Econo Line | | | | | | | | | | | | | | |
| XE161x | 66/80 | 128-160 | 12 | MAC | 33 | 10 | 21 | N | 1 | N | 4x USIC | F, K | PG-VQFN-48 | |
| XE162x | 66/80 | 96-160 | 12 | MAC | 48 | 19 | 21 | N | 2 | N | 4x USIC | F, K | PG-LQFP-64 | |
| N Series – Value Line | | | | | | | | | | | | | | |
| XE162xN | 80 | 128-320 | 18-34 | MAC | 40 | 9 | 23 | Y | 0-2 | N | 6x USIC | F, K | PG-LQFP-64 | |
| XE164xN | | 128-320 | 18-34 | MAC | 75 | 11-16 | 30 | Y | 0-2 | N | 4-6x USIC | F, K | PG-LQFP-100 | |
| M Series – Base Line | | | | | | | | | | | | | | |
| XE162xM | 80 | 384-576 | 24-50 | MAC | 40 | 9 | 23 | N | 0-2 | N | 6x USIC | F, K | PG-LQFP-64 | |
| XE164xM | 80 | 384-576 | 26-50 | MAC | 76 | 11-16 | 30-37 | Y | 0-4 | N | 4-6x USIC | F, K | PG-LQFP-100 | |
| XE167xM | 80 | 384-576 | 34-50 | MAC | 119 | 16-24 | 30-44 | Y | 0-6 | N | 4-8x USIC | F, K | PG-LQFP-144 | |
| H Series – High Line | | | | | | | | | | | | | | |
| XE167xH | 100 | 1024-1600 | 138 | MAC | 98-118 | 24 | 60 | Y | 6 | N | 10x USIC | F, K | PG-LQFP-144 | |
| XE169xH | 100 | 1024-1600 | 138 | MAC | 98-118 | 30 | 60 | Y | 6 | N | 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, I²C, I²S

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

MAC = Multiply-Accumulate-Unit (DSP) F = -40/+85°C
 USIC = ASC, SPI, I²C, I²S 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 I/O Channels (PWM, Capture) | External Bus Interface | CAN Nodes | Ethernet | Communication Interfaces | Temperature Ranges | Packages | Additional Features/Remarks |
|---|---------------------------|------------------------|----------------------------|--------------|-------------------|------------------------|-----------------------------------|------------------------|-----------|----------|--------------------------|--------------------|-------------|--|
| XMC1000 Microcontroller for Industrial and Multi Market powered by ARM® Cortex™-M0 Processor | | | | | | | | | | | | | | |
| XMC1100 Series | | | | | | | | | | | | | | |
| XMC1100-T016 | 32 | 8-64 | 16 | - | 14 | 6 | 4 | N | - | N | 2x USIC | F, X | PG-TSSOP-16 | |
| XMC1100-T038 | 32 | 16-64 | 16 | - | 34 | 12 | 4 | N | - | N | 2x USIC | F, X | PG-TSSOP-38 | |
| XMC1100-Q024 | 32 | 8-64 | 16 | - | 22 | 8 | 4 | N | - | N | 2x USIC | F | PG-VQFN-24 | |
| XMC1100-Q040 | 32 | 16-64 | 16 | - | 35 | 12 | 4 | N | - | N | 2x USIC | F | PG-VQFN-40 | |
| XMC1200 Series | | | | | | | | | | | | | | |
| XMC1201-T038 | 32 | 16-200 | 16 | - | 34 | 12 | 6 | N | - | N | 2x USIC | F | PG-TSSOP-38 | LEDTS |
| XMC1201-Q040 | 32 | 16-200 | 16 | - | 35 | 12 | 6 | N | - | N | 2x USIC | F | PG-VQFN-40 | LEDTS |
| XMC1202-T016 | 32 | 16-32 | 16 | - | 14 | 6 | 11 | N | - | N | 2x USIC | X | PG-TSSOP-16 | 2x Comparator, BCCU |
| XMC1202-T028 | 32 | 16-32 | 16 | - | 26 | 10 | 13 | N | - | N | 2x USIC | X | PG-TSSOP-28 | 3x Comparator, BCCU |
| XMC1202-Q024 | 32 | 16-32 | 16 | - | 22 | 8 | 13 | N | - | N | 2x USIC | X | PG-VQFN-24 | 3x Comparator, BCCU |
| XMC1202-Q040 | 32 | 16-32 | 16 | - | 35 | 12 | 13 | N | - | N | 2x USIC | X | PG-VQFN-40 | 3x Comparator, BCCU |
| XMC1300 Series | | | | | | | | | | | | | | |
| XMC1301-T016 | 32 | 8-16 | 16 | - | 14 | 6 | 12 | N | - | N | 2x USIC | F, X | PG-TSSOP-16 | 2x Comparator, CCU8 special purpose timer, POSIF |
| XMC1301-T038 | 32 | 8-32 | 16 | - | 34 | 12 | 20 | N | - | N | 2x USIC | F, X | PG-TSSOP-38 | 3x Comparator, CCU8 special purpose timer, POSIF |
| XMC1301-Q024 | 32 | 8-16 | 16 | - | 22 | 8 | 20 | N | - | N | 2x USIC | F | PG-VQFN-24 | 3x Comparator, CCU8 special purpose timer, POSIF |
| XMC1301-Q040 | 32 | 8-32 | 16 | - | 35 | 12 | 29 | N | - | N | 2x USIC | F | PG-VQFN-40 | 3x Comparator, CCU8 special purpose timer, POSIF |
| XMC1302-T016 | 32 | 8-32 | 16 | MATH | 14 | 6 | 12 | N | - | N | 2x USIC | X | PG-TSSOP-16 | 2x Comparator, CCU8 special purpose timer, POSIF, BCCU |
| XMC1302-T038 | 32 | 16-200 | 16 | MATH | 33 | 12 | 29 | N | - | N | 2x USIC | X | PG-TSSOP-38 | 3x Comparator, CCU8 special purpose timer, POSIF, BCCU |
| XMC1302-Q024 | 32 | 16-64 | 16 | MATH | 22 | 8 | 20 | N | - | N | 2x USIC | F, X | PG-VQFN-24 | 3x Comparator, CCU8 special purpose timer, POSIF, BCCU |
| XMC1302-Q040 | 32 | 16-128 | 16 | MATH | 35 | 12 | 29 | N | - | N | 2x USIC | X | PG-VQFN-40 | 3x Comparator, CCU8 special purpose timer, POSIF, BCCU |

ASC = Asynchronous Serial Channel

BCCU = Brightness and Color Control unit for LED lighting

CCU = Capture Compare Unit

EVR = Embedded Voltage Regulator

FPU = Floating Point Unit

FS DEV = Full Speed Device

FS OTG = Full Speed On To Go

LEDTS = Unit for LED display and capacitive touch control

LS = Lock Step

MATH = Peripheral for CORDIC and division operations: CORDIC (24-bit) and Divide (32-bit) at 64MHz

MLI = Micro Link Interface

MMC = Multi Media Card

PCP = Peripheral Control Processor

PSIS = Peripheral Sensor Interface

POSIF = Motor Position Interface

QSPI = Queued Serial Peripheral Interface

SDIO = SD Card Interface with Input/Output

SENT = Single Edge Nibble Transmission

SSC = Synchronous Serial Channel

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, Capture) | External Bus Interface | CAN Nodes | Ethernet | Communication Interfaces | Temperature Ranges | Packages | Additional Features/Remarks |
|---|---------------------------|------------------------|----------------------------|--------------|-------------------|------------------------|-----------------------------------|------------------------|-----------|----------|----------------------------------|--------------------|--------------|------------------------------------|
| XMC4000 Microcontroller for Industrial and Multi Market powered by ARM® Cortex™-M4 Processor | | | | | | | | | | | | | | |
| XMC4100 Series | | | | | | | | | | | | | | |
| XMC4100-F64 | 80 | 128 | 20+1 | FPU | 35 | 9 | 31 | N | 2 | N | 4x USIC, 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 | N | 2 | N | 4x USIC, 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 | N | 0 | N | 4x USIC | F, K | PG-LQFP-64 | POSIF, LETDS, 12-bit 2 channel DAC |
| XMC4104-Q48 | 80 | 64–128 | 20+1 | FPU | 21 | 8 | 21 | N | 0 | N | 4x USIC | F, K | PG-VQFN-48 | POSIF, LETDS, 12-bit 2 channel DAC |
| XMC4108-Q48 | 80 | 64 | 20+1 | FPU | 21 | 8 | 21 | N | 1 | N | 4x USIC | K | PG-VQFN-48 | POSIF, 12-bit 2 channel DAC |
| XMC4200 Series | | | | | | | | | | | | | | |
| XMC4200-F64 | 80 | 256 | 40+1 | FPU | 35 | 9 | 31 | N | 2 | N | 4x USIC, USB FS DEV | F, K | PG-LQFP-64 | POSIF, LETDS, 12-bit 2 channel DAC |
| XMC4200-Q48 | 80 | 256 | 40+1 | FPU | 21 | 8 | 21 | N | 2 | N | 4x USIC, USB FS DEV | F, K | PG-VQFN-48 | POSIF, LETDS, 12-bit 2 channel DAC |
| XMC4400 Series | | | | | | | | | | | | | | |
| XMC4400-F100 | 120 | 256–512 | 80+4 | FPU | 55 | 18 | 46 | N | 2 | Y | 4x USIC, 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 | N | 2 | Y | 4x USIC, 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 | N | 2 | N | 4x USIC, 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 | N | 2 | N | 4x USIC, USB FS OTG | F, K | PG-LQFP-64 | POSIF, LETDS, 12-bit 2 channel DAC |
| XMC4500 Series | | | | | | | | | | | | | | |
| XMC4500-E144 | 120 | 1024 | 160+4 | FPU | 91 | 26 | 74 | Y | 3 | Y | 6x USIC, 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 | N | 3 | Y | 6x USIC, USB FS OTG, SDIO/SD/MMC | F, K | PG-LQFP-100 | POSIF, LETDS, 12-bit 2 channel DAC |
| XMC4500-F144 | 120 | 1024 | 160+4 | FPU | 91 | 26 | 74 | Y | 3 | Y | 6x USIC, USB FS OTG, SDIO/SD/MMC | F, K | PG-LQFP-144 | POSIF, LETDS, 12-bit 2 channel DAC |
| XMC4500-F144 | 120 | 768 | 160+4 | FPU | 91 | 26 | 74 | N | 3 | Y | 6x USIC, 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 | N | 3 | N | 6x USIC, 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 | N | 0 | N | 6x USIC, 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 | Y | 0 | N | 6x USIC, 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

EVR = Embedded Voltage Regulator

FPU = Floating Point Unit

FS DEV = Full Speed Device

FS OTG = Full Speed On To Go

HSSL = High Speed Serial Link

LEDTS = Unit for LED display and capacitive touch control

LS = Lock Step

MATH = Peripheral for CORDIC and division operations: CORDIC (24-bit) and Divide (32-bit) at 64MHz

MLI = Micro Link Interface

MMC = Multi Media Card

MSC = Micro Second Channel

PCP = Peripheral Control Processor

PSI5 = Peripheral Sensor Interface

POSIF = Motor Position Interface

QSPI = Queued Serial Peripheral Interface

SDIO = SD Card Interface with Input/Output

SENT = Single Edge Nibble Transmission

SSC = Synchronous Serial Channel

USIC = ASC, SPI, I²C, I²S

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 | Temperature Ranges | Packages | Additional Features/Remarks |
|---|---------------------------|------------------------|----------------------------|--------------|-------------------|------------------------|--|------------------------|-----------|----------|---|--------------------|----------------|-----------------------------|
| TriCore™ Microcontroller for Industrial and Multi Market | | | | | | | | | | | | | | |
| AUDO – Future Family | | | | | | | | | | | | | | |
| TC1767-256F133 | 133 | 2000 | 128 | FPU, PCP | 88 | 36 | 80 | N | 2 | N | 2x ASC, 2x SSC, 1x MSC, 1x MLI | K | PG-LQFP-176 | |
| TC1797-512F180 | 180 | 4000 | 224 | FPU, PCP | 221 | 48 | 118 | Y | 4 | N | 2x ASC, 2x SSC, 2x MSC, 2x MLI | K | PG-BGA-416 | |
| AUDO-MAX – Family | | | | | | | | | | | | | | |
| TC1724N-192F80 | 80 | 1500 | 152 | FPU, PCP | 95 | 28 | 77 | N | 3 | N | 2x ASC, 4x SSC, 1x MSC, 1x MLI | K | PG-LQFP-144 | EVR |
| TC1728N-192F133 | 133 | 1500 | 152 | FPU, PCP | 127 | 36 | 94 | N | 3 | N | 2x ASC, 4x SSC, 1x MSC, 1x MLI | K | PG-LQFP-176 | EVR |
| TC1782F-320F180 | 180 | 2500 | 152 | FPU, PCP | 86 | 36 | 80 | N | 3 | N | 2x ASC, 4x SSC, 1x MSC, 1x MLI | K | PG-LQFP-176 | |
| TC1784F-320F180 | 180 | 2500 | 152 | FPU, PCP | 139 | 36 | 122 | Y | 3 | N | 2x ASC, 4x SSC, 1x MSC, 1x MLI | K | PG-LFBGA-292 | |
| TC1791F-512F240 | 200 | 3000 | 320 | FPU, PCP | 144 | 48 | 100 | N | 4 | N | 2x ASC, 4x SSC, 2x MSC, 2x MLI, 8x SENT | K | PG-LFBGA-292 | |
| TC1793F-512F270 | 270 | 4000 | 320 | FPU, PCP | 235 | 44 | 140 | Y | 4 | N | 2x ASC, 4x SSC, 2x MSC, 2x MLI, 8x SENT | K | PG-BGA-416 | |
| TC1798F-512F300 | 300 | 4000 | 320 | FPU, PCP | 252 | 72 | 138 | Y | 4 | N | 2x ASC, 4x SSC, 2x MSC, 2x MLI, 8x SENT | K | PG-BGA-516 | |
| TriCore™ Microcontroller for Automotive Applications | | | | | | | | | | | | | | |
| AUDO – Next Generation Family | | | | | | | | | | | | | | |
| TC1762-1128F | 66–80 | 1000 | 52 | FPU | 81 | 32 | 48 | N | 2 | N | 2x ASC, 1x SSC, 1x MSC, 1x MLI | K | PG-LQFP-176 | |
| TC1766-192F80HL | 80 | 1500 | 108 | FPU, PCP | 81 | 32 | 48 | N | 2 | N | 2x ASC, 2x SSC, 1x MSC, 2x MLI | K | PG-LQFP-176 | |
| TC1796-256F150E | 150 | 2000 | 256 | FPU, PCP | 123 | 44 | 126 | Y | 4 | N | 2x ASC, 2x SSC, 2x MSC, 2x MLI | K | PG-BGA-416 | |
| AUDO – Future Family | | | | | | | | | | | | | | |
| TC1736-128F80HL | 80 | 1000 | 48 | FPU | 70 | 24 | 53 | N | 2 | N | 2x ASC, 2x SSC, 1x MSC, 1x MLI | K | PG-LQFP-144 | |
| TC1767-256F | 80–133 | 2000 | 128 | FPU, PCP | 88 | 36 | 80 | N | 2 | N | 2x ASC, 2x SSC, 1x MSC, 1x MLI | K | PG-LQFP-176 | |
| TC1797-512F180E | 180 | 4000 | 224 | FPU, PCP | 221 | 48 | 118 | Y | 4 | N | 2x ASC, 2x SSC, 2x MSC, 2x MLI | K | PG-BGA-416 | |
| AUDO-MAX – Family | | | | | | | | | | | | | | |
| TC1724N-192F80HR | 80 | 1500 | 152 | FPU, PCP | 95 | 28 | 77 | N | 3 | N | 2x ASC, 4x SSC, 1x MSC, 1x MLI | K | PG-LQFP-144 | EVR |
| TC1728N-192F133HR | 133 | 1500 | 152 | FPU, PCP | 127 | 36 | 94 | N | 3 | N | 2x ASC, 4x SSC, 1x MSC, 1x MLI | K | PG-LQFP-176 | EVR |
| TC1782N-256F133HR | 133 | 2000 | 176 | FPU/PCP | 86 | 36 | 80 | N | 3 | N | 2x ASC, 3x SSC, 1x MSC, 1x MLI, 2x FlexRay | K | PG-LQFP-176 | |
| TC1782F-320F180HR | 180 | 2500 | 176 | FPU/PCP | 86 | 36 | 80 | N | 3 | N | 2x ASC, 3x SSC, 1x MSC, 1x MLI, 2x FlexRay | K | PG-LQFP-176 | |
| TC1784F-320F180EL | 180 | 2500 | 176 | FPU/PCP | 126 | 36 | 122 | Y | 3 | N | 2x ASC, 3x SSC, 1x MSC, 1x MLI, 2x FlexRay | K | PG-LFBGA-292-2 | |
| TC1791F-512F240EP | 240 | 4000 | 288 | FPU/PCP | 144 | 48 | 100 | N | 4 | N | 2x ASC, 4x SSC, 2x MSC, 2x MLI, 8x SENT, 2x FlexRay | K | PG-LFBGA-292 | |
| TC1793F-512F270EF | 270 | 4000 | 288 | FPU/PCP | 221 | 44 | 112 | Y | 4 | N | 2x ASC, 4x SSC, 2x MSC, 2x MLI, 8x SENT, 2x FlexRay | K | PG-LBGA-416 | |
| TC1798F-512F300EP | 300 | 4000 | 288 | FPU/PCP | 252 | 72 | 138 | Y | 4 | N | 2x ASC, 4x SSC, 2x MSC, 2x MLI, 8x SENT, 2x FlexRay | K | PG-BGA-516 | |
| AURIX – Family | | | | | | | | | | | | | | |
| TC233LP-32F200 | 200 | 2048 | 192 | FPU | 54 | 24 | 40 | N | 6 | N | 2x FlexRay, 4x QSPI, 2ASC, 4x SENT | K | PG-TQFP-100 | EVR, Single core with LS |
| TC234LP-32F200 | 200 | 2048 | 192 | FPU | 96 | 24 | 40 | N | 6 | N | 2x FlexRay, 4x QSPI, 2ASC, 4x SENT | K | PG-TQFP-144 | EVR, Single core with LS |
| TC237LP-32F200 | 200 | 2048 | 192 | FPU | 96 | 24 | 40 | N | 6 | N | 2x FlexRay, 4x QSPI, 2ASC, 4x SENT | K | PG-LFBGA-292 | EVR, Single core with LS |
| TC275T-64F200 | 200 | 4000 | 472 | FPU | 112 | 60/6 DS | 110 | N | 4 | Y | 2x FlexRay, 4x QSPI, 4x ASC, 1x I ² C, 10xSent, 3x PSi5, 1x HSSL, 2x MSC | K | PG-LQFP-176 | EVR, Triple core with LS |
| TC277T-64F200 | 200 | 4000 | 472 | FPU | 151 | 60/6 DS | 134 | N | 4 | Y | 2x FlexRay, 4x QSPI, 4x ASC, 1x I ² C, 10xSent, 3x PSi5, 1x HSSL, 2x MSC | K | PG-LFBGA-292 | EVR, Triple core with LS |

ASC = Asynchronous Serial Channel
BCCU = Brightness and Color Control unit for LED lighting
CCU = Capture Compare Unit
EVR = Embedded Voltage Regulator
FPU = Floating Point Unit
FS DEV = Full Speed Device
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MATH = Peripheral for CORDIC and division operations: CORDIC (24-bit) and Divide (32-bit) at 64MHz
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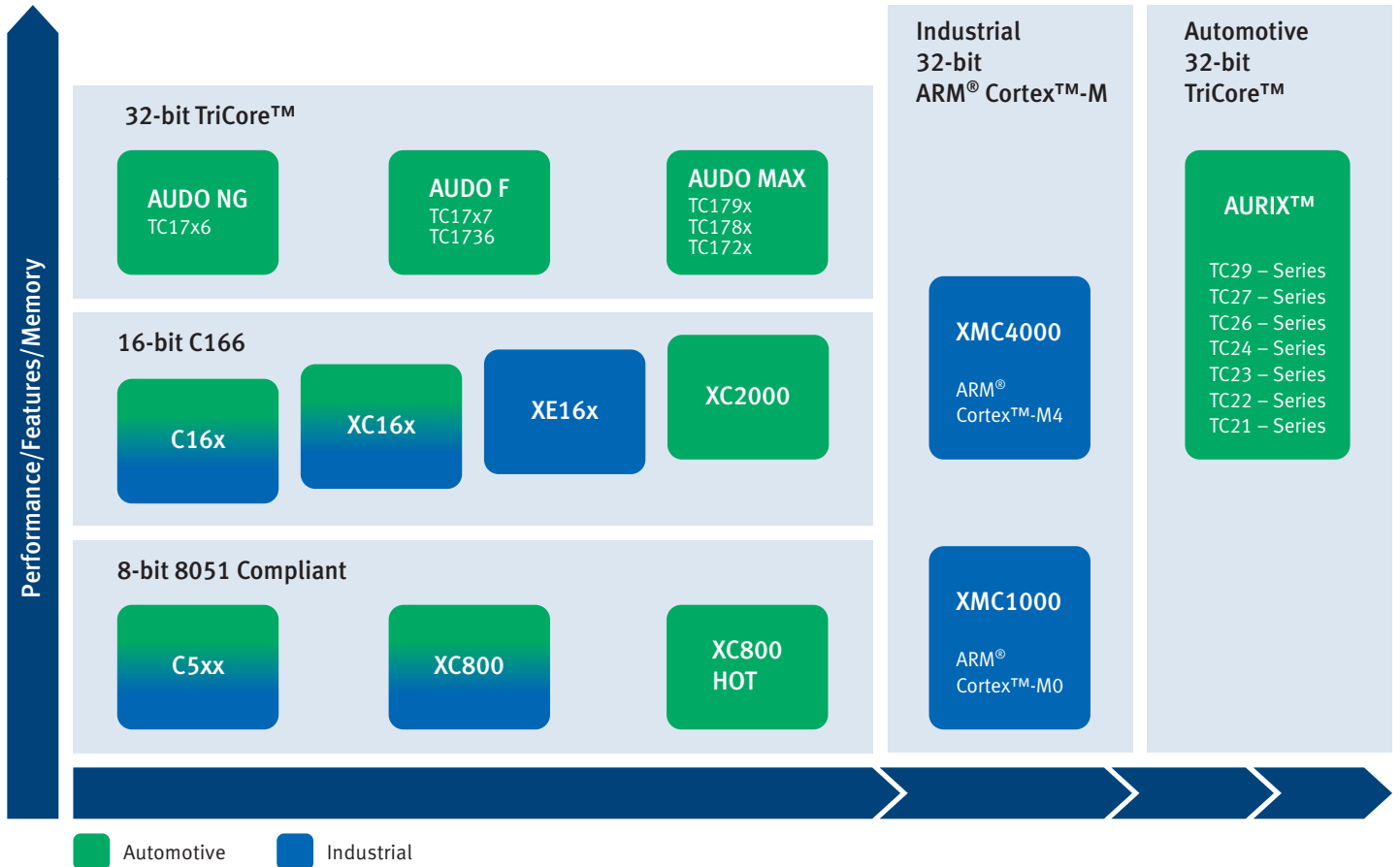
PCP = Peripheral Control Processor
PSIF = Peripheral Sensor Interface
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SENT = Single Edge Nibble Transmission
SSC = Synchronous Serial Channel

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

Voltage Regulators

| Microcontroller Family | Input Voltage [V] | Input Current (max.) [mA] | Voltage Regulator |
|------------------------|--------------------|---------------------------|---|
| XC8xx | 5.0 ... 3.3 | 20 | IFX20001/IFX24401/IFX2931/IFX25001/IFX21401/IFX4949 |
| XE166/XC2000 | 1.5 and 3.3 or 5.0 | 100 | IFX25401/IFX24401/IFX2931/IFX4949 |
| TriCore™ | 1.5 ... 3.3 | >400 | IFX27001/IFX8117/IFX91041/IFX80471/IFX25001/IFX1117 |
| XMC4000 series | 3.3 | 300 | IFX1763/IFX544xx |
| XMC1000 series | 1.8 ... 5.5 | <100 | IFX544xx/IFX542xx/IFX4949/IFX2931/IFX25001 |

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