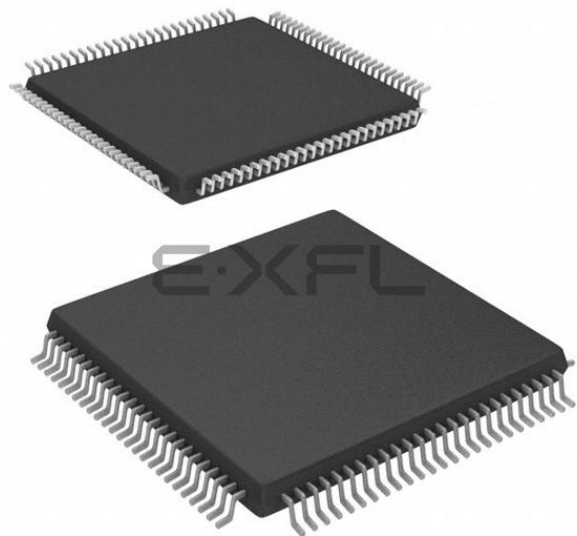




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"[Embedded - Microcontrollers](#)" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "[Embedded - Microcontrollers](#)"

Details

Product Status	Obsolete
Core Processor	e200z420
Core Size	32-Bit Dual-Core
Speed	180MHz
Connectivity	CANbus, Ethernet, FlexRay, I ² C, LINbus, SPI
Peripherals	DMA
Number of I/O	61
Program Memory Size	4MB (4M x 8)
Program Memory Type	FLASH
EEPROM Size	128K x 8
RAM Size	512K x 8
Voltage - Supply (Vcc/Vdd)	3.3V, 5V
Data Converters	-
Oscillator Type	Internal
Operating Temperature	-40°C ~ 125°C
Mounting Type	Surface Mount
Package / Case	100-TQFP
Supplier Device Package	100-QFP (14x14)
Purchase URL	https://www.e-xfl.com/product-detail/stmicroelectronics/spc58ec80e3qmc0y

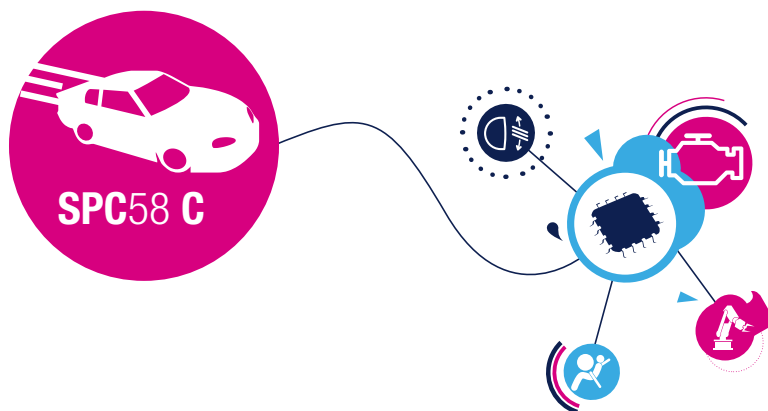
SPC58 B/C/G-lines

automotive MCUs for car body and security applications



Product Selector Guide

life.augmented



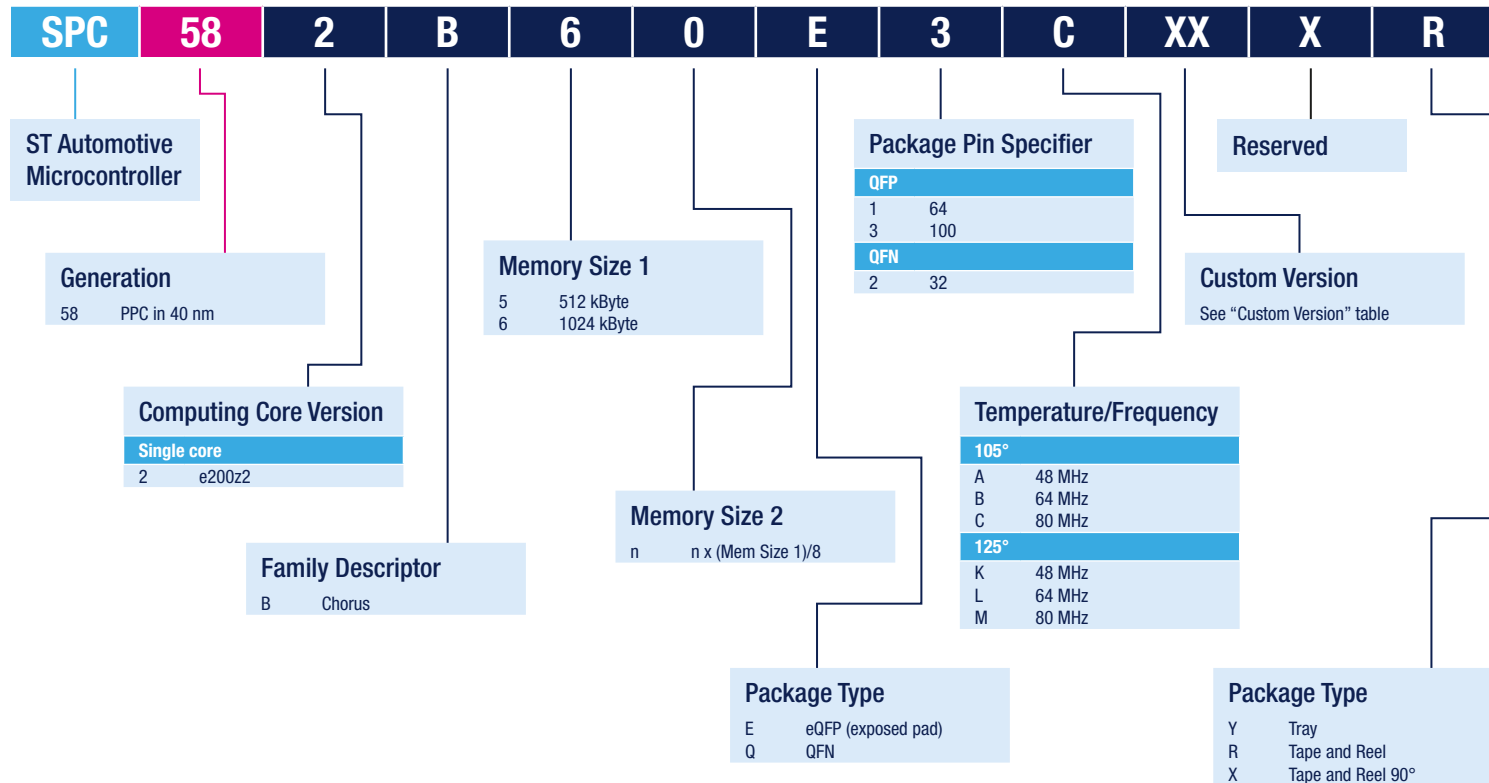
SPC58 Chorus Root Part Number summary table

		FLASH		RAM ¹⁾	Core	Root Part Number				Options ²⁾ (subject to change)			
G-Line	SPC584G SPC58EG SPC58NG	6M	256K (4x 64)	768K	3x z4				SPC58NG84E5	SPC58NG84E7	SPC58NG84C3	Freq.: 120MHz/160MHz/180MHz Ethernet: 0 / 1 / 2 HSM: Yes/No ASIL-D: Yes/No	
				768K	2x z4				SPC58EG84E5	SPC58EG84E7	SPC58EG84C3		
				640K	1x z4				SPC584G84E5	SPC584G84E7	SPC584G84C3		
	4M	768K	3x z4				SPC58NG84E5	SPC58NG84E7	SPC58NG84C3				
		768K	2x z4				SPC58EG80E5	SPC58EG80E7	SPC58EG80C3				
		512K	1x z4				SPC584G80E5	SPC584G80E7	SPC584G80C3				
C-Line	SPC584C SPC58EC	4M	128K (4x 32)	512K	2x z4				SPC58EC80E5	SPC58EC80E7	SPC58EC80C3	Freq.: 120MHz/160MHz/180MHz Ethernet: 0 / 1 FlyRay: 0 / 1 Security (HSM): Yes/No	
				384K	1x z4				SPC584C80E5	SPC584C80E7	SPC584C80C3		
				416K	2x z4				SPC58EC74E5	SPC58EC74E7	SPC58EC74C3		
	3M	320K	1x z4				SPC584C74E5	SPC584C74E7	SPC584C74C3				
		2M	320K	2x z4				SPC58EC70E5	SPC58EC70E7	SPC58EC70C3			
			256K	1x z4				SPC584C70E5	SPC584C70E7	SPC584C70C3			
4B-Line	SPC584B	2M	64K (4x 16)	192K					SPC584B70E5	SPC584B70E7		Freq.: 80MHz/120MHz CAN ³⁾ : 4ch / 8ch / Std / FD, Ethernet: 0 / 1 Security (CSM): Yes/No	
		1.5M		160K	1x z4				SPC584B64E5	SPC584B64E7			
		1M		128K					SPC584B60E5	SPC584B60E7			
2B-Line	SPC582B	1M	64K (4x 16)	96K				SPC582B6002	SPC582B60E3			Freq.: 48MHz/64MHz/80MHz CAN ³⁾ : 3ch / 7ch / Standard / FD	
		768K		80K	1x z2				SPC582B5402	SPC582B54E3			
		512K		64K					SPC582B5002	SPC582B50E3			
		Code	Data			QFN32	eTQFP64	eTQFP100	eTQFP144	eLQFP176	LFBGA292		

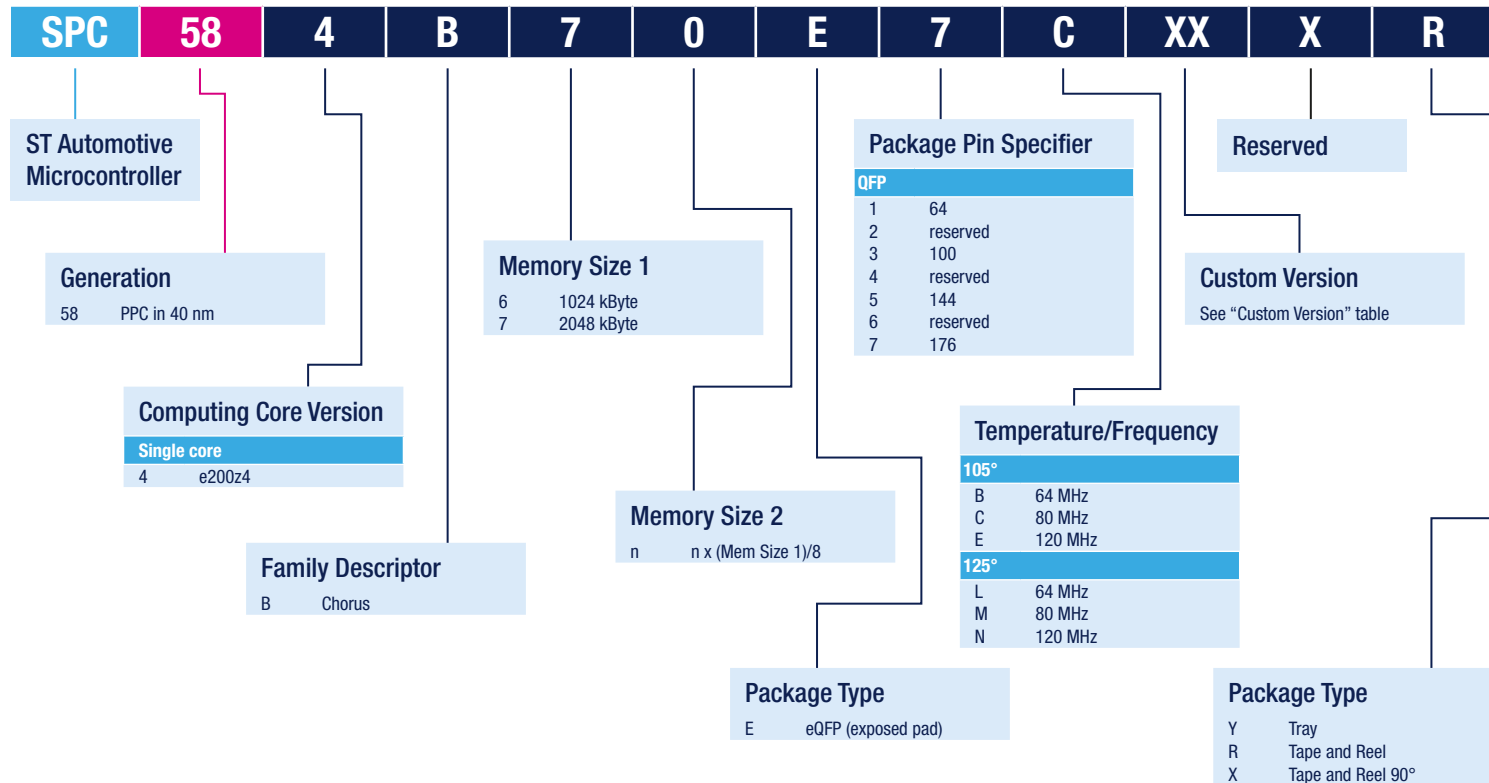
1) total RAM size = SRAM + DRAM
2) Temp. Option: 105°C / 125°C (option available for all devices)
3) CAN options: Number of channel and/or CAN protocol (std/FD)

Line	Part Number	Core	CPU Clock Frequency max (MHz)	Package	FLASH Size (Prog)	FLASH Size (Data)	Internal RAM Size	Serial Interface					Timed I/Os	A/D Channels	A/D Resolution	Cryptography	
								SPI	LIN	FD-MCAN	I ² C	FlexRay					Ethernet
G-Line	SPC58EG80E7	Dual e200z4d	180	eTQFP 176	4096	256	768	10	18	8	1	1	2	63ch eMIOS (16-bit)	58	5x12-bit	HSM
	SPC58EG84C3	Dual e200z4d	180	LFGBA 292	6144	256	768	10	18	8	1	1	2	64ch eMIOS (16-bit)	82	5x12-bit	HSM
	SPC58EG84E5	Dual e200z4d	180	eTQFP 144	6144	256	768	10	18	8	1	1	2	62ch eMIOS (16-bit)	48	5x12-bit	HSM
	SPC58EG84E7	Dual e200z4d	180	eTQFP 176	6144	256	768	10	18	8	1	1	2	63ch eMIOS (16-bit)	58	5x12-bit	HSM
	SPC58NG80C3	Triple e200z4d	180	LFGBA 292	4096	256	768	10	18	8	1	1	2	64ch eMIOS (16-bit)	82	5x12-bit	HSM
	SPC58NG80E5	Triple e200z4d	180	eTQFP 144	4096	256	768	10	18	8	1	1	2	62ch eMIOS (16-bit)	48	5x12-bit	HSM
	SPC58NG80E7	Triple e200z4d	180	eTQFP 176	4096	256	768	10	18	8	1	1	2	63ch eMIOS (16-bit)	58	5x12-bit	HSM
	SPC58NG84C3	Triple e200z4d	180	LFGBA 292	6144	256	768	10	18	8	1	1	2	64ch eMIOS (16-bit)	82	5x12-bit	HSM
	SPC58NG84E5	Triple e200z4d	180	eTQFP 144	6144	256	768	10	18	8	1	1	2	62ch eMIOS (16-bit)	48	5x12-bit	HSM
	SPC58NG84E7	Triple e200z4d	180	eTQFP 176	6144	256	768	10	18	8	1	1	2	63ch eMIOS (16-bit)	58	5x12-bit	HSM

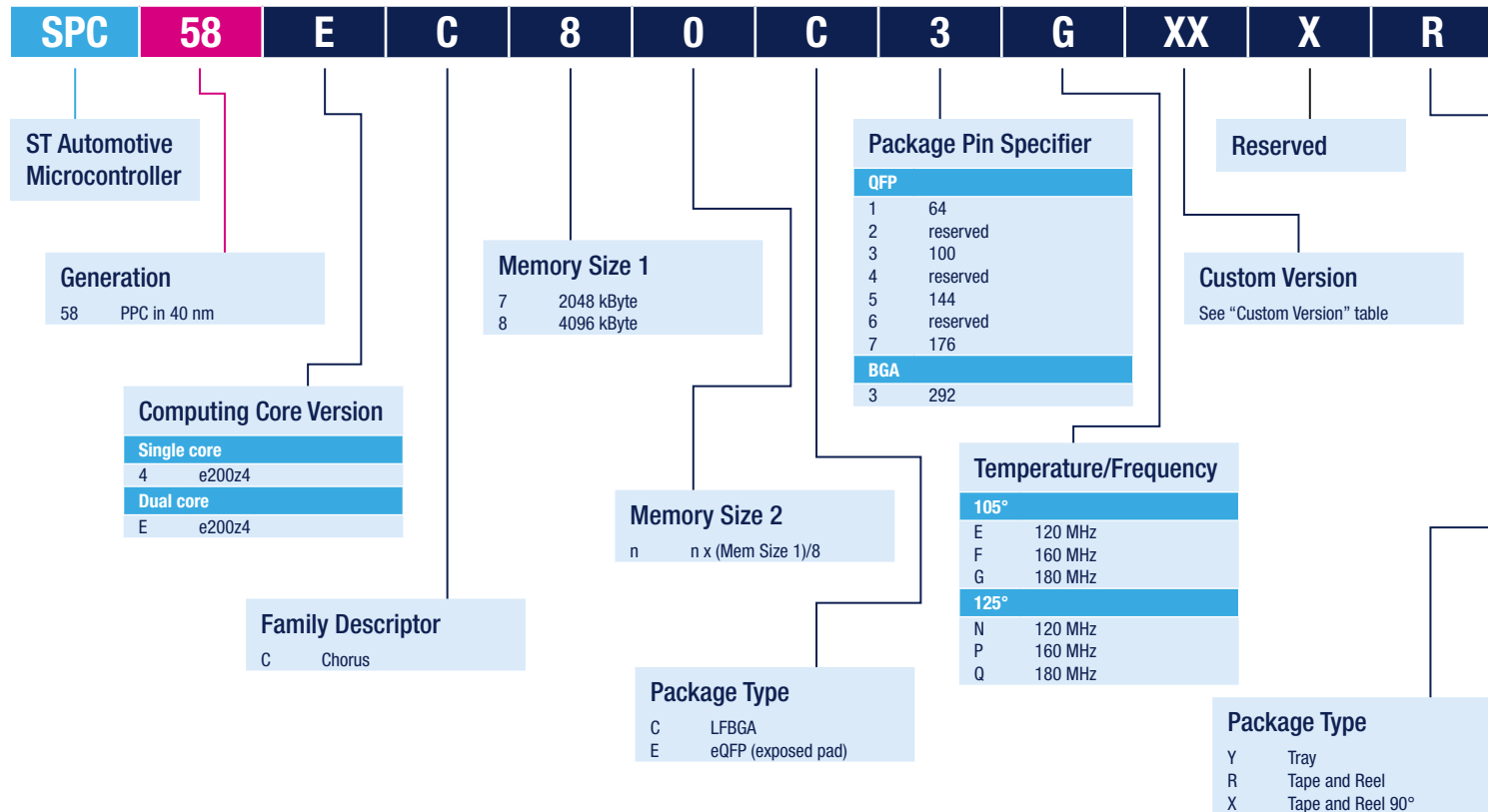
SPC58 2B Line - Ordering Information



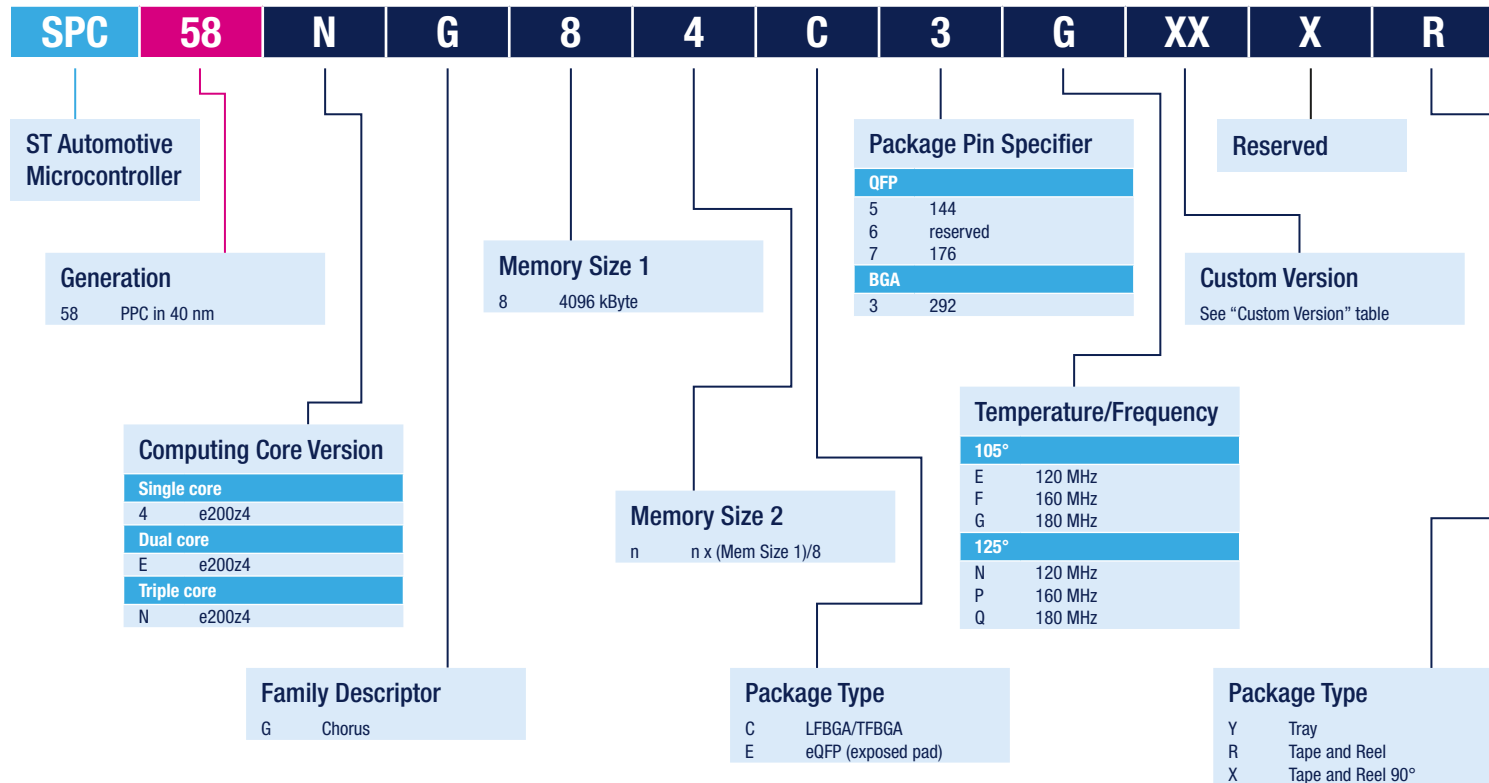
SPC58 4B Line - Ordering Information



SPC58 C Line - Ordering Information



SPC58 G Line - Ordering Information



SPC58 Chorus Custom Version

1st Digit (Serial Com. I/F)					2nd Digit (Security)				
Code	ISO CAN FD	Gateway ³⁾	Ethernet	FlexRay	Code	Ballast	Security HW	Security FW	ASIL-D
SPC582Bx (CH01M)									
O	no	no	N/A	N/A	O	Internal	N/A		
D	yes	no	N/A	N/A					
G	no	yes	N/A	N/A					
H	yes	yes	N/A	N/A					
SPC584Bx (CH02M)									
O	no	no	no	N/A	O	Internal	no	no	N/A
D	yes	no	no	N/A	C	Internal	yes	yes	N/A
G	no	yes	no	N/A	F	Internal	no	yes	N/A
H	yes	yes	no	N/A					
E	no	no	yes	N/A					
M	yes	yes	yes	N/A					
SPC584Cx / SPC58ECx (CH04M)									
O	yes	yes	no	no	O	External	no	no	N/A
E	yes	yes	yes	no	C	External	yes	no	N/A
F	yes	yes	no	yes	F	External	yes	yes	N/A
M	yes	yes	yes	yes	I	Internal	no	no	N/A
					K	Internal	yes	no	N/A
					W	Internal	yes	yes	N/A
SPC584Gx / SPC58EGx / SPC58NGx (CH06M)									
O	yes	yes	no	yes	O	External	no	no	no
E	yes	yes	1x	yes	C	External	yes	no	no
T	yes	yes	2x	yes	F	External	yes	yes	no
					S	External	No	no	yes
					H	External	yes	no	yes
					M	External	yes	yes	yes

1) Custom option list is specific to each Chorus device e.g. SPC582Bx, SPC584Bx etc.

2) Features not reported in the list of options below are available by default in all configuration of a device

3) Gateway: CH01M = 7x CAN, CH02M/4M/6M = 8x CAN

Device Summary

Line	Part Number	Core	CPU Clock Frequency max (MHz)	Package	FLASH Size (Prog)	FLASH Size (Data)	Internal RAM Size	Serial Interface						Timed I/Os	A/D Channels	A/D Resolution	Cryptography
								SPI	LIN	FD-MCAN	I ² C	FlexRay	Ethernet				
2B-Line	SPC582B50E1	e200z2	80	eTQFP 64	512	64	64	4	5	7	1	-	-	28ch eMIOS (16-bit)	18	1x10 or 12-bit	-
	SPC582B50E3	e200z2	80	eTQFP 100	512	64	64	4	5	7	1	-	-	28ch eMIOS (16-bit)	32	1x10 or 12-bit	-
	SPC582B50Q2	e200z2	80	QFN 32	512	64	64	4	5	6	1	-	-	28ch eMIOS (16-bit)	6	1x10 or 12-bit	-
	SPC582B54E1	e200z2	80	eTQFP 64	768	64	80	4	5	7	1	-	-	28ch eMIOS (16-bit)	18	1x10 or 12-bit	-
	SPC582B54E3	e200z2	80	eTQFP 100	768	64	80	4	5	7	1	-	-	28ch eMIOS (16-bit)	32	1x10 or 12-bit	-
	SPC582B54Q2	e200z2	80	QFN 32	768	64	80	4	5	6	1	-	-	28ch eMIOS (16-bit)	6	1x10 or 12-bit	-
	SPC582B60E1	e200z2	80	eTQFP 64	1024	64	96	4	5	7	1	-	-	28ch eMIOS (16-bit)	18	1x10 or 12-bit	-
	SPC582B60E3	e200z2	80	eTQFP 100	1024	64	96	4	5	7	1	-	-	28ch eMIOS (16-bit)	32	1x10 or 12-bit	-
4B-Line	SPC582B60Q2	e200z2	80	QFN 32	1024	64	96	4	5	6	1	-	-	28ch eMIOS (16-bit)	6	1x10 or 12-bit	-
	SPC584B60E1	e200z4d	120	eTQFP 64	1024	64	128	7	10	8	1	-	-	48ch eMIOS (16-bit)	18	1x10-bit; 3x12-bit	HSM
	SPC584B60E3	e200z4d	120	eTQFP 100	1024	64	128	7	10	8	1	-	1	61ch eMIOS (16-bit)	32	1x10-bit; 3x12-bit	HSM
	SPC584B60E5	e200z4d	120	eTQFP 144	1024	64	128	7	10	8	1	-	1	64ch eMIOS (16-bit)	49	1x10-bit; 3x12-bit	HSM
	SPC584B60E7	e200z4d	120	eTQFP 176	1024	64	128	7	10	8	1	-	1	64ch eMIOS (16-bit)	63	1x10-bit; 3x12-bit	HSM
	SPC584B64E1	e200z4d	120	eTQFP 64	1536	64	160	7	10	8	1	-	-	48ch eMIOS (16-bit)	18	1x10-bit; 3x12-bit	HSM
	SPC584B64E3	e200z4d	120	eTQFP 100	1536	64	160	7	10	8	1	-	1	61ch eMIOS (16-bit)	32	1x10-bit; 3x12-bit	HSM
	SPC584B64E5	e200z4d	120	eTQFP 144	1536	64	160	7	10	8	1	-	1	64ch eMIOS (16-bit)	49	1x10-bit; 3x12-bit	HSM
	SPC584B64E7	e200z4d	120	eTQFP 176	1536	64	160	7	10	8	1	-	1	64ch eMIOS (16-bit)	63	1x10-bit; 3x12-bit	HSM
	SPC584B70E1	e200z4d	120	eTQFP 64	2048	64	192	7	10	8	1	-	-	48ch eMIOS (16-bit)	18	1x10-bit; 3x12-bit	HSM
	SPC584B70E3	e200z4d	120	eTQFP 100	2048	64	192	7	10	8	1	-	1	61ch eMIOS (16-bit)	32	1x10-bit; 3x12-bit	HSM
	SPC584B70E5	e200z4d	120	eTQFP 144	2048	64	192	7	10	8	1	-	1	64ch eMIOS (16-bit)	49	1x10-bit; 3x12-bit	HSM
	SPC584B70E7	e200z4d	120	eTQFP 176	2048	64	192	7	10	8	1	-	1	64ch eMIOS (16-bit)	63	1x10-bit; 3x12-bit	HSM

Line	Part Number	Core	CPU Clock Frequency max (MHz)	Package	FLASH Size (Prog)	FLASH Size (Data)	Internal RAM Size	Serial Interface						Timed I/Os	A/D Channels	A/D Resolution	Cryptography
								SPI	LIN	FD-MCAN	I ² C	FlexRay	Ethernet				
C-Line	SPC584C70C3	e200z4d	180	LFGBA 292	2000	128	256	8	18	8	1	1	1	64ch eMIOS (16-bit)	95	1x10-bit; 5x12-bit	HSM
	SPC584C70E1	e200z4d	180	eTQFP 64	2000	128	256	5	9	8	1	-	-	48ch eMIOS (16-bit)	18	1x10-bit; 5x12-bit	HSM
	SPC584C70E3	e200z4d	180	eTQFP 100	2000	128	256	8	16	8	1	1	1	61ch eMIOS (16-bit)	32	1x10-bit; 5x12-bit	HSM
	SPC584C70E5	e200z4d	180	eTQFP 144	2000	128	256	8	16	8	1	1	1	64ch eMIOS (16-bit)	49	1x10-bit; 5x12-bit	HSM
	SPC584C70E7	e200z4d	180	eTQFP 176	2000	128	256	8	18	8	1	1	1	64ch eMIOS (16-bit)	63	1x10-bit; 5x12-bit	HSM
	SPC584C74C3	e200z4d	180	LFGBA 292	3000	128	320	8	18	8	1	1	1	64ch eMIOS (16-bit)	95	1x10-bit; 5x12-bit	HSM
	SPC584C74E1	e200z4d	180	eTQFP 64	3000	128	320	5	9	8	1	-	-	48ch eMIOS (16-bit)	18	1x10-bit; 5x12-bit	HSM
	SPC584C74E3	e200z4d	180	eTQFP 100	3000	128	320	8	16	8	1	1	1	61ch eMIOS (16-bit)	32	1x10-bit; 5x12-bit	HSM
	SPC584C74E5	e200z4d	180	eTQFP 144	3000	128	320	8	16	8	1	1	1	64ch eMIOS (16-bit)	49	1x10-bit; 5x12-bit	HSM
	SPC584C74E7	e200z4d	180	eTQFP 176	3000	128	320	8	18	8	1	1	1	64ch eMIOS (16-bit)	63	1x10-bit; 5x12-bit	HSM
	SPC584C80C3	e200z4d	180	LFGBA 292	4000	128	384	8	18	8	1	1	1	64ch eMIOS (16-bit)	95	1x10-bit; 5x12-bit	HSM
	SPC584C80E1	e200z4d	180	eTQFP 64	4000	128	384	5	9	8	1	-	-	48ch eMIOS (16-bit)	18	1x10-bit; 5x12-bit	HSM
	SPC584C80E3	e200z4d	180	eTQFP 100	4000	128	384	8	16	8	1	1	1	61ch eMIOS (16-bit)	32	1x10-bit; 5x12-bit	HSM
	SPC584C80E5	e200z4d	180	eTQFP 144	4000	128	384	8	16	8	1	1	1	64ch eMIOS (16-bit)	49	1x10-bit; 5x12-bit	HSM
	SPC584C80E7	e200z4d	180	eTQFP 176	4000	128	384	8	18	8	1	1	1	64ch eMIOS (16-bit)	63	1x10-bit; 5x12-bit	HSM
	SPC58EC70C3	Dual e200z4d	180	LFGBA 292	2000	128	320	8	18	8	1	1	1	64ch eMIOS (16-bit)	95	1x10-bit; 5x12-bit	HSM
	SPC58EC70E1	Dual e200z4d	180	eTQFP 64	2000	128	320	5	9	8	1	-	-	48ch eMIOS (16-bit)	18	1x10-bit; 5x12-bit	HSM
	SPC58EC70E3	Dual e200z4d	180	eTQFP 100	2000	128	320	8	16	8	1	1	1	61ch eMIOS (16-bit)	32	1x10-bit; 5x12-bit	HSM

Line	Part Number	Core	CPU Clock Frequency max (MHz)	Package	FLASH Size (Prog)	FLASH Size (Data)	Internal RAM Size	Serial Interface						Timed I/Os	A/D Channels	A/D Resolution	Cryptography
								SPI	LIN	FD-MCAN	I ² C	FlexRay	Ethernet				
C-Line	SPC58EC70E5	Dual e200z4d	180	eTQFP 144	2000	128	320	8	16	8	1	1	1	64ch eMIOS (16-bit)	49	1x10-bit; 5x12-bit	HSM
	SPC58EC70E7	Dual e200z4d	180	eTQFP 176	2000	128	320	8	18	8	1	1	1	64ch eMIOS (16-bit)	63	1x10-bit; 5x12-bit	HSM
	SPC58EC74C3	Dual e200z4d	180	LFGBA 292	3000	128	416	8	18	8	1	1	1	64ch eMIOS (16-bit)	95	1x10-bit; 5x12-bit	HSM
	SPC58EC74E1	Dual e200z4d	180	eTQFP 64	3000	128	416	5	9	8	1	-	-	48ch eMIOS (16-bit)	18	1x10-bit; 5x12-bit	HSM
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	SPC58EC74E7	Dual e200z4d	180	eTQFP 176	3000	128	416	8	18	8	1	1	1	64ch eMIOS (16-bit)	63	1x10-bit; 5x12-bit	HSM
	SPC58EC80C3	Dual e200z4d	180	LFGBA 292	4000	128	512	8	18	8	1	1	1	64ch eMIOS (16-bit)	95	1x10-bit; 5x12-bit	HSM
	SPC58EC80E1	Dual e200z4d	180	eTQFP 64	4000	128	512	5	9	8	1	-	-	48ch eMIOS (16-bit)	18	1x10-bit; 5x12-bit	HSM
	SPC58EC80E3	Dual e200z4d	180	eTQFP 100	4000	128	512	8	16	8	1	1	1	61ch eMIOS (16-bit)	32	1x10-bit; 5x12-bit	HSM
	SPC58EC80E5	Dual e200z4d	180	eTQFP 144	4000	128	512	8	16	8	1	1	1	64ch eMIOS (16-bit)	49	1x10-bit; 5x12-bit	HSM
	SPC58EC80E7	Dual e200z4d	180	eTQFP 176	4000	128	512	8	18	8	1	1	1	64ch eMIOS (16-bit)	63	1x10-bit; 5x12-bit	HSM
G-Line	SPC584G80C3	e200z4d	180	LFGBA 292	4096	256	512	10	18	8	1	1	2	64ch eMIOS (16-bit)	82	5x12-bit	HSM
	SPC584G80E5	e200z4d	180	eTQFP 144	4096	256	512	10	18	8	1	1	2	62ch eMIOS (16-bit)	48	5x12-bit	HSM
	SPC584G80E7	e200z4d	180	eTQFP 176	4096	256	512	10	18	8	1	1	2	63ch eMIOS (16-bit)	58	5x12-bit	HSM
	SPC584G84C3	e200z4d	180	LFGBA 292	6144	256	640	10	18	8	1	1	2	64ch eMIOS (16-bit)	82	5x12-bit	HSM
	SPC584G84E5	e200z4d	180	eTQFP 144	6144	256	640	10	18	8	1	1	2	62ch eMIOS (16-bit)	48	5x12-bit	HSM
	SPC584G84E7	e200z4d	180	eTQFP 176	6144	256	640	10	18	8	1	1	2	63ch eMIOS (16-bit)	58	5x12-bit	HSM
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	SPC58EG80E5	Dual e200z4d	180	eTQFP 144	4096	256	768	10	18	8	1	1	2	62ch eMIOS (16-bit)	48	5x12-bit	HSM