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What is "Embedded - Microcontrollers"?

"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	Active
Core Processor	e200z4d
Core Size	32-Bit Single-Core
Speed	120MHz
Connectivity	CANbus, LINbus, SPI, UART/USART
Peripherals	DMA, POR, PWM, WDT
Number of I/O	177
Program Memory Size	2MB (2M x 8)
Program Memory Type	FLASH
EEPROM Size	64K x 8
RAM Size	160K x 8
Voltage - Supply (Vcc/Vdd)	3V ~ 5.5V
Data Converters	A/D 33x10b, 10x12b
Oscillator Type	Internal
Operating Temperature	-40°C ~ 105°C (TA)
Mounting Type	Surface Mount
Package / Case	208-LQFP
Supplier Device Package	208-LQFP (28x28)
Purchase URL	https://www.e-xfl.com/product-detail/stmicroelectronics/spc564b70l8b8e0y

5 Ordering information

Figure 40. Ordering information scheme

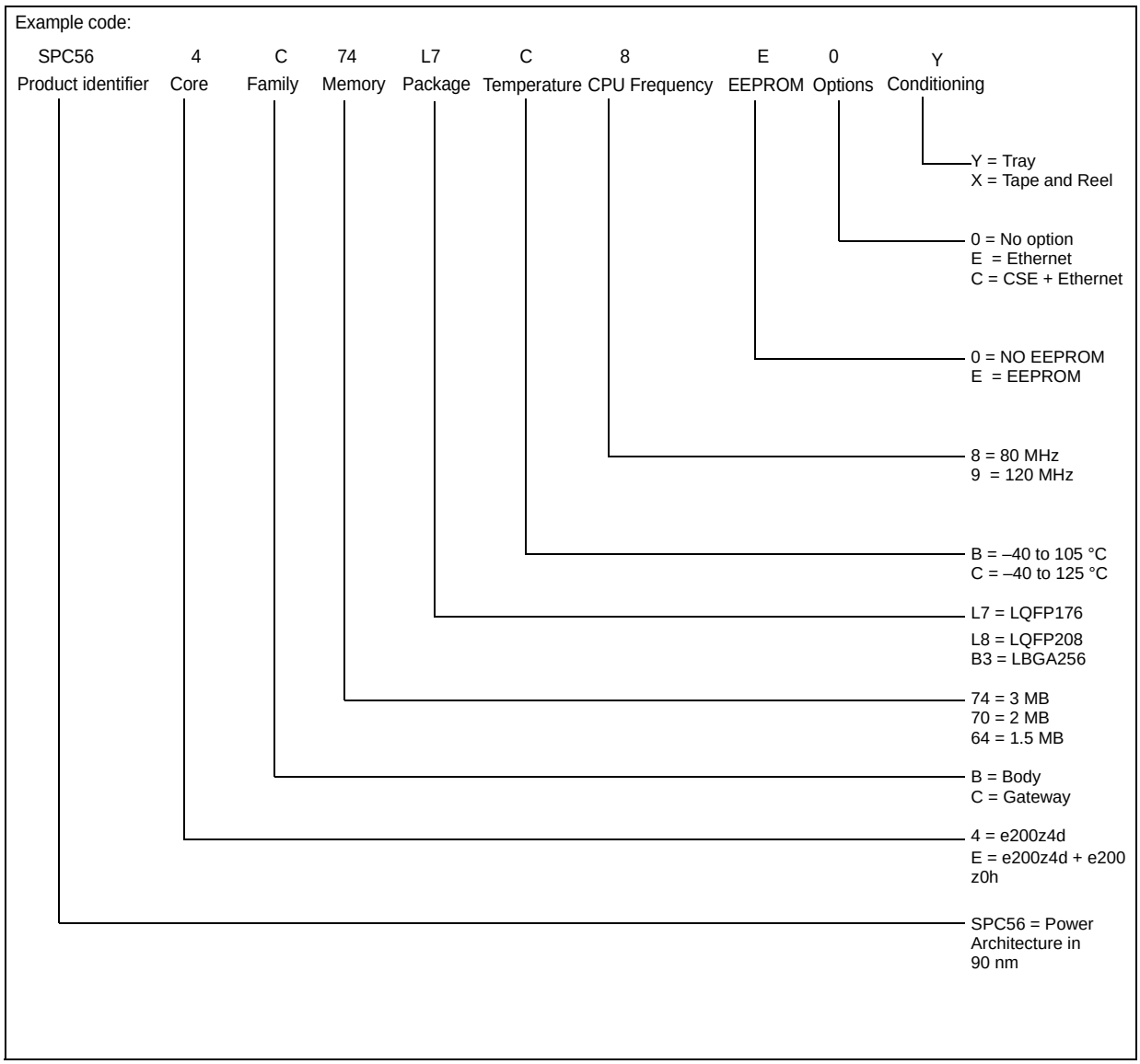

Table 5. Functional port pin descriptions (continued)

Port pin	PCR	Alternate function [1]	Function	Peripheral	I/O direction [2]	Pad type	RESET config.	Pin number		
								LQFP 176	LQFP 208	LBGA256
PA[5]	PCR[5]	AF0 AF1 AF2	GPIO[5] E0UC[5] LIN4TX	SIUL eMIOS_0 LINFlexD_4	I/O I/O O	M/S	Tristate	146	170	C10
PA[6]	PCR[6]	AF0 AF1 AF2 AF3 — —	GPIO[6] E0UC[6] — CS1_1 LIN4RX EIRQ[1]	SIUL eMIOS_0 — DSPI_1 LINFlexD_4 SIUL	I/O I/O — O I I	S	Tristate	147	171	D11
PA[7]	PCR[7]	AF0 AF1 AF2 AF3 — — —	GPIO[7] E0UC[7] LIN3TX — RXD[2] EIRQ[2] ADC1_S[1]	SIUL eMIOS_0 LINFlexD_3 — FEC SIUL ADC_1	I/O I/O O — I I I	M/S	Tristate	128	152	C15
PA[8]	PCR[8]	AF0 AF1 AF2 AF3 — — — —	GPIO[8] E0UC[8] E0UC[14] — RXD[1] EIRQ[3] ABS[0] LIN3RX	SIUL eMIOS_0 eMIOS_0 — FEC SIUL MC_RGM LINFlexD_3	I/O I/O I/O — I I I I	M/S	Input, weak pull-up	129	153	B16
PA[9]	PCR[9]	AF0 AF1 AF2 AF3 — —	GPIO[9] E0UC[9] — CS2_1 RXD[0] FAB	SIUL eMIOS_0 — DSPI1 FEC MC_RGM	I/O I/O — O I I	M/S	Pull-down	130	154	B15

Table 5. Functional port pin descriptions (continued)

Port pin	PCR	Alternate function [1]	Function	Peripheral	I/O direction [2]	Pad type	RESET config.	Pin number		
								LQFP 176	LQFP 208	LBGA256
PB[11]	PCR[27]	AF0 AF1 AF2 AF3 —	GPIO[27] E0UC[3] — CS0_0 ADC0_S[3]	SIUL eMIOS_0 — DSPI_0 ADC_0	I/O I/O — I/O I	S	Tristate	97	117	M13
PB[12]	PCR[28]	AF0 AF1 AF2 AF3 —	GPIO[28] E0UC[4] — CS1_0 ADC0_X[0]	SIUL eMIOS_0 — DSPI_0 ADC_0	I/O I/O — O I	S	Tristate	101	123	L14
PB[13]	PCR[29]	AF0 AF1 AF2 AF3 —	GPIO[29] E0UC[5] — CS2_0 ADC0_X[1]	SIUL eMIOS_0 — DSPI_0 ADC_0	I/O I/O — O I	S	Tristate	103	125	L15
PB[14]	PCR[30]	AF0 AF1 AF2 AF3 —	GPIO[30] E0UC[6] — CS3_0 ADC0_X[2]	SIUL eMIOS_0 — DSPI_0 ADC_0	I/O I/O — O I	S	Tristate	105	127	K15
PB[15]	PCR[31]	AF0 AF1 AF2 AF3 —	GPIO[31] E0UC[7] — CS4_0 ADC0_X[3]	SIUL eMIOS_0 — DSPI_0 ADC_0	I/O I/O — O I	S	Tristate	107	129	K16
PC[0][6]	PCR[32]	AF0 AF1 AF2 AF3	GPIO[32] — TDI —	SIUL — JTAGC —	I/O — I —	M/S	Input, weak pull-up	154	178	B10
PC[1][6]	PCR[33]	AF0 AF1 AF2 AF3	GPIO[33] — TDO —	SIUL — JTAGC —	I/O — O —	F/M	Tristate	149	173	D9

Table 5. Functional port pin descriptions (continued)

Port pin	PCR	Alternate function [1]	Function	Peripheral	I/O direction [2]	Pad type	RESET config.	Pin number		
								LQFP 176	LQFP 208	LBGA256
PC[2]	PCR[34]	AF0 AF1 AF2 AF3 —	GPIO[34] SCK_1 CAN4TX — EIRQ[5]	SIUL DSPI_1 FlexCAN_4 — SIUL	I/O I/O O — I	M/S	Tristate	145	169	B11
PC[3]	PCR[35]	AF0 AF1 AF2 AF3 — — —	GPIO[35] CS0_1 MA[0] — CAN1RX CAN4RX EIRQ[6]	SIUL DSPI_1 ADC_0 — FlexCAN_1 FlexCAN_4 SIUL	I/O I/O O I I I	S	Tristate	144	168	C11
PC[4]	PCR[36]	AF0 AF1 AF2 AF3 ALT4 — — —	GPIO[36] E1UC[31] — FR_B_TX_EN SIN_1 CAN3RX EIRQ[18]	SIUL eMIOS_1 — Flexray DSPI_1 FlexCAN_3 SIUL	I/O I/O — O I I I	M/S	Tristate	159	183	A9
PC[5]	PCR[37]	AF0 AF1 AF2 AF3 ALT4 —	GPIO[37] SOUT_1 CAN3TX — FR_A_TX EIRQ[7]	SIUL DSPI_1 FlexCAN_3 — Flexray SIUL	I/O O O — O I	M/S	Tristate	158	182	B9
PC[6]	PCR[38]	AF0 AF1 AF2 AF3	GPIO[38] LIN1TX E1UC[28] —	SIUL LINFlexD_1 eMIOS_1 —	I/O O I/O —	S	Tristate	44	52	N3
PC[7]	PCR[39]	AF0 AF1 AF2 AF3 — —	GPIO[39] — E1UC[29] — LIN1RX WKPU[12]	SIUL — eMIOS_1 — LINFlexD_1 WKPU	I/O — I/O — I I	S	Tristate	45	53	N4