

8-, 16- and 32-bit microcontrollers

Product and tool selection guide



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32-bit microcontroller families

Part number		Program memory		RAM (bytes)	Data E ² PROM (bytes)	A/D inputs	Timer functions			Serial interface	LVD levels	I/Os (high current ²)	Packages	Supply voltage (V)	Special features	
		Type	Size				12 or 16-bit (IC/OC/ PWM)	8-bit (IC/OC/ PWM)	Others							
		Flash	ROM	(Kbytes)												
STM32 (ARM® Cortex™-M3) - 32-bit microcontrollers																
36 pins	STM32F101T4	●	16	4 K		10x12-bit	2x16-bit (8/8/8)		2 x WDG, 24-bit down counter	1xSPI, 1x ² C, 2xUSART (IrDA, ISO 7816)		26(26)	QFN36	2.0 to 3.6	Access line: 36 MHz CPU speed, EMI (100 and 144 pins), 2-channel DAC, V _{bat} pin, low-power features, embedded POR, PDR and PVD, 8 MHz and 40 kHz internal RC oscillator, 4-16 MHz main oscillator, dedicated 32 kHz oscillator, -40 to 85 °C	
	STM32F101T6	●	32	6 K		10x12-bit	3x16-bit (12/12/12)					26(26)	QFN36			
	STM32F101T8	●	64	10 K		10x12-bit	3x16-bit (12/12/12)					26(26)	QFN36			
48 pins	STM32F101C4	●	16	4 K		10x12-bit	2x16-bit (8/8/8)		2 x WDG, RTC, 24-bit down counter	2xSPI, 2x ² C, 3xUSART (IrDA, ISO 7816)		36(36)	LQFP48			
	STM32F101C6	●	32	6 K		10x12-bit	3x16-bit (12/12/12)					36(36)	LQFP48			
	STM32F101C8	●	64	10 K		10x12-bit	3x16-bit (12/12/12)					36(36)	LQFP48			
64 pins	STM32F101CB	●	128	16 K		10x12-bit	3x16-bit (12/12/12)		2 x WDG, RTC, 24-bit down counter	1xSPI, 1x ² C, 2xUSART (IrDA, ISO 7816)		51(51)	LQFP64			
	STM32F101R4	●	16	4 K		16x12-bit	2x16-bit (8/8/8)					51(51)	LQFP64			
	STM32F101R6	●	32	6 K		16x12-bit	3x16-bit (12/12/12)					51(51)	LQFP64			
64 pins	STM32F101R8	●	64	10 K		16x12-bit	3x16-bit (12/12/12)		2 x WDG, RTC, 24-bit down counter, 2x16-bit basic timers	2xSPI, 2x ² C, 3xUSART (IrDA, ISO 7816)		51(51)	LQFP64			
	STM32F101RB	●	128	16 K		16x12-bit	3x16-bit (12/12/12)					51(51)	LQFP64			
	STM32F101RC	●	256	32 K		16x12-bit	6x16-bit (16/16/16)					51(51)	LQFP64			
64 pins	STM32F101RD	●	384	48 K		16x12-bit	6x16-bit (16/16/16)		2 x WDG, RTC, 24-bit down counter, 2x16-bit basic timers	3xSPI, 2x ² C, 5xUSART/UART (IrDA, ISO 7816)		51(51)	LQFP64			
	STM32F101RE	●	512	48 K		16x12-bit	6x16-bit (16/16/16)					51(51)	LQFP64			
	STM32F101V8	●	64	10 K		16x12-bit	3x16-bit (12/12/12)					80(80)	LQFP100			
100 pins	STM32F101VB	●	128	16 K		16x12-bit	3x16-bit (12/12/12)		2 x WDG, RTC, 24-bit down counter	2xSPI, 2x ² C, 3xUSART (IrDA, ISO 7816)		80(80)	LQFP100			
	STM32F101VC	●	256	32 K		16x12-bit	6x16-bit (16/16/16)					80(80)	LQFP100			
	STM32F101VD	●	384	48 K		16x12-bit	6x16-bit (16/16/16)					80(80)	LQFP100			
144 pins	STM32F101VE	●	512	48 K		16x12-bit	6x16-bit (16/16/16)		2 x WDG, RTC, 24-bit down counter, 2x16-bit basic timers	3xSPI, 2x ² C, 5xUSART/UART (IrDA, ISO 7816)		80(80)	LQFP100			
	STM32F101ZC	●	256	32 K		16x12-bit	6x16-bit (16/16/16)					112(112)	LQFP144			
	STM32F101ZD	●	384	48 K		16x12-bit	6x16-bit (16/16/16)					112(112)	LQFP144			
48 pins	STM32F101ZE	●	512	48 K		16x12-bit	6x16-bit (16/16/16)		2 x WDG, RTC, 24-bit down counter	1xSPI, 1x ² C, 2xUSART (IrDA, ISO 7816), USB		112(112)	LQFP144			
	STM32F102C4	●	16	4 K		10x12-bit	2x16-bit (8/8/8)					36(36)	LQFP48			
	STM32F102C6	●	32	6 K		10x12-bit	3x16-bit (12/12/12)					36(36)	LQFP48			
64 pins	STM32F102C8	●	64	10 K		10x12-bit	3x16-bit (12/12/12)		2 x WDG, RTC, 24-bit down counter	2xSPI, 2x ² C, 3xUSART (IrDA, ISO 7816), USB		36(36)	LQFP48			
	STM32F102CB	●	128	16 K		10x12-bit	3x16-bit (12/12/12)					36(36)	LQFP48			
	STM32F102R4	●	16	4 K		16x12-bit	2x16-bit (8/8/8)					51(51)	LQFP64			
64 pins	STM32F102R6	●	32	6 K		16x12-bit	3x16-bit (12/12/12)		2 x WDG, RTC, 24-bit down counter	1xSPI, 1x ² C, 2xUSART (IrDA, ISO 7816), USB		51(51)	LQFP64			
	STM32F102R8	●	64	10 K		16x12-bit	3x16-bit (12/12/12)					51(51)	LQFP64			
	STM32F102RB	●	128	16 K		16x12-bit	3x16-bit (12/12/12)					51(51)	LQFP64			
36 pins	STM32F103T4	●	16	6 K		10x12-bit	3x16-bit (12/12/14)		2 x WDG, 24-bit down counter	1xSPI, 1x ² C, 2xUSART (IrDA, ISO 7816), USB, CAN		26(26)	QFN36			
	STM32F103T6	●	32	10 K		10x12-bit	4x16-bit (16/16/18)					26(26)	QFN36			
	STM32F103T8	●	64	20 K		10x12-bit	4x16-bit (16/16/18)					26(26)	QFN36			
48 pins	STM32F103C4	●	16	6 K		10x12-bit	3x16-bit (12/12/14)		2 x WDG, RTC, 24-bit down counter	2xSPI, 2x ² C, 3xUSART (IrDA, ISO 7816)		36(36)	LQFP48			
	STM32F103C6	●	32	10 K		10x12-bit	4x16-bit (16/16/18)					36(36)	LQFP48			
	STM32F103C8	●	64	20 K		10x12-bit	4x16-bit (16/16/18)					36(36)	LQFP48			
64 pins	STM32F103CB	●	128	20 K		10x12-bit	4x16-bit (16/16/18)		2 x WDG, RTC, 24-bit down counter	1xSPI, 2x ² C, 2xUSART (IrDA, ISO 7816)		51(51)	LQFP64			
	STM32F103R4	●	16	6 K		16x12-bit	3x16-bit (12/12/14)					51(51)	LQFP64			
	STM32F103R6	●	32	10 K		16x12-bit	4x16-bit (16/16/18)					51(51)	LQFP64			
64 pins	STM32F103R8	●	64	20 K		16x12-bit	4x16-bit (16/16/18)		2 x WDG, RTC, 24-bit down counter, 2x16-bit basic timers	2xSPI, 2x ² C, 3xUSART (IrDA, ISO 7816)		51(51)	LQFP64			
	STM32F103RB	●	128	20 K		16x12-bit	8x16-bit (24/24/28)					51(51)	LQFP64			
	STM32F103RC	●	256	48 K		16x12-bit	8x16-bit (24/24/28)					51(51)	LQFP64			
100 pins	STM32F103RD	●	384	64 K		16x12-bit	8x16-bit (24/24/28)		2 x WDG, RTC, 24-bit down counter	3xSPI, 2x ² C, 5xUSART/UART (IrDA, ISO 7816), SDIO, USB, CAN		51(51)	LQFP64			
	STM32F103RE	●	512	64 K		16x12-bit	8x16-bit (24/24/28)					51(51)	LQFP64			
	STM32F103V8	●	64	20 K		16x12-bit	4x16-bit (16/16/18)					80(80)	LQFP100, BGA100			
144 pins	STM32F103VB	●	128	20 K		16x12-bit	4x16-bit (16/16/18)		2 x WDG, RTC, 24-bit down counter, 2x16-bit basic timers	2xSPI, 2x ² C, 3xUSART (IrDA, ISO 7816)		80(80)	LQFP100, BGA100			
	STM32F103VC	●	256	48 K		16x12-bit	8x16-bit (24/24/28)					80(80)	LQFP100, BGA100			
	STM32F103VD	●	384	64 K		16x12-bit	8x16-bit (24/24/28)					80(80)	LQFP100, BGA100			
USB OTG	STM32F103VE	●	512	64 K		16x12-bit	8x16-bit (24/24/28)		2xWDG, RTC, 24-bit down counter, 2x16-bit basic timers	3xSPI, 2x ² C, 3xUSART (IrDA, ISO 7816), 2xUART, USB OTG FS, 2xCAN		80(80)	LQFP100, BGA100			
	STM32F103ZC	●	256	48 K		21x12-bit	8x16-bit (24/24/28)					112(112)	LQFP144, BGA144			
	STM32F103ZD	●	384	64 K		21x12-bit	8x16-bit (24/24/28)					112(112)	LQFP144, BGA144			
Ethernet + USB OTG	STM32F103ZE	●	512	64 K		21x12-bit	8x16-bit (24/24/28)		2xWDG, RTC, 24-bit down counter, 2x16-bit basic timers	3xSPI, 2x ² C, 3xUSART (IrDA, ISO 7816), 2xUART, USB OTG FS, 2xCAN, Ethernet MAC10/100		112(112)	LQFP144, BGA144			
	STM32F105R8	●	64	20	2x12-bit	16x12-bit	7x16-bit (20/20/22)					51(51)	LQFP64			
	STM32F105V8	●	64	20	2x12-bit	16x12-bit	7x16-bit (20/20/22)					80(80)	LQFP100, BGA100			
80 pins	STR911FAM44	●	512+32	96 K		8x10-bit			2xWDG, RTC, 24-bit down counter, 2x16-bit basic timers	3xSPI, 2x ² C, 3xUSART (IrDA, ISO 7816), 2xUART, USB OTG FS, 2xCAN, Ethernet MAC10/100		80(80)	LQFP100, BGA100			
	STR911FAM46	●	1024+128	96 K		8x10-bit						80(80)	LQFP100, BGA100			
	STR911FAM47	●	2048+128	96 K		8x10-bit						80(80)	LQFP100, BGA100			
STR910FAM32	●	256+32	64 K		8x10-bit						80(80)	LQFP100, BGA100				
STR9 (ARM) - 32-bit microcontrollers																
80 pins	STR910FAM32	●	256+32	64 K		8x10-bit			2xWDG, RTC, 24-bit down counter, 2x16-bit basic timers	3xSPI, 2x ² C, 3xUSART (IrDA, ISO 7816), 2xUART, USB OTG FS, 2xCAN, Ethernet MAC10/100		80(80)	LQFP100, BGA100			
	STR911FAM44	●	512+32	96 K		8x10-bit						80(80)	LQFP100, BGA100			
	STR911FAM46	●	1024+128	96 K		8x10-bit						80(80)	LQFP100, BGA100			
	STR911FAM47	●	2048+128	96 K		8x10-bit						80(80)	LQFP100, BGA100			

128 pins	STR910FAW32	●		256+32	64 K	8x10-bit	7x16-bit (8/8/7)	WDG, 1 μ A RTC	CAN, 3x UART, 2x fast I ² C, 2x SPI	2	80(16)	LQFP128	CPU core: 1.8 +/-10% I/O ring: selectable: 2.7 to 3.3 or 3.0 to 3.6	96 MHz ARM9E CPU core, 9xDMA, brown-out warning, 3-phase AC MC, ETM trace, tamper detect, EMI
	STR911FAW42	●		256+32	96 K	8x10-bit			USB, CAN, 3x UART, 2x fast I ² C, 2x SPI	2	80(16)	LQFP128		
	STR911FAW44	●		512+32	96 K	8x10-bit				2	80(16)	LQFP128		
	STR911FAW46	●		1024+128	96 K	8x10-bit				2	80(16)	LQFP128		
	STR911FAW47	●		2048+128	96 K	8x10-bit				2	80(16)	LQFP128		
	STR912FAW32	●		256+32	64 K	8x10-bit				2	80(16)	LQFP128		
	STR912FAW42	●		256+32	96 K	8x10-bit			Ethernet, USB, CAN, 3x UART, 2x fast I ² C, 2x SPI	2	80(16)	LQFP128		
	STR912FAW44	●		512+32	96 K	8x10-bit				2	80(16)	LQFP128		
144 pins	STR912FAW46	●		1024+128	96 K	8x10-bit				2	80(16)	LQFP128		
	STR912FAW47	●		2048+128	96 K	8x10-bit				2	80(16)	LQFP128		
	STR910FAZ32	●		256+32	64 K	8x10-bit			CAN, 3x UART, 2x fast I ² C, 2x SPI	2	80(16)	LQFP144		
	STR912FAZ42	●		256+32	96 K	8x10-bit				2	80(16)	LQFP144		
	STR912FAZ44	●		256+32	96 K	8x10-bit			Ethernet, USB, CAN, 3x UART, 2x fast I ² C,	2	80(16)	LQFP144		
	STR912FAZ46	●		1024+128	96 K	8x10-bit				2	80(16)	LQFP144		
	STR912FAZ47	●		2048+128	96 K	8x10-bit			2x SPI	2	80(16)	LQFP144		

STR7 (ARM) - 32-bit microcontrollers

64 pins	STR711FR0	●		64+16	16 K		4x12-bit	4x16-bit (5/5/3)	WDG, RTC	2xSPI, 2xI ² C, 4xUART, HDLC, SC, USB	30(0)	LQFP64, BGA64	3.0 to 3.6	16-Kbyte data Flash
	STR712FR0	●		64+16	16 K		4x12-bit			2xSPI, 2xI ² C, 4xUART, HDLC, SC, CAN	32(0)	LQFP64, BGA64		
	STR715FR0	●		64+16	16 K		4x12-bit			2xSPI, 2xI ² C, 4xUART, HDLC, SC	32(0)	LQFP64, BGA64		
	STR751FR0	●		64	16 K		11x10-bit	5x16-bit (5/5/11)		2xSPI, I ² C, 3xHS-UART, USB	38(7)	LQFP64	3.0 to 3.6	4 x DMA, AWU, SMI, on-chip RC oscillator, MC oriented PWM, -40 to +85 °C
	STR752FR0	●		64	16 K		11x10-bit			2xSPI, I ² C, 3xHS-UART, CAN	38(7)	LQFP64	3.0 to 3.6 or 4.5 to 5.5	4 x DMA, AWU, SMI, on-chip RC oscillator, MC oriented PWM, -40 to +85 °C / 105 °C
	STR755FR0	●		64	16 K		11x10-bit			2xSPI, I ² C, 3xHS-UART	38(7)	LQFP64	3.0 to 3.6 or 4.5 to 5.5	4 x DMA, AWU, SMI, on-chip RC oscillator, MC oriented PWM, -40 to +85 °C
	STR711FR1	●		128+16	32 K		4x12-bit	4x16-bit (5/5/3)		2xSPI, 2xI ² C, 4xUART, HDLC, SC, USB	30(0)	LQFP64, BGA64	3.0 to 3.6	16-Kbyte data Flash
	STR712FR1	●		128+16	32 K		4x12-bit			2xSPI, 2xI ² C, 4xUART, HDLC, SC, CAN	32(0)	LQFP64, BGA64		
	STR751FR1	●		128	16 K		11x10-bit			2xSPI, I ² C, 3xHS-UART, USB	38(7)	LQFP64	3.0 to 3.6	4 x DMA, AWU, SMI, on-chip RC oscillator, MC oriented PWM, -40 to +85 °C
	STR752FR1	●		128	16 K		11x10-bit	5x16-bit (5/5/11)		2xSPI, I ² C, 3xHS-UART, CAN	38(7)	LQFP64	3.0 to 3.6 or 4.5 to 5.5	4 x DMA, AWU, SMI, on-chip RC oscillator, MC oriented PWM, -40 to +85 °C / 105 °C
	STR755FR1	●		128	16 K		11x10-bit			2xSPI, I ² C, 3xHS-UART	38(7)	LQFP64	3.0 to 3.6 or 4.5 to 5.5	4 x DMA, AWU, SMI, on-chip RC oscillator, MC oriented PWM, -40 to +85 °C
	STR711FR2	●		256+16	64 K		4x12-bit	4x16-bit (5/5/3)		2xSPI, 2xI ² C, 4xUART, HDLC, SC, USB	30(0)	LQFP64, BGA64	3 to 3.6	16-Kbyte data Flash
	STR712FR2	●		256+16	64 K		4x12-bit			2xSPI, 2xI ² C, 4xUART, HDLC, SC, CAN	32(0)	LQFP64, BGA64		
	STR751FR2	●		256	16 K		11x10-bit			5x16-bit (6/6/12)	2xSSP, I ² C, 3xHS-UART, USB	38(7)	LQFP64, BGA64	3 to 3.6

For a list of abbreviations and notes, refer to the page following the mature products.

32-bit microcontroller families

Part number		Program memory			RAM (bytes)	Data E ² PROM (bytes)	A/D inputs	Timer functions			Serial interface	LVD levels	I/Os (high current ²)	Packages	Supply voltage (V)	Special features	
		Type		Size (Kbytes)				12 or 16-bit (IC/OC/ PWM)	8-bit (IC/OC/ PWM)	Others							
		Flash	ROM														
64 pins	STR752FR2	●		256	16 K		11x10-bit	5x16-bit (6/6/12)			2xSSP, I ² C, 3xHS-UART, CAN		38(7)	LQFP64, BGA64	3.0 to 3.6 or 4.5 to 5.5	4 x DMA, AWU, SMI, on-chip RC oscillator, MC oriented PWM, -40 to +85 °C / 105 °C	
	STR755FR2	●		256	16 K		11x10-bit				2xSSP, I ² C, 3xHS-UART		38(7)	LQFP64, BGA64	3.0 to 3.6 or 4.5 to 5.5	4 x DMA, AWU, SMI, on-chip RC oscillator MC oriented PWM, -40 to +85 °C	
	STR731FV0	●		64	16 K		12x10-bit		15x16-bit (12/12/12)			3xSPI, 2xI ² C, 4xUART, 3xCAN		72(0)	LQFP100	4.5 to 5.5	16 x DMA channels, on-chip RC oscillator
	STR736FV0	●		64	16 K		12x10-bit					3xSPI, 2xI ² C, 4xUART		72(0)	LQFP100	4.5 to 5.5	16 x DMA channels, on-chip RC oscillator
	STR750FV0	●		64	16 K		16x10-bit			5x16-bit (6/6/12)			2xSPI, I ² C, 3xHS- UART, CAN, USB		72(9)	LQFP100	3.0 to 3.6 or 4.5 to 5.5 (without USB)
STR755FV0	●		64	16 K		16x10-bit			2xSPI, I ² C, 3xHS-UART			72(9)	LQFP100	4.5 to 5.5	16 x DMA channels, on-chip RC oscillator		
100 pins	STR731FV1	●		128	16 K		12x10-bit	15x16-bit (12/12/12)			3xSPI, 2xI ² C, 4xUART, 3xCAN		72(0)	LQFP100	4.5 to 5.5	16 x DMA channels, on-chip RC oscillator	
	STR736FV1	●		128	16 K		12x10-bit				3xSPI, 2xI ² C, 4xUART		72(0)	LQFP100	4.5 to 5.5	16 x DMA channels, on-chip RC oscillator	
	STR750FV1	●		128	16 K		16x10-bit	5x16-bit (6/6/12)			2xSPI, I ² C, 3xHS-UART, CAN, USB		72(9)	LQFP100, BGA100	3.0 to 3.6 or 4.5 to 5.5 (without USB)	4 x DMA, AWU, SMI, on-chip RC oscillator MC oriented PWM, -40 to +85 °C	
	STR755FV1	●		128	16 K		16x10-bit				2xSPI, I ² C, 3xHS-UART		72(9)	LQFP100	4.5 to 5.5	16 x DMA channels, on-chip RC oscillator	
	STR731FV2	●		256	16 K		12x10-bit	15x16-bit (12/12/12)		WDG, RTC	3xSPI, 2xI ² C, 4xUART, 3xCAN		72(0)	LQFP100	4.5 to 5.5	16 x DMA channels, on-chip RC oscillator	
	STR736FV2	●		256	16 K		12x10-bit				3xSPI, 2xI ² C, 4xUART		72(0)	LQFP100	4.5 to 5.5	16 x DMA channels, on-chip RC oscillator	
	STR750FV2	●		256	16 K		16x10-bit	5x16-bit (6/6/12)			2xSPI, I ² C, 3xHS-UART, CAN, USB		72(9)	LQFP100, BGA100	3.0 to 3.6 or 4.5 to 5.5 (without USB)	4 x DMA, AWU, SMI, on-chip RC oscillator MC oriented PWM, -40 to +85 °C	
	STR755FV2	●		256	16 K		16x10-bit				2xSPI, I ² C, 3xHS-UART		72(9)	LQFP100, BGA100	4.5 to 5.5	16 x DMA channels, on-chip RC oscillator	
144 pins	STR710RZ	●			64 K		4x12-bit	4x16-bit (5/5/3)			2xSPI, I ² C, 3xHS-UART 2xSPI, 2xI ² C, 4xUART, HDL, SC, CAN, USB		48(8)	LFBGA144, LQFP144	3 to 3.6	EMI	
	STR710FZ1	●		128+16	32 K		4x12-bit				2xSPI, 2xI ² C, 4xUART, HDL, SC, CAN, USB		48(8)	LFBGA144, LQFP144	3 to 3.6	16-Kbyte data Flash, EMI	
	STR730FZ1	●		128	16 K		16x10-bit	19x16-bit (20/20/16)			3xSPI, 2xI ² C, 4xUART, 3xCAN		112(0)	LFBGA144, LQFP144	4.5 to 5.5	16 x DMA channels, on-chip RC oscillator	
	STR735FZ1	●		128	16 K		16x10-bit				3xSPI, 2xI ² C, 4xUART		112(0)	LFBGA144, LQFP144	4.5 to 5.5	16 x DMA channels, on-chip RC oscillator	
	STR710FZ2	●		256+16	64 K		4x12-bit	4x16-bit (5/5/3)			2xSPI, 2xI ² C, 4xUART, HDL, SC, CAN, USB		48(8)	LFBGA144, LQFP144	3 to 3.6	16-Kbyte data Flash, EMI	
	STR730FZ2	●		256	16 K		16x10-bit				3xSPI, 2xI ² C, 4xUART, 3xCAN		112(0)	LFBGA144, LQFP144	4.5 to 5.5	16 x DMA channels, on-chip RC oscillator	
STR735FZ2	●		256	16 K		16x10-bit	19x16-bit (20/20/16)			3xSPI, 2xI ² C, 4xUART		112(0)	LFBGA144, LQFP144	4.5 to 5.5	16 x DMA channels, on-chip RC oscillator		

16-bit microcontroller families

Part number		Program memory			RAM (bytes)	Data E ² PROM (bytes)	A/D inputs	Timer functions			Serial interface	LVD levels	I/Os (high current ²)	Packages	Supply voltage (V)	Special features
		Type		Size				12 or 16-bit (IC/OC/ PWM)	8-bit (IC/OC/ PWM)	Others						
		Flash	ROM	(Kbytes)												
ST10 - 16-bit microcontrollers																
100 pins	ST10R172L				1 K			5x16-bit		WDG	USART, SSP		77	LQFP100	3.3	50 MHz, ROMless, PEC, PWM, EMI
	ST10R272L				1 K								77			50 MHz, ROMless, PEC, PWM, MAC, EMI
144 pins	ST10R167-Q				4 K		16x10-bit			WDG, RTC	USART, SSC, CAN		111	PQFP144	4.5 to 5.5	25 MHz, ROMless, PEC, PWM, CAPCOM, EMI
	ST10F269Z1	●		128	12 K		16x10-bit					USART, SSC, 2xCAN				111
	ST10F271Z1	●		128	12 K		24x10-bit			WDG	PC, 2xUART, 2xSSC, 2xCAN		111	64 MHz, PEC, CAN, PWM, CAPCOM, MAC, EMI		
	ST10F269Z2	●		256	12 K		16x10-bit					USART, SSC, 2xCAN				111
	ST10F272Z2	●		256	20 K		24x10-bit			WDG, RTC	UART, SSC, 2xCAN		111			
	ST10F273Z4	●		512	36 K		24x10-bit					PC, 2xUART, 2xSSC, 2xCAN		111		
	ST10F276Z5	●		832	68 K		24x10-bit						111			

8-bit microcontroller families

Part number	Program memory			RAM (bytes)	Data E ² PROM (bytes)	A/D inputs	Timer functions			Serial interface	LVD levels	I/Os (high current ²)	Packages	Supply voltage (V)	Special features		
	Type		Size (Kbytes)				12 or 16-bit (IC/OC/ PWM)	8-bit (IC/OC/ PWM)	Others								
	Flash	ROM															
STM8 - 8-bit microcontrollers																	
20 pins	STM8S103F2	●		4	1 K	640	4x10-bit	2x16-bit (7/7/10)	1x8-bit		SPI, I ² C, UART (IrDA, ISO 7816, LIN)		16(12)	TSSOP20, VQFN20	Access line: 16 MHz CPU speed, POR, BOR, SWIM, 16 MHz and 128 kHz internal RC oscillator ICP, IAP, boot ROM, beeper, TLI		
	STM8S103F3	●		8	1 K	640	4x10-bit	2x16-bit (7/7/10)	1x8-bit		SPI, I ² C, UART (IrDA, ISO 7816, LIN)		16(12)	TSSOP20, VQFN20			
32 pins	STM8S103K3	●		8	1 K	640	4x10-bit	2x16-bit (7/7/10)	1x8-bit		SPI, I ² C, UART (IrDA, ISO 7816, LIN)		28(21)	LQFP32, VQFN32			
	STM8S105K4	●		16	2 K	1 K	7x10-bit	3x16-bit (8/8/11)	1x8-bit		SPI, I ² C, UART (IrDA, ISO 7816, LIN)		28(12)	LQFP32, VQFN32			
	STM8S105K6	●		32	2 K	1 K	7x10-bit	3x16-bit (8/8/11)	1x8-bit		SPI, I ² C, UART (IrDA, ISO 7816, LIN)		28(12)	LQFP32, VQFN32			
44 pins	STM8S105S4	●		16	2 K	1 K	9x10-bit	3x16-bit (8/8/11)	1x8-bit		SPI, I ² C, UART (IrDA, ISO 7816, LIN)		34(15)	LQFP44			
	STM8S105S6	●		32	2 K	1 K	9x10-bit	3x16-bit (8/8/11)	1x8-bit		SPI, I ² C, UART (IrDA, ISO 7816, LIN)		34(15)	LQFP44			
48 pins	STM8S105C4	●		16	2 K	1 K	10x10-bit	3x16-bit (9/9/12)	1x8-bit		SPI, I ² C, UART (IrDA, ISO 7816, LIN)		38(16)	LQFP48			
	STM8S105C6	●		32	2 K	1 K	10x10-bit	3x16-bit (9/9/12)	1x8-bit		SPI, I ² C, UART (IrDA, ISO 7816, LIN)		38(16)	LQFP48			
32 pins	STM8S207K6	●		32	2 K	1 K	7x10-bit	3x16-bit (8/8/11)	1x8-bit		SPI, I ² C, UART (IrDA, ISO 7816, LIN)		28(12)	LQFP32, VQFN32		2.95 to 5.5	
44 pins	STM8S207S6	●		32	2 K	1 K	9x10-bit	3x16-bit (8/8/11)	1x8-bit		SPI, I ² C, 2xUART (IrDA, ISO 7816, LIN)		34(15)	LQFP44			
	STM8S207S8	●		64	4 K	1.5 K	9x10-bit	3x16-bit (8/8/11)	1x8-bit		SPI, I ² C, 2xUART (IrDA, ISO 7816, LIN)		34(15)	LQFP44			
	STM8S207C6	●		32	2 K	1 K	10x10-bit	3x16-bit (9/9/12)	1x8-bit		SPI, I ² C, 2xUART (IrDA, ISO 7816, LIN)		38(16)	LQFP48			
48 pins	STM8S207C8	●		64	4 K	1.5 K	10x10-bit	3x16-bit (9/9/12)	1x8-bit		SPI, I ² C, 2xUART (IrDA, ISO 7816, LIN)		38(16)	LQFP48			
	STM8S207CB	●		128	6 K	2 K	10x10-bit	3x16-bit (9/9/12)	1x8-bit		SPI, I ² C, 2xUART (IrDA, ISO 7816, LIN)		38(16)	LQFP48			
	STM8S208CB	●		128	6 K	2 K	10x10-bit	3x16-bit (9/9/12)	1x8-bit		SPI, I ² C, 2xUART (IrDA, ISO 7816, LIN)		38(16)	LQFP48			
64 pins	STM8S207R6	●		32	2 K	1 K	16x10-bit	3x16-bit (9/9/12)	1x8-bit		SPI, I ² C, 2xUART (IrDA, ISO 7816, LIN)		52(16)	LQFP64			Performance line: 24 MHz CPU speed, POR, BOR, SWIM, 16 MHz and 128 kHz internal RC oscillator ICP, IAP, boot ROM, beeper, TLI
	STM8S207R8	●		64	4 K	1.5 K	16x10-bit	3x16-bit (9/9/12)	1x8-bit		SPI, I ² C, 2xUART (IrDA, ISO 7816, LIN)		52(16)	LQFP64			
	STM8S207RB	●		128	6 K	2 K	16x10-bit	3x16-bit (9/9/12)	1x8-bit		SPI, I ² C, 2xUART (IrDA, ISO 7816, LIN)		52(16)	LQFP64			
	STM8S208RB	●		128	6 K	2 K	16x10-bit	3x16-bit (9/9/12)	1x8-bit		SPI, I ² C, 2xUART (IrDA, ISO 7816, LIN)		52(16)	LQFP64			
80 pins	STM8S207MB	●		128	6 K	2 K	16x10-bit	3x16-bit (9/9/12)	1x8-bit		SPI, I ² C, 2xUART (IrDA, ISO 7816, LIN)		52(16)	LQFP80			
	STM8S208MB	●		128	6 K	2 K	16x10-bit	3x16-bit (9/9/12)	1x8-bit		SPI, I ² C, 2xUART (IrDA, ISO 7816, LIN), CAN		52(16)	LQFP80			

STM8 application specific																	
MC	STM8S903K3	●		8	1 K	640	7x10-bit	2x16-bit (7/7/10)	1x8-bit	SPI, I ² C, UART (IrDA, ISO 7816, LIN)		28(21)	LQFP32		Access line		
ST7 - 8-bit microcontrollers																	
ST7Lite																	
8 pins	ST7LITEU09	● ^{5,6}		2	128	128	5x10-bit	1x12-bit (0/1/1)	1(1/0/0)	WDG, RTC	SPI	3	5(5)	DIP8, SO8, DFN8	2.4 to 5.5	8 MHz internal RC oscillator, AWU, ROP, ICP, IAP, 5 I/Os + 1 additional output	
	ST7LITE09Y0	● ⁵		1.5	128	128	5x8-bit	1x12-bit (0/1/1)	1(1/0/0)			3	13(6)	DIP16, SO16		1 % internal RC oscillator, PLL, ADC with op-amp, ROP, ICP, IAP	
16 pins	ST7LIT19BY0	● ⁵		2	256	128	7x10-bit	2x12-bit (1/4/4)	2(1/0/0)			3	13(5)	DIP16, SO16	2.7 to 5.5	1 % internal RC oscillator, PLL, 32 MHz timer, ART with deadline and enhanced one-pulse mode, AWU, ADC with op-amp, analog comparator, ROP, ICP, IAP, debug module	
	ST7LIT19BY1	● ⁵		4	256	128	7x10-bit		2(1/0/0)			3	13(5)	DIP16, SO16			
20 pins	ST7LIT19BF0	● ⁵		2	256	128	7x10-bit	2x12-bit (1/4/4)	2(1/0/0)			3	17(7)	DIP20, SO20, QFN20		2.4 to 5.5	1 % internal RC oscillator, PLL, 32 MHz timer, DALI, AWU, ADC with op-amp, ROP, ICP, IAP, debug module
	ST7LIT19BF1	● ⁵		4	256	128	7x10-bit		2(1/0/0)			3	17(7)	DIP20, SO20, QFN20			
	ST7DALIF2	● ^{5,6}		8	384	256	7x10-bit	1x12-bit (1/4/4)	2(1/0/0)		SPI, DALI	3	15(7)	SO20			
ST7 application specific																	
DiSEqC™	ST7LNB0V2Y0	⁶	●	1.5	128	128						13(6)	SO16		DiSEqC™ 2.1 interface, 22 kHz tone detector		
	ST7LNB1Y0	⁶	●	1.5	128	128						13(6)	SO16		DiSEqC™ interface, SatCR control		
MC	ST7MC1K2	● ^{4,6}		8	384		8x10-bit	1x16-bit (2/2/1)	1(1/0/1)	LINSPI	1	17(3)	LQFP32, SDIP32		Sensorless brushless motor control cell, ICD, ICP, IAP, LVD, CSS/PLL, ROP, RTC, nested interrupts		
	ST7MC1K4	● ^{4,6}		16	768		8x10-bit		1(1/0/1)		1	17(3)	LQFP32, SDIP32				
	ST7MC2S4	● ^{4,6}		16	768		11x10-bit	2x16-bit (2/2/1)	1(1/0/1)	WWDG	LINSPI, SPI	1	26(6)	LQFP44	4.5 to 5.5	Sensorless brushless motor control cell, ICD, ICP, IAP, LVD, CSS/PLL, ROP, RTC, nested interrupts, beep ³	
	ST7MC2R6	● ^{4,6}		32	1 K		16x10-bit	2x16-bit (2/2/2)	1(2/0/4)			1	44(12)	LQFP64		Sensorless brushless motor control cell, ICD, ICP, IAP, LVD, CSS/PLL, ROP, RTC, nested interrupts	
	ST7MC2S6	● ^{4,6}		32	1 K		11x10-bit	2x16-bit (2/2/1)	1(1/0/1)			1	26(6)	LQFP44		Sensorless brushless motor control cell, ICD, ICP, IAP, LVD, CSS/PLL, ROP, RTC, nested interrupts	
	ST7MC2R7	● ^{4,6}		48	1.5 K		16x10-bit	2x16-bit (2/2/2)	1(2/0/4)			1	44(12)	LQFP64		Sensorless brushless motor control cell, ICD, ICP, IAP, LVD, CSS/PLL, ROP, RTC, nested interrupts, beep ³	
	ST7MC2S7	● ^{4,6}		48	1.5 K		11x10-bit	2x16-bit (2/2/1)	1(1/0/1)			1	26(6)	LQFP44		Sensorless brushless motor control cell, ICD, ICP, IAP, LVD, CSS/PLL, ROP, RTC, nested interrupts	
	ST7MC2M9	● ^{4,6}		60	1.5 K		16x10-bit	2x16-bit (2/2/2)	1(2/0/4)			1	60(12)	LQFP80		Sensorless brushless motor control cell, ICD, ICP, IAP, LVD, CSS/PLL, ROP, RTC, nested interrupts, beep ³	

For a list of abbreviations and notes, refer to the page following the mature products

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8-bit microcontroller families

Part number		Program memory			RAM (bytes)	Data E ² PROM (bytes)	A/D inputs	Timer functions			Serial interface	LVD levels	I/Os (high current ²)	Packages	Supply voltage (V)	Special features
		Type		Size				12 or 16-bit (IC/OC/ PWM)	8-bit (IC/OC/ PWM)	Others						
		Flash	ROM	(Kbytes)												
SCR	ST7GEME4		●	16	768				1(0/0/0)	WDG	USB, ISO 7816	1	4(1)	S024, QFN24	4.0 to 5.5	Turnkey firmware from GEMALTO Smartcard power supply unit, ISO 7816, 7 full-speed USB endpoints, ICP, IAP, 4 LED outputs
	ST7SCR1E4	● ^{4,6}	●	16	768				1(0/0/0)		USB, ISO 7816	1	4	S024, QFN24		
	ST7SCR1R4	● ^{4,6}	●	16	768				1(0/0/0)		USB, ISO 7816	1	35	LQFP64		
USB (FS)	ST72651AR6	● ^{4,6}		32	5 K		8x8-bit	1x16-bit (0/2/2)			USB, DTC, I ² C, SPI	1	47(11)	LQFP64 (10x10)	2.7 to 5.5	DSC, PVR, ROP, 5 full-speed USB endpoints, ICP, IAP
	ST7260E1	● ⁴		4	384			1x16-bit (2/1/1)			USB, SCI	1	14(6)	S024		
USB (LS)	ST7260K1	● ^{4,6}		4	384			1x16-bit (2/2/1)		WDG	USB, SCI	1	19(10)	QFN40	4.0 to 5.5	3 low-speed USB endpoints, ICP, IAP, ROP
	ST7263BE1	● ⁴		4	384			1x16-bit (2/1/1)			USB, SCI, I ² C	1	14(6)	S024		
	ST7263BK1	● ⁴	●	4	384		8x8-bit	1x16-bit (2/2/1)			USB	1	19(10)	SDIP32, S034		
	ST7260E2	● ⁴		8	384			1x16-bit (2/1/1)			USB, SCI	1	14(6)	S024		
	ST7260K2	● ⁴		8	384			1x16-bit (2/2/1)			USB, SCI	1	19(10)	QFN40		
	ST7263BE2	● ⁴		8	384			1x16-bit (2/1/1)			USB, SCI, I ² C	1	14(6)	S024		
	ST7263BH2	● ⁴		8	384		12x8-bit	1x16-bit (2/2/1)			USB, SCI, I ² C	1	27(10)	LQFP48 (7x7)		
	ST7263BK2	● ⁴	●	8	384		8x8-bit	1x16-bit (2/2/1)			USB, SCI	1	19(10)	SDIP32, S034, QFN40		
	ST7263BE4	● ⁴		16	512			1x16-bit (2/1/1)			USB, SCI, I ² C	1	14(6)	S024		
	ST7263BK4	● ⁴		16	512		8x8-bit	1x16-bit (2/2/1)			USB, SCI, I ² C	1	19(10)	SDIP32, S034		
	ST7263BD6	● ⁴		32	1 K		12x8-bit	1x16-bit (2/2/1)			USB, SCI, I ² C	1	27(10)	QFN40		
	ST7263BE6	● ⁴		32	1 K			1x16-bit (2/1/1)			USB, SCI, I ² C	1	14(6)	S024		
	ST7263BH6	● ⁴		32	1 K		12x8-bit	1x16-bit (2/2/1)			USB, SCI, I ² C	1	27(10)	LQFP48 (7x7)		
	ST7263BK6	● ⁴		32	1 K		8x8-bit	1x16-bit (2/2/1)			USB, SCI, I ² C	1	19(10)	SDIP32, S034		

Mature products – 8-bit microcontroller families

Not recommended for new designs

Part number		Program memory			RAM (bytes)	Data E ² PROM (bytes)	A/D inputs	Timer functions			Serial interface	LVD levels	I/Os (high current ²)	Packages	Supply voltage (V)	Special features
		Type		Size				12 or 16-bit (IC/OC/ PWM)	8-bit (IC/OC/ PWM)	Others						
		Flash	ROM	(Kbytes)												
ST6 - 8-bit microcontrollers																
16 pins	ST6200C ¹	6	●	1	64		4x8-bit		1(0/0/0)	WDG		1	9(3)	DIP16, SO16	3.0 to 6	RC oscillator, OSG, ROP
	ST6203C ¹	6	●	1	64				1(0/0/0)			1	9(3)	DIP16, SO16		
20 pins	ST6201C ¹	6	●	2	64		4x8-bit		1(0/0/0)			1	9(3)	DIP16, SO16		
	ST6210C ¹	6	●	2	64		8x8-bit		1(0/0/0)			1	12(4)	DIP20, SO20		
	ST6220C ¹	6	●	4	64		8x8-bit		1(0/0/0)			1	12(4)	DIP20, SO20		
28 pins	ST6225C ¹	6	●	4	64		16x8-bit		1(0/0/0)			1	20(4)	DIP28, SO28		
ST7 - 8-bit microcontrollers																
ST7 application specific																
USB 2.0 (HS)	ST72681/R21									WDG	USB 2.0HS			LQFP48	3.0 to 3.6	Mass storage controller interface, Reed-Solomon error correction engine
	ST72682/R21												LQFP64			
USB	ST72622L2	● ⁶	●	8 K	384		8x10-bit		2(2/2/2)		USB, SPI	1	23(8)	SO34	4.0 to 5.5	3 low-speed USB endpoints, ICP, IAP, ROP
	ST72623F2	● ⁶	●	8 K	384		3x10-bit		2(2/2/2)			1	11(8)	SO20, DIP20		
	ST72621J4	● ⁶	●	16 K	768		8x10-bit		2(2/2/2)			1	31(8)	TQFP44, SDIP42		
	ST72621K4	● ⁶	●	16 K	768		8x10-bit		2(2/2/2)			1	21(8)	SDIP32		
	ST72621L4	● ⁶		16 K	768		8x10-bit		2(2/2/2)	1	23(8)	SO34				
µPSD - 8-bit microcontrollers																
Standard µPSD																
3V	µPSD32338V	●		160	8 K		4x8-bit	3x16-bit (1/2/0)	2 (0/2/5)	WDG	2x UART, I ² C, DD	1	37/46	TQFP52, 80	3.0 to 3.6	PLD, JTAG ISP
	µPSD32348V	●		288	8 K		4x8-bit		2 (0/2/5)			1	37/46	TQFP52, 80		
5V	µPSD32338B	●		160	8 K		4x8-bit		2 (0/2/5)			1	37/46	TQFP52, 80		
Standard µPSD w/ 32-Kbyte SRAM																
3V	µPSD32538V	●		160	32 K		4x8-bit	3x16-bit (1/2/0)	2 (0/2/5)	WDG	2x UART, I ² C, DDC	1	37/46	TQFP52, 80	3.0 to 3.6	PLD, JTAG ISP
	µPSD32548V	●		288	32 K		4x8-bit		2 (0/2/5)			1	46	TQFP80		
5V	µPSD32538B	●		160	32 K		4x8-bit		2 (0/2/5)			1	37	TQFP52		
Standard µPSD w/USB																
5V	µPSD3212A	●		80	2 K		4x8-bit	3x16-bit (1/2/0)	2 (0/2/5)	WDG	2x UART, I ² C, DDC, USB	1	37/46	TQFP52, 80	4.5-5.5	PLD, JTAG ISP, LS USB 2.0
		µPSD3234A	●		288	8 K			4x8-bit			2 (0/2/5)	1	37/46		

For a list of abbreviations and notes, refer to the page following the mature products

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Mature products – 8-bit microcontroller families

Not recommended for new designs

Part number	Program memory			RAM (bytes)	Data E ² PROM (bytes)	A/D inputs	Timer functions			Serial interface	LVD levels	I/Os (high current ²)	Packages	Supply voltage (V)	Special features	
	Type		Size				12 or 16-bit (IC/OC/ PWM)	8-bit (IC/OC/ PWM)	Others							
	Flash	ROM	(Kbytes)													
Standard µPSD w/USB and 32-Kbyte SRAM																
5V	uPSD3254A	●		288	32 K		4x8-bit	3x16-bit (1/2/0)	2 (0/2/5)	WDG	2x UART, I ² C, DDC, USB	1	37/46	TQFP52, 80	4.5 to 5.5	PLD, JTAG ISP, LS USB 2.0
Turbo plus µPSD w/32-Kbyte SRAM and USB - 9 MIPS																
3 V	uPSD3454EV	●		288	32 K		8x10-bit	5x16-bit (1/2/6)	2(6/8/6)	WDG, PCA	2x UART, USB, I ² C, SPI, IrDA	1	36/45(8)	LQFP52, 80	3.0 to 3.3	JTAG ISP/debug, PLD, FS USB
5 V	uPSD3454E	●		288	32 K		8x10-bit		2(6/8/6)		1	36/45(8)	LQFP52, 80	4.5 to 5.5		
Turbo plus µPSD w/USB - 9 MIPS																
3 V	UPSD3433EV	●		160	8 K		8x10-bit	5x16-bit (1/2/6)	2(6/8/6)	WDG, PCA	x UART, USB, I ² C, SPI, IrDA	1	36/45(8)	LQFP52, 80	3.0 to 3.6	TAG ISP/debug, PLD, FS USB
	UPSD3434EV	●		288	8 K		8x10-bit		2(6/8/6)			1	36/45(8)	LQFP52, 80		
	UPSD3433E	●		160	8 K		8x10-bit		2(6/8/6)			1	36/45(8)	LQFP52, 80		
5 V	UPSD3434E	●		288	8 K		8x10-bit		2(6/8/6)			1	36/45(8)	LQFP52, 80	4.5 to 5.5	
Turbo µPSD - 6 MIPS																
3 V	uPSD3333DV	●		160	8 K		8x10-bit	5x16-bit (1/2/6)	2(6/8/6)	WDG, PCA	2x UART, I ² C, SPI, IrDA	1	36/45(8)	LQFP52, 80	3.0 to 3.6	PLD, JTAG ISP/debug
	uPSD3334DV	●		288	8 K		8x10-bit		2(6/8/6)			1	45(8)	LQFP80		
	uPSD3333D	●		160	8 K		8x10-bit		2(6/8/6)			1	36/45(8)	LQFP52, 80		
5 V	uPSD3334D	●		288	8 K		8x10-bit		2(6/8/6)			1	45(8)	LQFP80	4.5 to 5.5	
Turbo µPSD w/32-Kbyte SRAM - 6 MIPS																
3 V	uPSD3354DV	●		288	32 K		8x10-bit	5x16-bit (1/2/6)	2(6/8/6)	WDG, PCA	2x UART, I ² C, SPI, IrDA	1	36/45(8)	LQFP52, 80	3.0 to 3.6	PLD, JTAG ISP/debug
5 V	uPSD3354D	●		288	32 K		8x10-bit		2(6/8/6)		1	36/45(8)	LQFP52, 80	4.5 to 5.5		

Abbreviations and notes

Abbreviations

ADC	: Analog-to-digital converter
ART	: Auto-reload timer
ATAPI	: AT attachment packet interface
AWU	: Auto wake-up from halt
BLPD	: Byte level protocol decoder
BOD	: Brown-out detector
CAN	: Controller area network
CAPCOM	: Capture compare
CSS	: Clock security system
DALI	: Digital addressable lighting interface
DDC	: Data display channel
DiSEqC	: Digital satellite equipment control
DMA	: Direct memory access
DSC	: Dual supply control
DTC	: Data transfer coprocessor
ETM	: Embedded trace macrocell
EMI	: External memory interface
HDLC	: High-level data link control
IAP	: In-application programming
IC/OC	: Input capture/output compare ICP programming
IR	: Infrared
IrDA	: Infrared data association
ISP	: In-situ programming
I ² C	: Inter-integrated circuit
I ² S	: Inter-IC sound
LCD	: Liquid crystal display
LIN	: Local interconnect network
LVD	: Low voltage detection
MAC	: Multiply accumulator
MC	: Motor control

MFT	: Multifunction timer
MMC	: MultiMediaCard
NMI	: Non-maskable interrupt
OSG	: Oscillator safeguard
PCA	: Programmable counter array
PDR	: Power-down reset
PHW	: Programmable halt wake-up
PEC	: Peripheral event controller
PLD	: Programmable logic device
PLL	: Phase locked loop
POR	: Power-on reset
PVD	: Programmable voltage detector
PVR	: Programmable voltage regulator
PWM	: Pulse width modulation
ROP	: Readout protection
RTC	: Real-time clock timer
SC	: Smartcard
SCI	: Serial communication interface
SCR	: Smartcard reader
SDIO	: Secure digital input output
SMI	: Serial memory interface
SPI	: Serial peripheral interface
SSC	: Single-cycle switching support
SSP	: Synchronous serial port
TBU	: Time base unit
TLI	: Top level interrupt
UART	: Universal asynchronous receiver transmitter
USART	: Universal sync/asnc receiver transmitter
USB	: Universal Serial Bus
WDG	: Watchdog timer
WWDG	: Window watchdog timer

Packages

DIP	: Dual in-line package
LCC	: Leaded chip carrier
SDIP	: Shrink dual in-line package
PQFP	: Plastic quad flat package
SO	: Small outline
LQFP	: Low-profile quad flat package
PBGA	: Plastic ball grid array
DFN	: Dual flat no-lead
QFN	: Quad flat no-lead

Notes

- 1 : Exists also in OTP and EPROM version
- 2 : Number of high current pins included in the number of I/O pins
- 3 : Audio square wave generator
- 4 : HDFSash (high-density Flash)
- 5 : XFlash (extended Flash for 10 kcycle min)
- 6 : FASTROM service available for pre-programmed devices in production quantities

8-, 16- and 32-bit microcontroller development tools

This reference guide lists ST and third-party development tools that are promoted as part of the ST tool offer for 8-, 16- and 32-bit microcontrollers. For the latest news about this tool offer, please refer to www.st.com/mcu

Evaluation

Evaluation boards from ST

- Implement full range of device features
- Come with complete schematics, documentation and code samples

Starter kits

- Everything you need to start developing quickly and easily
- Immediate device evaluation with ready-to-run demonstration applications
- In-circuit debugging to troubleshoot code using actual input/output of target system

Low-cost evaluation boards are also available from third-party vendors

Development

In-circuit debugger/programmers

- Real-time debugging using debug resources on the standard chip, no bondouts, 100% electrical characteristics guaranteed
- Requires separate evaluation or application board
- RLink – debug and program a full range of ST MCUs from 8- to 32-bit

Advanced emulation systems for 8-bit devices

- Real-time emulation
- Advanced breakpoints
- Trace capability with complex triggering
- Code performance analysis

Software

- Free software toolsets with development environment, programming interface, integrated compiler support and more
- C compilers with free versions that output code up to a specified size
- Free ST firmware libraries for all standard peripherals plus special package for USB, motor control and more
- Large selection of development solutions (IDE + compiler) from leading tool suppliers for ARM
- Large selection of royalty-free RTOS, solution stacks (TCP/IP, USB, ...) and middleware

www.BDTIC.com/ST

Programming

In-circuit programmers

Program the device on an application board via JTAG, in-circuit communication or in-situ programming interface (depends on target device)

Automated programmers

Third-party solutions for programming in a production environment.
For a list of vendors, refer to www.st.com/mcu

Single position programmers

Third-party solutions for programming one device at a time.
Allows operation from a host PC, or in standalone mode.
For a list of vendors, refer to www.st.com/mcu

Gang programmers

Third-party solutions for programming several devices at once.
For a list of vendors, refer to www.st.com/mcu

STM32, STR9 and STR7 families

Tools for ST ARM® core based STM32, STR9 and STR7 families include a full range of third-party solutions that come complete with C/C++ compiler, integrated development environment and in-circuit debugger/programmer with industry standard JTAG interface. Explore and start applications easily with any of a range of affordable, easy-to-use starter kits. Take advantage of a range of firmware to speed application development, including free ST libraries and royalty-free RTOS, solution stacks (USB, TCP/IP, ...) and middleware.

Evaluation boards

ST evaluation boards: Implement the full range of device peripherals and features for each family. STM32F10x (Ethernet, USB OTG, USB, CAN, RS-232, IrDA, FSMC, SDIO, I²S, DAC), STR91x (Ethernet, USB, CAN, RS-232, IrDA, trace tool support), STR75x (USB, CAN, RS-232), STR73x (CAN, RS-232), STR71x (USB, CAN, RS-232). (Order code types: STxxx-EVAL)

Starter kits

STM32 Primer and STM32 Primer2: Fun, stimulating learning and development platforms with MEMS-based controls and integrated debugging/programming via USB.

Includes Raisonance RIDE (debug up to 32 Kbytes of code) and GNU C/C++ compiler. (Order code: STM3210B-PRIMER, STM3210E-PRIMER)

STM32 PerformanceStick and STM32 PerformanceStick2: Your window to explore STM32 performance. Includes integrated debugging/programming via USB, unlimited Hitex HiTOP5,

Tasking VX compiler and DashBoard GUI for device performance evaluation. (Order Code: STM3210B-PFSTICK and STM3210E-SK/HIT)

STM32 motor control starter kit: Complete, ready-to-run application for motor control with vector-based algorithms. Includes sensor and sensorless libraries, demo application, STM32 control board, hardware platform for vector drive of three-phase PMSM and induction motors, opto-isolation, and Segger J-Link (USB/JTAG) for host PC interface. (Order code: STM3210B-MCKIT)

Hitex STM32 starter kits: Unlimited HiTOP5, Tasking VX compiler, STM32-PerformanceStick with integrated debugging/programming via USB, extension I/O board with peripheral evaluation features, DashBoard GUI. (Order code: STM3210B-SK/HIT and STM3210E-SK/HIT)

Hitex starter kits: HiTOP5 (16-Kbyte code-size limited version) with GNU C/C++ compiler, debugger, Tantino (USB/JTAG) and evaluation board for either STR912F, STR750F, STR730F, or STR710F. (Order code types: STxxx-SK/HIT)

IAR starter kits: Embedded workbench for ARM (EWARM 32-Kbyte code-size limited version), C/C++ compiler, J-Link (USB/JTAG) and IAR demonstration board for either STM32F10x, STR912F, STR750F, STR731F, STR730F, STR712F, or STR711F. (Order code types: STxxx-SK/IAR)

Keil starter kits: RealView microcontroller development kit for ARM (16-Kbyte code-size limited version) with U-LINK (USB/JTAG) and evaluation board for either STM32F10x, STR912F or STR750F. (Order codes types: STxxx-SK/KEIL)

Raisonance REva starter kits: RIDE (32-Kbyte code-size limited version), GNU C/C++ compiler, BLINK (USB/JTAG), REva demonstration mother board (CAN, RS-232, I/Os, etc.) and daughter boards for STM32F10x, STR912F, STR750F, STR730F, STR711F or STR712F. (Order code types: STxxx-SK/RAIS)

Evaluation

www.BDTIC.com/ST

STR9-ComStick: Low-cost evaluation and development package for Ethernet, USB and CAN connectivity with STR9, includes debugging/programming via dedicated USB, unlimited Hitex tool set (HiTOP5 IDE, GNU C/C++ compiler). (Order code: STR9-COMSTICK)

Development environments

Software package

IAR embedded workbench for ARM integrated development environment with IAR C/C++ compiler and C-SPY debugger:

- STR-EW/IAR – unlimited version with MISRA C extension and 1-year of support and updates from IAR
- STR-EW/D/IAR – unlimited version with license dongle, MISRA C extension and 1 year of support and updates from IAR
- STR-EW-BL/IAR – baseline version with 256-Kbyte code-size limitation
- STR-EW-BL/D/IAR – baseline version with license dongle and 256-Kbyte code-size limitation

Development

Software package with in-circuit debugger/programmer

STX-PRO/RAIS: Raisonance developer's kit for ARM core-base MCUs with unlimited RIDE integrated development environment, GNU C/C++ compiler and RLink (USB/JTAG)

Complete hardware/software package with trace support for STR9

STR91X-DK/IAR: IAR advanced development kit EWARM-BL512 integrated development environment (512-Kbyte code-size limited), IAR C/C++ compiler, STR912F evaluation board and J-Trace (USB/JTAG) with 38-pin trace connection for STR9

STR9-DK/RAIS: Raisonance professional developer kit for STR9 with RIDE integrated development environment (unlimited), GNU C/C++ compiler, REva evaluation board with STR912F and Signum JTAGjet-ETM (USB/JTAG) with 38-pin trace connection for STR9

Software

RTOS, stack software and libraries: A full range of portable embedded system software, TCP/IP stacks and several royalty-free, small-footprint operating systems from a range of third parties (see table)

Free ST library packages for all standard device peripherals, USB, and motor control. Refer to www.st.com/mcu

Programming

A complete range of programming solutions from single-position to automated are available from third-party vendors. For updated listings, refer to www.st.com/mcu

RLink from Raisonance provides a low-cost solution for programming a complete range of ST microcontrollers from 8 to 32 bits

FlashRunner from SofTec Microsystems provides in-circuit programming for ST microcontrollers that is ready to integrate into production/test equipment

Flasher ARM, Segger Microcontroller Systems' in-circuit programmer with standalone mode for production environment

¹ All part numbers shown are for STMicroelectronics and third-party tools (Hitex, IAR, Keil and Raisonance) which are available from ST. Additional tools that are not available through ST can be ordered from the third-parties listed.

STM32, STR9 and STR7 families

Development and programming tools

Device	Evaluation		Development environment available from ST	C/C++ compiler	3rd-part development environment	RTOS and stack software	Programmer
	Evaluation board	Starter kit					
STM32F10x	STM3210B-EVAL STM3210E-EVAL	STM3210B-PRIMER STM3210E-PRIMER STM3210B-PFSTICK STM3210B-MCKIT STM3210B-SK/HIT STM3210B-SK/IAR STM3210B-SK/KEIL STM3210B-SK/RAIS STM3210E-SK/HIT STM3210E-SK/IAR STM3210E-SK/KEIL	Software only: STR-EW/IAR STR-EW/D/IAR STR-EW-BL/IAR STR-EW-BL/D/IAR Software with in-circuit emulator: STX-PRO/RAIS Software/hardware package supporting STR9 trace capability: STR91X-DK/IAR STR9-DK/RAIS	ARM www.arm.com GNU gcc.gnu.org GreenHills www.ghs.com IAR www.iar.com Keil www.keil.com Altium/Tasking www.tasking.com	Aiji System www.aijisystem.com Altium/Tasking www.tasking.com Anby www.anby.cn ARM www.arm.com Ashling www.ashling.com Embest www.embedinfo.com Green Hills Software www.ghs.com Hitex www.hitex.com IAR www.iar.com iSYSTEM www.isystem.com Keil www.keil.com Lauterbach www.lauterbach.com Nohau www.icetech.com PLS www.pls-mc.com Raisonance www.raisonance.com Rowley www.rowley.co.uk Signum www.signum.com	CMX www.cmx.com eCosCentric www.ecoscentric.com Express Logic www.rtos.com freeRTOS www.freertos.org GreenHills www.ghs.com IAR www.iar.com InterNiche www.iniche.com Keil www.keil.com Micrium www.micrium.com Micro Digital www.smxrtos.com Port www.epl-tools.com Quadros www.quadros.com Segger www.segger.com uClinux www.uclinux.org Wittenstein High Integrity Systems www.highintegritysystems.com	From ST: STX-RLINK Third-parties: BP Microsystems www.bpmicro.com Dataman www.dataman.com Data I/O www.data-io.com Elnec www.elnec.sk Hitex www.hitex.com Leap www.leap.com.tw PLS www.pls-mc.com Raisonance www.raisonance.com RK-System www.rk-system.com.pl Segger www.segger.com SoftTec www.softecmicro.com Systems General www.sg.com.tw Xeltec www.xeltec.com
STR91xF	STR910-EVAL	STR9-COMSTICK STR91X-SK/HIT STR91X-SK/IAR STR91X-SK/KEIL STR91X-SK/RAI					
STR750xF	STR750-EVAL	STR750-SK/HIT STR750-SK/IAR STR750-SK/KEIL STR750-SK/RAIS					
STR73xF	STR730-EVAL	STR730-SK/HIT STR730-SK/IAR STR730-SK/RAIS STR731-SK/IAR Keil www.keil.com					
STR71xF	STR710-EVAL	STR71X-SK/RAIS STR710-SK/HIT STR711-SK/IAR STR712-SK/IAR Keil www.keil.com					

www.BDTIC.com/ST

ST10 family

ST10 development and programming tools

Part number	Software	Evaluation board	Emulator/debugger	Programmer
ST10R172	C Toolchain Cosmic www.cosmic-software.com Keil www.keil.com			
ST10R272	Tasking www.tasking.com GNU (HighTec) www.hightec-rt.com			
ST10R167	Real-time kernel CMX www.cmx.com		Hitex www.hitex.com	
ST10F269	OSE166 www.ose.com RTX166 www.keil.com	Phytec www.phytec.com Rigel www.rigelcorp.com	Lauterbach www.lauterbach.com Nohau www.icetech.com	BP Microsystems www.bpmicro.com
ST10F272	PXROS www.hightec-rt.com EUROS www.euros-embedded.com		PLS www.pls-mc.com	
ST10F271	μC/OS-II Micrium www.micrium.com			
ST10F273	OSEK osCAN www.vector-informatik.com			
ST10F276	ProOSEK www.3soft.com OSEKworks www.windriver.com			

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STM8 family

Evaluation	Evaluation boards Open-platform evaluation boards that are distributed by ST and implement the complete range of device peripherals. These include: ■ STM8/128-EVAL general-purpose evaluation board for STM8S (128 Kbytes) devices with hardware features for evaluating microcontroller performance, low-power options and peripherals such as SPI, I²C EEPROM, RS-232 and more... Starter kits Complete sets of hardware and software tools that help users discover target device features and start application development quickly and easily: ■ Raisonance REva starter kits for STM8S with Ride development environment, Raisonance C compiler for STM8S, RLink (USB/JTAG) in-circuit debugger/programmer, demonstration motherboard and daughter board with STM8S target device.
Software	Application development is supported by a range of software tools that include Integrated Development Environments (IDE) and C compiler/assembler toolchains. Free software development tools include: ■ ST MCU Toolset with ST Visual Develop (STVD) IDE and ST Visual Programmer (STVP) programming interface in a single, free download. ■ Ride, Raisonance's free IDE for ST microcontrollers, which includes the innovative RBuilder application builder and the RFlasher programming interface. ■ C Compilers include toolchains from Cosmic and Raisonance, which are both available in free versions that output up to 16 Kbytes of code.
Development	Debugging tools The STice in-circuit emulation system offers the most advanced debugging and diagnostic features available (freely configurable advanced breakpoints, trace, code coverage, profiling) when running applications in place of the target microcontroller, plus the added flexibility of in-circuit debugging and programming capability for start-to-finish control of application development. ■ STice advanced in-circuit emulation system for ST microcontrollers In-circuit debugger/programmers provide low-cost solutions for programming the target device on an application board, and debugging the application while it runs on the target microcontroller. ■ RLink from Raisonance for STM8S, ST7, μPSD, STR7, STR9 and STM32 microcontrollers Accessories STM8 accessories adapt STice to support a specific STM8 microcontroller or sub-family. This modularity also allows the system to be adapted to future ST microcontrollers. STice accessories and spares include parts that allow connection of the STice to an application board in place of the target microcontroller. The connection accessories must be specified when ordering the STice system.

Programming

In-circuit programmers

Allow you to program the STM8S Flash microcontroller on your application board via a 4-pin single wire interface module (SWIM) connector. In-circuit programmers include:

- **RLink**: Raisonance's in-circuit programmer/debugger for STM8S, ST7, µPSD, STR7, STR9 and STM32 with USB host interface
- **Flasher**: in-circuit programmer with standalone mode for production environment from SEGGER Microcontroller Systeme GmbH
- **FlashRunner**: in-circuit programming system for production lines featuring standalone operation and easy integration in production and test equipment

ST Universal Socketboards provide programming sockets that can be used with any in-circuit programming tool that uses the SWIM protocol

Production programming solutions include multi-site (gang) and automated programming solutions from third-parties

STM8 development and programming tools

Part number	Evaluation		In-circuit debugger	Emulator		Software	Programming tool
	Evaluation board	Starter kit with RLink		STice system	Connection accessories		In-circuit programmer
STM8Sx	STM8/128-EVAL	STM8/128-SK/RAIS STM8/128-D/RAIS	STX-RLINK	STICE-SYS001	Flex CF/FP60 CF/FP120 Adapter AD/QFP32B-A03 AD/QFP44C-A02 AD/QFP48B-A03 AD/QFP64C-B02 AD/QFP80F-B01 AD/QFN32A-Z02 Socket AS/QFP32BC AS/QFP44CC AS/QFP48BA AS/QFP63CA AS/QFP80FB AS/QFN32AA In circuit debug/Pgm adapter AD-ICD/ICP	STVD STVP Cosmic C compiler Raisonance C compiler Raisonance IDE RIDE	STX-RLINK Flasher Segger FlashRunner Softtec

ST7 family

Evaluation boards

Evaluation boards for learning and testing microcontroller features include: ST7DALI-EVAL for lighting applications, ST7MDTULS/EVAL, ST7265X-EVAL/MS and ST7265X-DVT/MS for USB devices

Starter kits

Raisonance REva starter kits

Complete, cost-effective development kits that include RIDE development environment, RLink (USB) in-circuit debugger/programmer, evaluation motherboard (ADC, SPI, CAN, I²C, I/Os, etc.) and daughter boards featuring supported MCUs:

- ST7FLITEU0, ST7FLITE0, ST7FLITE1B and ST7FLITE3 daughter boards for ST7FLITE-SK/RAIS
- ST7263B daughter board for ST72F63B-SK/RAIS

ST7FMC motor control starter kit

Motor control development kit for ST7MC that includes firmware, GUI, a 12 VDC 240 VAC 1000 W inverter board, isolation board, STXF-INDART/USB debugger/programmer and 24 V BLDC motor. Optional accessories include ST7MC-MOT/IND - 240 V/800 W Selni three-phase induction motor (Order code: ST7MC-KIT/BLDC). Available from ST/distributor or www.softemicro.com

Hardware tools for all budgets and all needs

RLink low-cost, real-time in-circuit debugger/programmer of ST microcontrollers, from Raisonance

ST7-DVP3 series emulators for affordable, real-time emulation with advanced breakpoints and trace, plus in-circuit debugging/programming capability

ST7-EMU3 series emulators for full-featured, real-time emulation with advanced breakpoints, trace and profiling, plus in-circuit debugging/programming capability. Emulators include everything to connect to the user application for all supported MCUs

Free software tools

ST MCU toolset with everything to build, debug and program applications in one free download that includes assembler and linker plus:

- ST Visual Develop (STVD), easy-to-use IDE with integrated control of C toolsets from Cosmic and Raisonance. Supports a full range of debugging and programming tools
- ST Visual Programmer (STVP), full-featured programming software supporting the complete range of ST programming boards

Raisonance software toolset for ST microcontrollers, available at www.raisonance.com.

- RIDE development environment, RBuilder (application builder), C compiler. Supports DVP3 and EMU3 series emulators and RLink in-circuit debugger/programmer
- Raisonance C compiler. Available in free version that outputs code up to 16 Kbytes

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Evaluation

Development

■ RFlasher programming software for viewing, erasing, writing and verifying device Flash memory. Offers automated mode and project manager

Cosmic C compiler with free version that outputs code up to 4 Kbytes. Available at www.cosmic-software.com

REALIZER, Actum Solutions' graphical design tool for creating applications without learning assembly or writing a single line of code. Supports ST7 and ST6. Versions include STREALIZER-II (available from ST only), and REALIZER with end-user support available at www.actum.com

In-circuit programmers

A complete range of programming solutions from single-position to automated are available from third-party vendors. For updated listings, refer to www.st.com/mcu

Programming

■ **RLink** from Raisonance provides a low-cost solution for programming a complete range of ST microcontrollers from 8 to 32 bits

■ **Flasher ST7**, Segger Microcontroller Systems' in-circuit programmer with standalone mode for production environment

■ **FlashRunner** from SofTec Microsystems provides in-circuit programming for ST microcontrollers that is ready to integrate into production/test equipment

ST7-SocketBoard provide single-position programming with any tool with in-circuit programming capability (STX-RLINK, ST7-DVP3, ST7-EMU3)

ST7 development and programming tools

Part number	Evaluation		In-circuit debugger	Emulator		3rd-party emulator	Programming tool			
	Evaluation board	Starter kit with RLink		DVP series	EMU series		In-circuit programmer	Socket boards ⁷ or EPB series	3rd-party programmer	
ST7LITEU0		ST7FLITE-SK/RAIS ^{3,5}	STX-RLINK ^{3,5,8}	ST7MDT10-DVP3 ⁴	ST7MDT10-EMU3		STX-RLINK ^{3,5}	ST7-SB10-SU0 ¹	BP Microsystems www.bpmicro.com	Leap www.leap.com.tw
ST7LITE0		ST7FLITE-SK/RAIS ^{3,5}	STX-RLINK ^{3,5}	ST7MDT10-DVP3 ⁴	ST7MDT10-EMU3		STX-RLINK ^{3,5}	ST7-SB10-SU0 ¹	Data I/O www.data-io.com	RK-System www.rk-system.com.pl
ST7LITE1B		ST7FLITE-SK/RAIS ^{3,5}	STX-RLINK ^{3,5}	ST7MDT10-DVP3 ⁴	ST7MDT10-EMU3		STX-RLINK ^{3,5}	ST7-SB10-123 ¹	Dataman www.dataman.com	Segger www.segger.com
ST7DALI	ST7DALI-EVAL		STX-RLINK ^{3,5}	ST7MDT10-DVP3 ⁴	ST7MDT10-EMU3		STX-RLINK ^{3,5}	ST7-SB10-123 ¹		
ST7MC	ST7MC-KIT/BLDC ⁶		STX-RLINK ^{3,5}		ST7MDT50-EMU3	iSystem	STX-RLINK ^{3,5}		Elnec www.elnec.com	Softec Microsystems www.softemicro.com
ST7263B ST7260	ST7MDTULS-EVAL	ST72F63B-SK/RAIS ^{3,5}	STX-RLINK ^{3,5}		ST7MDTU3-EMU3		STX-RLINK ^{3,5}	ST7MDTU3-EPB ¹		
ST7265	ST7265X-EVAL/MS ST7265X-DVT/MS		STX-RLINK ^{3,5}		ST7MDTU5-EMU2B		STX-RLINK ^{3,5}	ST7MDTU5-EPB ¹	Hi-LO www.hilosystems.com.tw	System General www.sg.com
ST7SCR	ST7SCR-EVAL/SCR				ST7MDTS1-EMU2B			ST7MDTS1-EPB ¹	Insem www.insem.co.kr	Xeltek www.xeltek.com

Notes

- 1 Add suffix /EU, /US or /UK for the power supply for your region
- 2 Add suffix /EU or /US for the power supply for your region
- 3 Available from ST or from Raisonance, www.raisonance.com
- 4 Includes connection kit for DIP16/SO16 only.
- 5 USB connection to PC

- 6 Available accessories: ST7MC-MOT/IND (induction motor) and ST7-ICC/OPTOISOL (optoisolation board included with motor control starter kit (ST7MC-KIT/BLDC), is also available as separate product)

- 7 Socket boards complement any tool with ICC capabilities (InDART, RLINK, DVP3, EMU3, etc.)

- 8 For in-circuit debugging of ST7FLITEU0, users must also order the AD-ICD/DS8Z adapter. For ICD of ST7FLITEU0 in DFN8 package, users must order AD-ICD/DS8Z and ST7MDT10-8/DVP

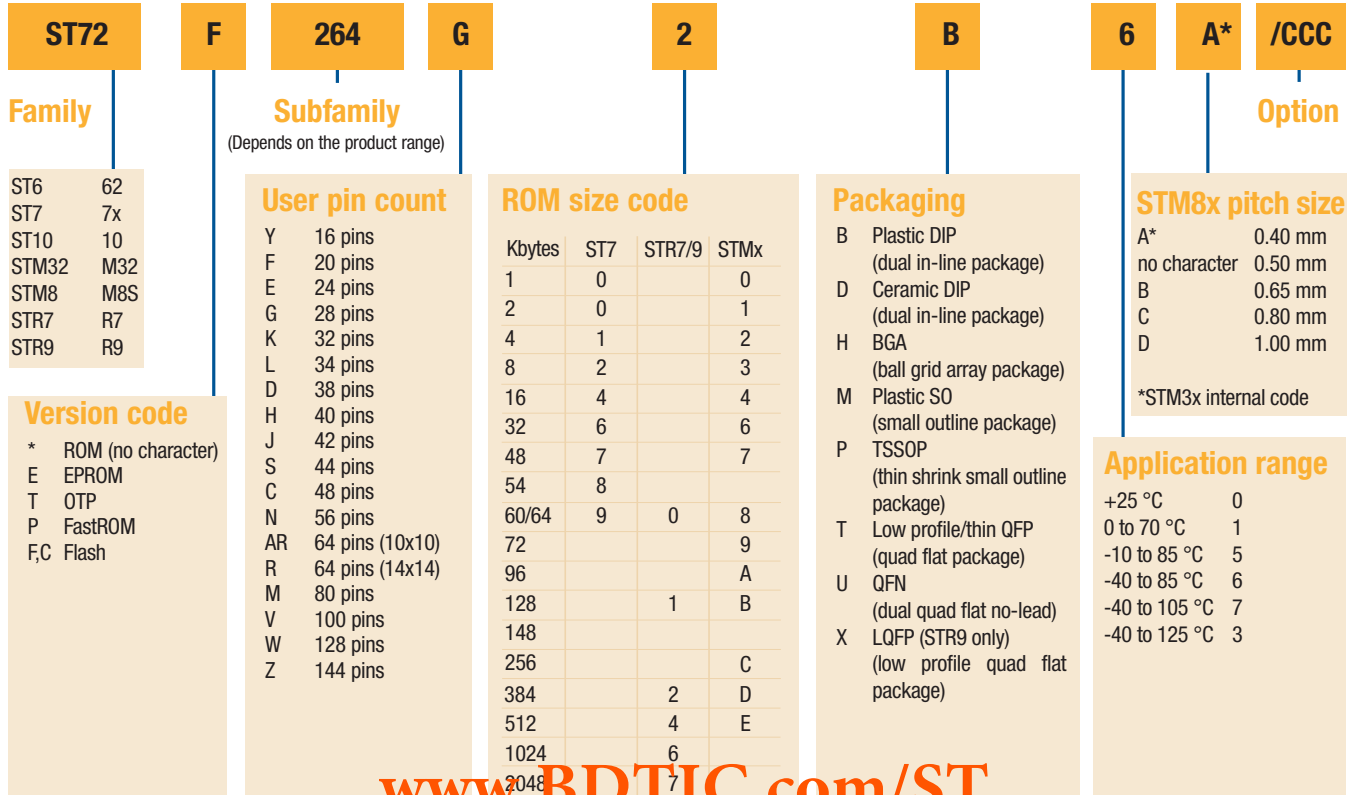
www.BDTIC.com/ST7

Notes

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Notes

MCU - Typical designations and part number suffixes





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