

MSPM0 UART module introduction

— MSPM0 peripheral training series

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MCU level overview

—MSPM0Lxx series

MSPM0L13x3/4/5/6

CPU ARM Cortex-M0+ 32 MHz	Power & Clocking	Precision Analog
NVIC / 3-ch DMA	POR / BOR / SVS	12-bit SAR ADC 1Msps (1)
	Internal LF 32kHz (5%)	ULP/HS Comparator (1)
	Internal HF 4-32MHz (1%)	8-bit reference DAC (1)
On-chip Memory	Communication	Zero-drift chopper op-amps (2)
8, 16, 32 or 64 kB flash	UART w/ LIN (1)	General purpose amp (1)
2 or 4 kB SRAM	UART (1)	Internal ADC reference (2.5%)
	SPI (1)	Temperature sensor
Data Integrity & Security	I2C (2) w/ FastMode+	Timers
CRC accelerator (16 and 32 bit)	IO	General purpose 16-bit 2 CC (4)
Programming & Debug	Up to 28 GPIO	Windowed watchdog
ARM SWD interface	Up to 2 low Ib OPA inputs	
ROM UART & I2C BSL		

Leaded packages: SOT-16, VSSOP-20/28
No-lead packages: WQFN-16, VQFN-24/32

1.62 - 3.6V
-40 to 125 C

32 MHz MCU with up to 64kB flash, 32 pins, 12-bit ADC, dual zero-drift OPA/PGA, COMP

—MSPM0Gxx series

MSPM0G350x/310x/150x/110x

CPU Arm Cortex-M0+ 80 MHz	Power & Clocking	Precision Analog
NVIC / MPU / 7-ch DMA	POR / BOR / SVS	12-bit ADC 4Msps (9-ch)
	External LF 32kHz XTAL	12-bit ADC 4Msps (8-ch)
	External HF 4-48MHz XTAL	Comparators w/ 8-bit DACs (3)
Accelerators	Internal LF 32kHz (3%)	12-bit 1Msps buffered DAC (1)
Math (DIV, SQRT, TRIG, MAC)	Internal HF 4-32MHz (1%)	Zero-drift chopper op-amps (2)
	PLL (up to 80 MHz)	Internal reference (1.5%)
On-chip Memory	Communication	General purpose amp (1)
32, 64, or 128 kB flash [ECC]	UART w/ LIN (1)	Temperature sensor
16 or 32 kB SRAM [ECC]	UART (3)	Timers
Data Integrity & Security	SPI (2)	Advanced control 16-bit 4 CC (1)
CRC accelerator (16 and 32 bit)	I2C (2) w/ FastMode+	Advanced control 16-bit 2 CC (1)
AES256 accelerator + TRNG	CAN-FD (1)	General purpose 32-bit 2 CC (1)
Programming & Debug	IO	General purpose 16-bit 2 CC (2)
ARM SWD interface	Up to 60 GPIO	Low power 16-bit 2 CC (2)
UART & I2C bootloader		Windowed watchdog (2)
		Real-time clock (1)

Leaded packages: VSSOP-20/28, LQFP-48/64
No-lead packages: VQFN-24/32/48, nFBGA-64, WCSP-28

1.62 - 3.6V
-40 to 125 C

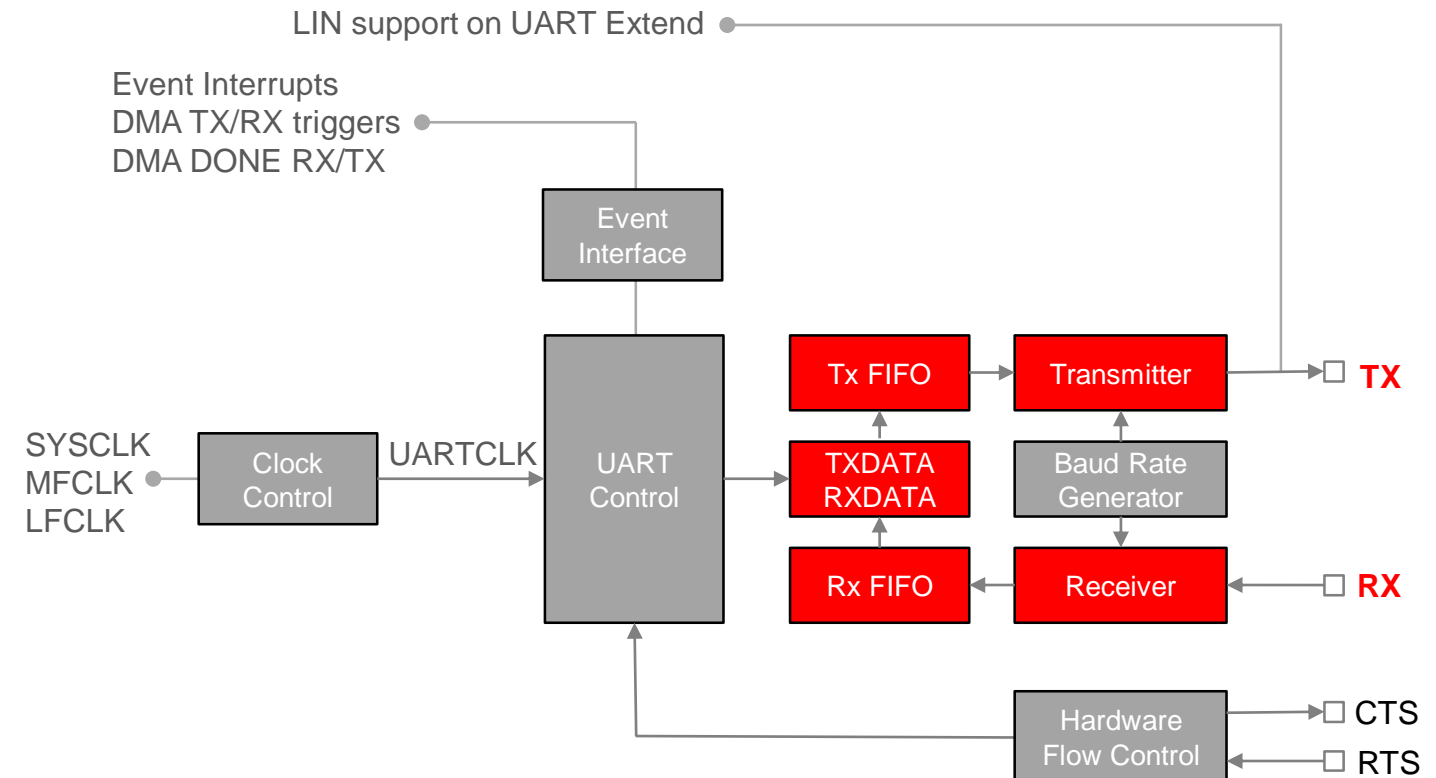
80 MHz MCU with up to 128kB flash, 64 pins, advanced analog, AES/TRNG, CAN-FD

MSPM0 UART module introduction

Features	UART Extend	UART Main
Hardware flow control	Yes	Yes
Oversampling options	3,8,16	3,8,16
Separate transmit and receive FIFOs	Yes	Yes
Active in all low-power modes	Yes	Yes
Wake-up with start bit	Yes	Yes
9-bit multi-drop configuration	Yes	Yes
Idle Line Multiprocessor	Yes	Yes
RS-485	Yes	Yes
Support LIN mode	Yes	-
Support DALI	Yes	-
Support IrDA	Yes	-
Support ISO7816 Smart card	Yes	-
Support Manchester code	Yes	-

Key Differences between G and L MCUs

- MSPM0G350x MCUs have 1 UART Extend and 3 UART Main, Maximum baud rate **10MHz**
- MSPM0L130x MCUs have 1 UART Extend and 1 UART Main, Maximum baud rate **3MHz**



UART module quick start

Academy

[UART introduction lab](#)

Driverlib Examples

MSPM0G/L:

- uart_echo_interrupts_standby
- uart_extend_manchester_echo
- uart_extend_manchester_send_packet
- uart_external_loopback_interrupt
- uart_internal_loopback_standby_restore

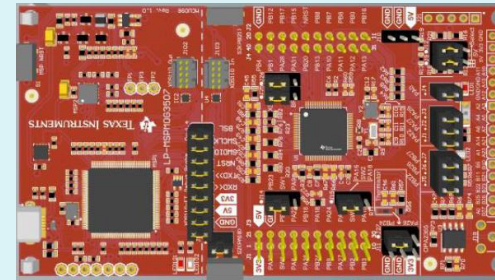
Related Links

- [MSPM0 online resource](#)
- [MSPM0 Quick start guide](#)
- [MSPM0 Sysconfig user's guide](#)

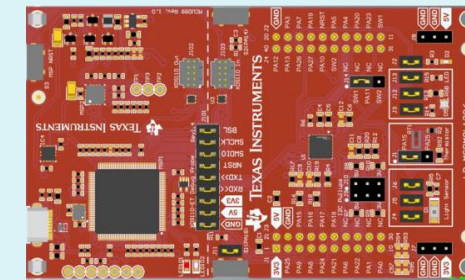
- [MSPM0G350x datasheet](#)
- [MSPM0L13xx datasheet](#)
- [MSPM0Gxx technical reference manual](#)
- [MSPM0Lxx technical reference manual](#)

Launchpad

[LP-MSPM0G3507](#)



[LP-MSPM0L1306](#)



Sysconfig Entrance for UART Setting

The screenshot shows the Sysconfig tool interface. On the left, a tree view lists various modules. Under 'COMMUNICATIONS (3)', the 'UART' module is selected and highlighted with a blue box, labeled 'Step 1:'. The 'UART' entry shows '1/2' and a green checkmark. On the right, the configuration panel for the selected module is shown. It includes a 'Quick Profiles' dropdown, a 'UART Profiles' dropdown set to 'Step 2: Custom', and a 'Basic Configuration' section. Within this section, the 'UART Initialization Configuration' dropdown is highlighted with a blue box. Below this, several configuration parameters are visible: 'Clock Source' set to 'BUSCLK', 'Clock Divider' set to 'Divide by 1', 'Calculated Clock Source' showing '32000000', and 'Enable Extend Features' which is unchecked.

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