

# MSPM0 MCAN module introduction

— MSPM0 peripheral training series

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# MCU level overview

## —MSPM0Lxx series

### MSPM0L13x3/4/5/6

1.62 - 3.6V  
-40 to 125 C

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

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

*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

1.62 - 3.6V  
-40 to 125 C

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

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

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

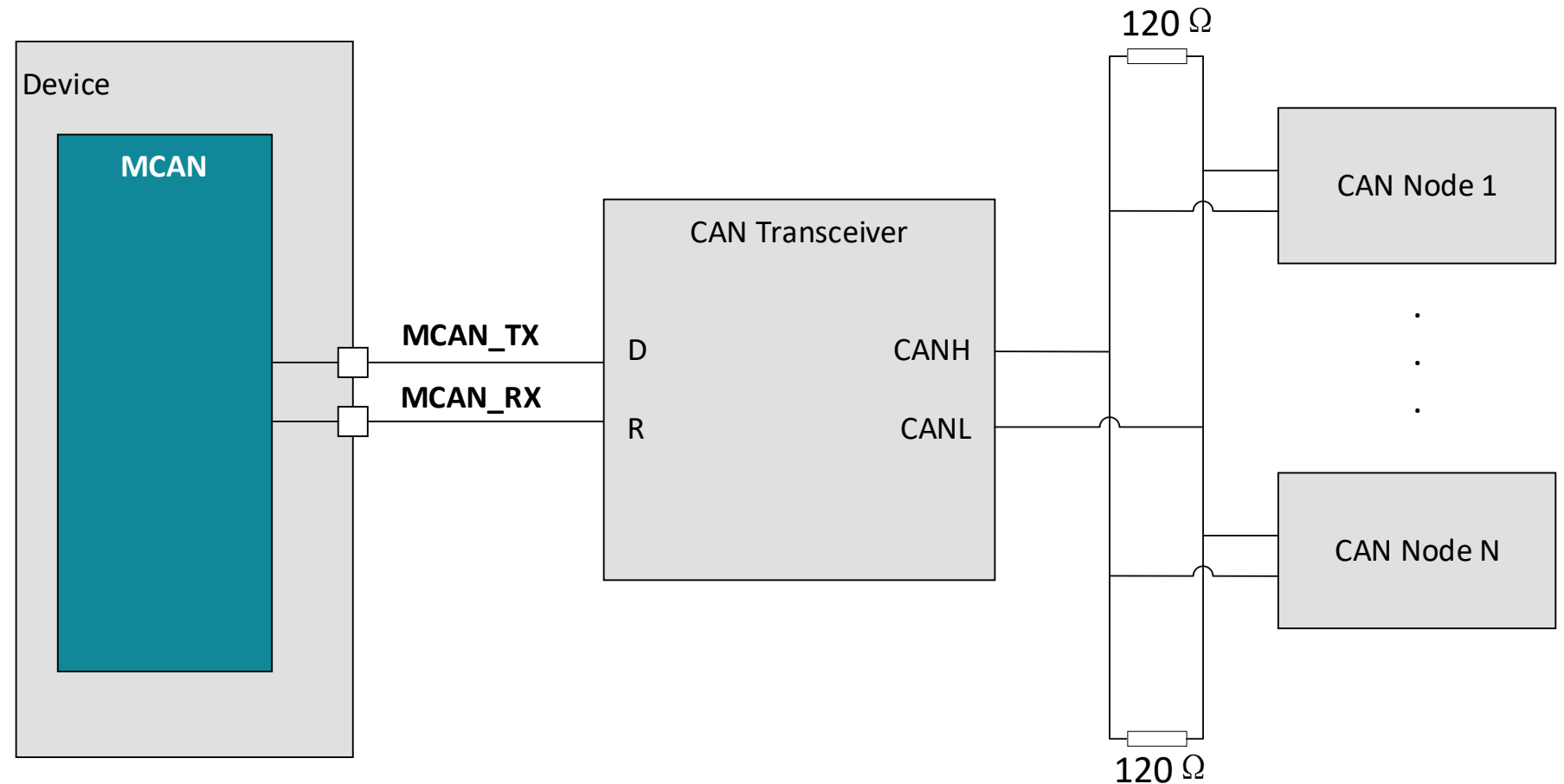
# MSPM0 MCAN module introduction

## Key Features

- Conforms with CAN Protocol 2.0 A, B and ISO 11898-1:2015
- Full **CAN FD** support (up to 64 data bytes and up to **5Mbit/s** rate)
- AUTOSAR and SAE J1939 support
- Clock stop and wakeup support
- Up to 128 filter elements
- ECC check for Message RAM
- Up to 32 dedicated transmit buffers
- Up to 64 dedicated receive buffers

## Key Differences between G and L MCUs

- MSPM0G350x series have 1x MCAN



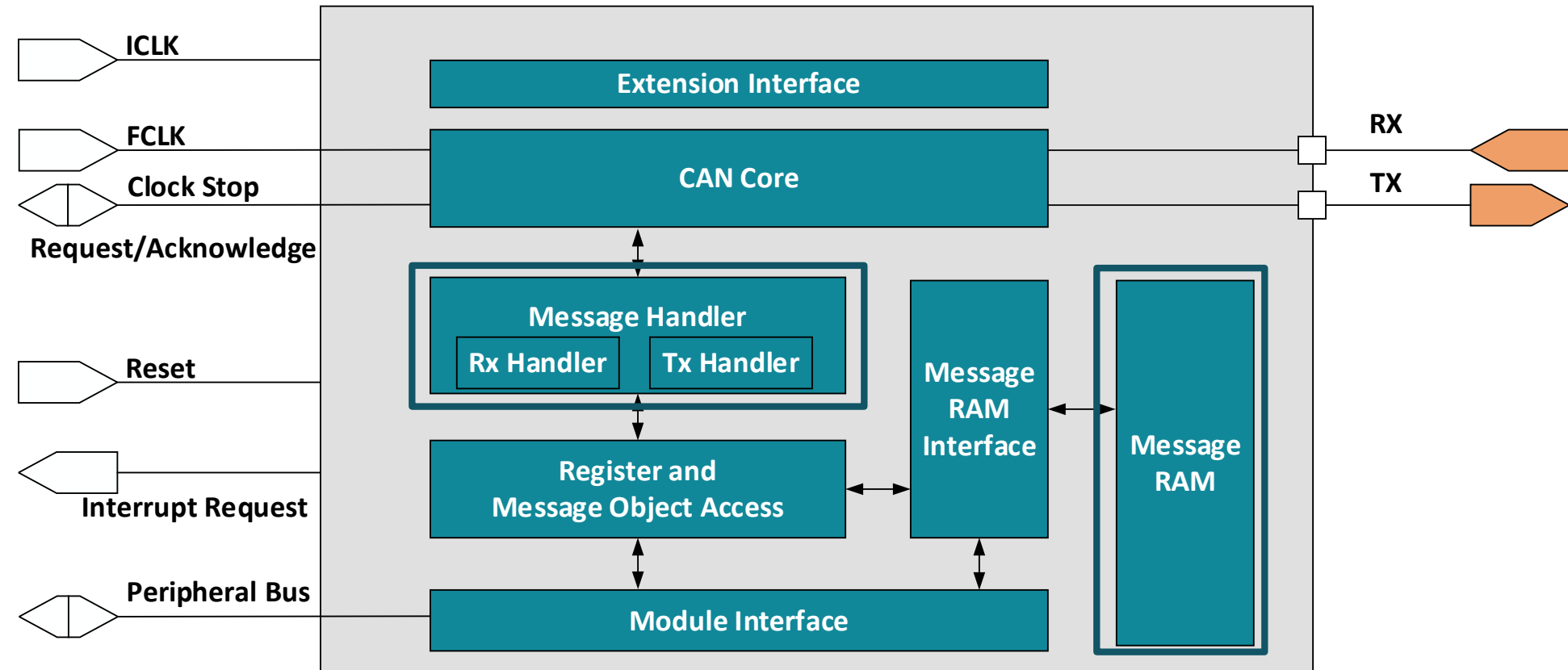
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# MCAN module quick start

## Academy

[CANFD introduction lab](#)

## Driverlib Examples

### MSPM0G350x:

- 📁 mcan\_loopback
- 📁 mcan\_message\_rx
- 📁 mcan\_message\_rx\_tcan114x
- 📁 mcan\_multi\_message\_tx
- 📁 mcan\_multi\_message\_tx\_tcan114x
- 📁 mcan\_single\_message\_tx

### MSPM0L13xx:

NA

## Related Links

[MSPM0 online resource](#)

[MSPM0 quick start guide](#)

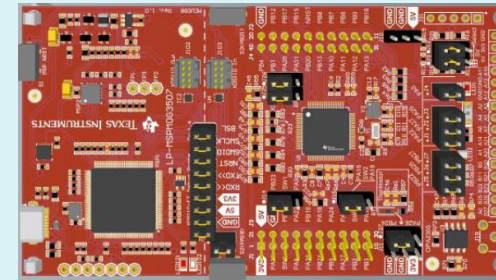
[MSPM0 Sysconfig user's guide](#)

[MSPM0G350x datasheet](#)

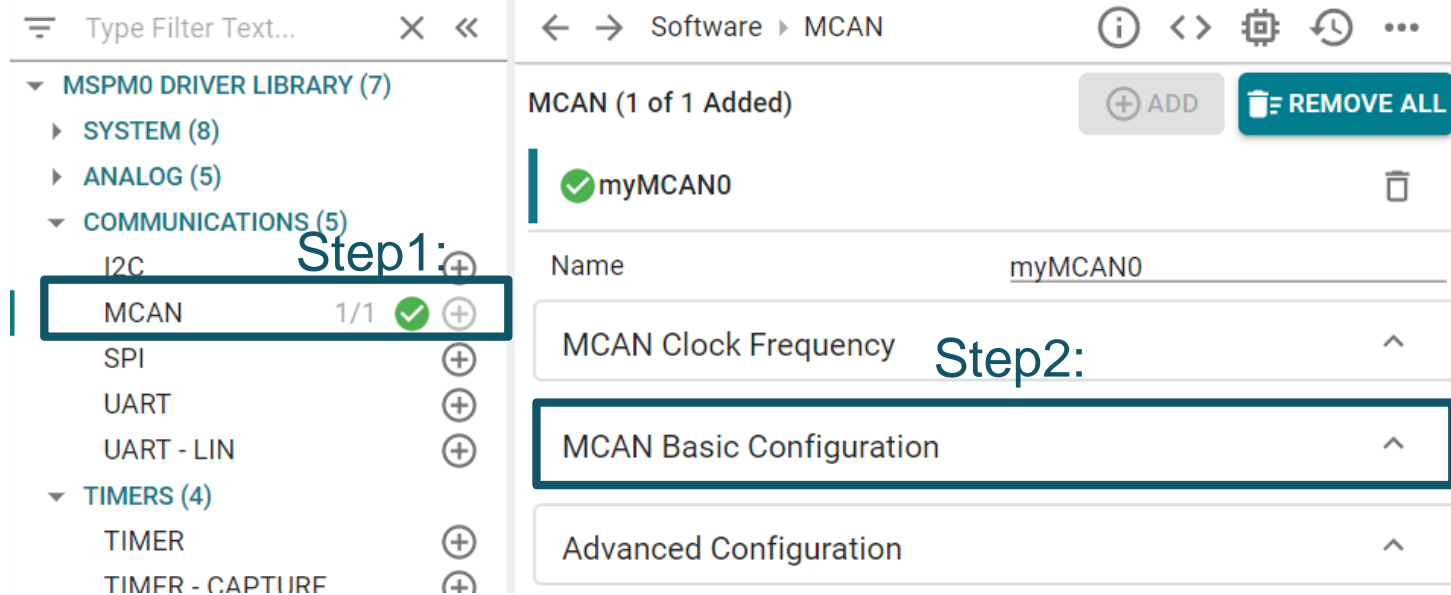
[MSPM0Gxx technical reference manual](#)

## Launchpad

[LP-MSPM0G3507](#)



## Sysconfig Entrance for CAN Setting



The screenshot shows the Sysconfig tool interface for configuring the MCAN module. The left pane displays a tree view of the driver library, with the 'MCAN' module selected under 'COMMUNICATIONS (5)'. A red box highlights the 'MCAN' entry, and a blue box highlights the 'MCAN Basic Configuration' entry in the right pane. The right pane shows the configuration for 'myMCAN0', including the 'MCAN Clock Frequency' and 'MCAN Basic Configuration' sections. A red box highlights the 'MCAN Basic Configuration' section, and a blue box highlights the 'MCAN Clock Frequency' section. The text 'Step 1:' is overlaid on the 'MCAN' entry in the left pane, and 'Step 2:' is overlaid on the 'MCAN Clock Frequency' section in the right pane.

# To find more MSPM0 training series, please visit:

- [Ti.com.cn](http://ti.com.cn)
- [WeChat \(德州仪器公众号\)](#)
- [Bilibili](#)
- [21IC](#)