MSPM0 COMP module introduction
—— MSPM0 peripheral training series

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### MCU level overview

#### MSPM0Lxx series

- **CPU**: ARM Cortex-M0+ 32 MHz
  - NVIC / 3-ch DMA
- **Power & Clocking**
  - POR / BOR / SVS
  - Internal LF 32kHz (5%)
  - Internal HF 4-32MHz (1%)
- **Communication**
  - UART w/ LIN (1)
  - UART (1)
  - SPI (1)
  - I2C (2) w/ FastMode+
- **Data Integrity & Security**
  - CRC accelerator (16 and 32 bit)
- **Programming & Debug**
  - ARM SWD interface
  - ROM UART & I2C BSL

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

#### MSPM0Gxx series

- **CPU**: Arm Cortex-M0+ 80 MHz
  - NVIC / MPU / 7-ch DMA
- **Power & Clocking**
  - POR / BOR / SVS
  - External LF 32kHz XTAL
  - External HF 4-48MHz XTAL
  - Internal LF 32kHz (3%)
  - Internal HF 4-32MHz (1%)
- **Communication**
  - UART w/ LIN (1)
  - UART (3)
  - SPI (2)
  - I2C (2) w/ FastMode+
  - AES256 accelerator + TRNG
- **Data Integrity & Security**
  - CRC accelerator (16 and 32 bit)
  - General purpose 16-bit 2 CC (4)
- **Programming & Debug**
  - ARM SWD interface
  - UART & I2C bootloader

**80 MHz MCU with up to 128kB flash, 64 pins, advanced analog, AES/TRNG, CAN-FD**
MSPM0L/G COMP module introduction

Key Features

- Fast and ultra-low-power modes of operation
- TYP 40ns Propagation delay in High speed mode
- Inverting and non-inverting terminal input multiplexer
- MSPM0G series support VDD and VREF as the reference source
- MSPM0L series support VDD as the reference source
- Software-selectable filter for comparator output
- Programmable hysteresis and Window comparator mode

Key Differences between G and L MCUs

- MSPM0G350x MCUs have 3 Comparator modules
- MSPM0L130x MCUs have 1 Comparator module
COMP module quick start

Academy
- COMP introduction lab

Driverlib Examples
- MSPM0L/G:
  - comp_analog_filter
  - comp_dac_to_timer_event
  - comp_hs_dac_vref_external
  - comp_hs_tima_pwm_fault
  - comp_lp_dac_vref_internal

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 COMP Setting

Step 1:
- Select COMP

Step 2:
- Basic Configuration
  - Operating Mode: Fast mode
  - Enable Channel Inputs: Channel input enabled for the neg

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- MSPM0 Quick start guide
- MSPM0 Sysconfig user's guide
- MSPM0G350x datasheet
- MSPM0L13xx datasheet
- MSPM0Gxx technical reference manual
- MSPM0Lxx technical reference manual
To find more MSPM0 training series, please visit:

- Ti.com.cn
- WeChat (德州仪器公众号)
- Bilibili
- 21IC