مرکز آموزش نیـــرا سیستم

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EEPROM

Ali Mirghasemi

Introduction

- Electrically Erasable Programmable Read-Only Memory, commonly known as EEPROM, is a type of non-volatile memory that retains its stored data even when power is removed.
- EEPROM allows for both reading and writing data, and the "electrically erasable" feature means that the memory can be selectively erased and reprogrammed.
- EEPROM is widely used in embedded systems for storing configuration settings, calibration data, and other parameters that need to be preserved across power cycles.

Applications

- **Configuration Storage**
  - EEPROM is often used to store configuration parameters for devices, such as network settings, display preferences, or user-specific settings.
- **Calibration Data**
  - In systems requiring precise measurements, EEPROM can store calibration data for sensors or measurement instruments.
- **Security Tokens**
  - EEPROM can be used to store cryptographic keys, security parameters, or other sensitive information in secure systems.
- **Firmware Updates**
  - Some systems use EEPROM to store firmware updates or patches that can be applied to the device after manufacturing.
- **Counters and Log Data**
  - EEPROM can be employed to store counting values, event logs, or other data that needs to be preserved over time.

ICs

- **24CXX Series (Microchip)**
  - Microchip's 24CXX series offers a range of I2C-compatible EEPROMs with different capacities, such as 24C02 (2 Kbit), 24C08 (8 Kbit), and 24C512 (512 Kbit).
- **AT24CXX Series (Atmel)**
  - Atmel's AT24CXX series is similar to Microchip's 24CXX series and provides I2C-compatible EEPROMs with various capacities.
- **Cypress CY8C24x94 Series**
  - Cypress Semiconductor offers I2C EEPROMs with features such as low power consumption and a wide voltage range.
- **ST M24CXX Series (STMicroelectronics)**
  - STMicroelectronics provides I2C EEPROMs with different capacities and features, such as the M24C04, M24C64, and M24C256.