



Nuvoton NuMicro® 1T 8051 MCU

# High Performance with Small Package N76E003 Series

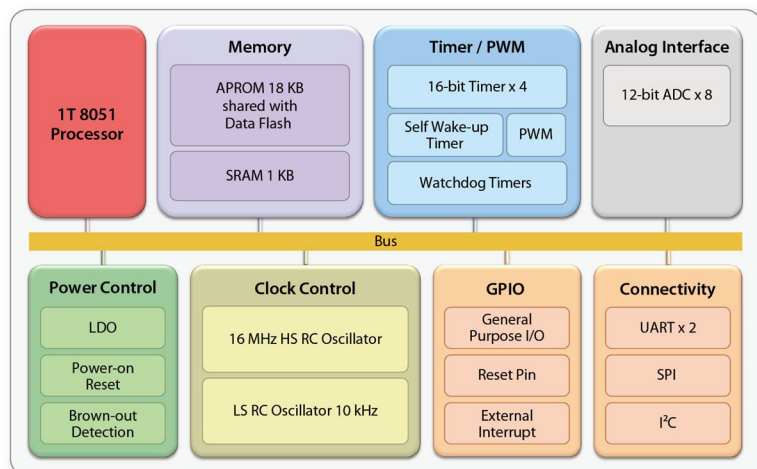
| 18 KB Flash | 1 KB SRAM | 8-ch 12-bit High Accuracy ADC | 2-ch UART |

## ❖ Application

- ◆ Wireless charger
- ◆ LED control
- ◆ Home appliance
- ◆ Thermostat
- ◆ Smoke detector



## ❖ Block Diagram



## ❖ Part Number Information

Part Number	Ordering Shape	Package	Pitch (mm)	Package Size (mm x mm)
N76E003AT20	E	TSSOP20	0.65	4.4 x 6.5
N76E003AQ20	T	QFN20	0.4	3 x 3
N76E003BQ20	T	QFN20	0.5	3 x 3

## ❖ Chip Features

### ◆ CPU

- 1T-based 8051 core
- Instruction set fully compatible with MCS-51
- 4-priority-level interrupts capability

### ◆ Operating

- Wide supply voltage from 2.4V to 5.5V
- Wide operating frequency up to 16 MHz
- Temperature from -40°C to +105°C

### ◆ Memory

- 18 Kbytes of APROM for User Code
- Configurable up to 4 Kbytes of LDRAM
- Lock bit of flash for security protection
- Built-in In-Application-Programmable
- 1 Kbytes SRAM
- Eight channels of pin interrupt with variable configuration of edge/level detection

### ◆ Peripheral

- Up to 17 GPIO pins and one input-only pin
- One 16-bit auto-reload Timer to be the baud rate clock source of UART
- One 16-bit PWM counter interrupt for timer
- One programmable Watchdog Timer
- One dedicated Self Wake-up Timer
- Two full-duplex UART ports with frame error detection and automatic address recognition

- One SPI port with master and slave modes
- One I<sup>2</sup>C bus with master and slave modes
- Three pairs, six channels of pulse width modulator output, 16-bit resolution, with Fault Brake function
- 12-bit ADC, up to 500 kps converting rate

### ◆ Clock sources

- 16 MHz HIRC trimmed to  $\pm 1\%$  at VDD 5.0V
- 10 kHz low-speed internal oscillator
- On-the-fly clock source switch via software
- Programmable system clock divider up to 1/512

### ◆ Power management

- Power-down mode, idle mode

### ◆ Power monitor

- Brown-out detection
- Power-on reset

### ◆ Nuvoton Development Tools

- On-Chip-Debugger (OCD) with KEIL™ and IAR development environment
- In-Circuit-Programmer (ICP)
- In-System-Programming (ISP) a UART



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