Sipeed Longan Nano - RISC-V GD32VF103CBT6 Development Board

SKU 102991302

Sipeed Longan Nano is a development board based on GD32VF103CBT6 MCU with RISC-V 32-bit core of GigaDevice. It is convenient for students, engineers and geek enthusiasts to contact the new-generation RISC-V processor. Longan Nano sold by Seeed comes with a 0.96inch 160x80 IPS RGB LCD and an acrylic transparent case.

GD32VF103CBT6 is a Bumblebee core based on Nuclei System Technology. Support RV32IMAC instruction set and ECLIC fast interrupt function. Core power consumption is only 1/3 of that of traditional Cortex-M3.

Longan Nano development board, double-row pin layout design, needle spacing 700 mil, can be inserted directly into breadboard; on-board 8M passive crystal oscillator, 32.768 KHz RTC low-speed crystal oscillator, Mini TF slot, and use Type-C USB interface.

Longan Nano supports multiple download methods: USB DFU download, UART ISP download, JTAG download. In the USB DFU download mode, you only need a USB Type-C cable to download the program to the development board. At the same time, Longan Nano supports the standard JTAG interface, which can be debugged online using the in-store RISC-V debugger or any JTAG-enabled debugger such as J-Link.

Meanwhile, Sipeed has adapted the PlatformIO IDE for the Longan Nano development board, which can be visually developed on multiple platforms such as Windows/Linux:

https://github.com/sipeed/platform-gd32v
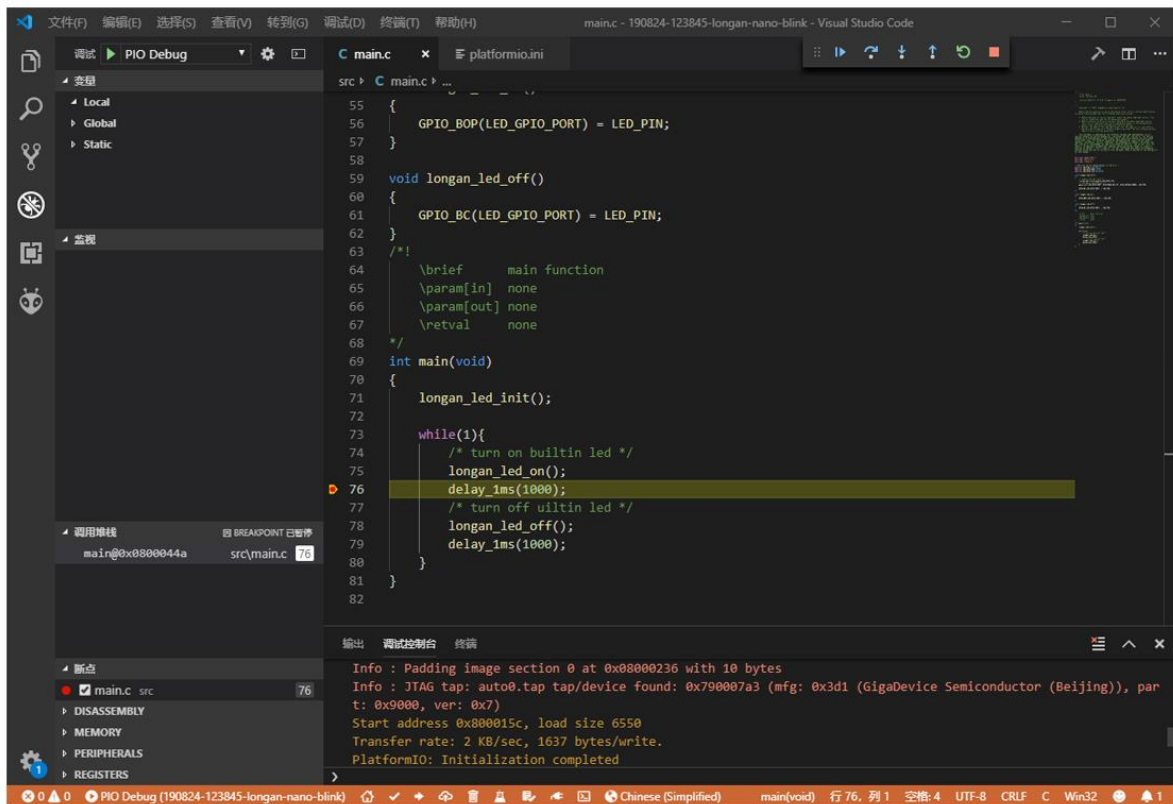

Features

- Chip built-in 128KB Flash, 32KB SRAM
- 4 x general purpose 16-bit timer, 2 x basic 16-bit timer, 1 x advanced 16-bit timer
- Watchdog, RTC, Systick
- 3 x USART, 2 x I2C, 3 x SPI, 2 x I2S, 2 x CAN, 1 x USBFS (OTG)
- 2 x ADC (10 channel), 2 x DAC

specifications

SPECIFICATION	
CPU	GD32VF103CBT6 based on RISC-V 32-bit core
Kernel power consumption	Only 1/3 of the traditional Cortex-M3
Chip built-in	128KB Flash, 32KB SRAM
Peripheral	● 4 x general purpose 16-bit timer, 2 x basic 16-bit timer, 1 x advanced 16-bit timer ● Watchdog, RTC, Systick ● 3x USART, 2 x I2C, 3 x SPI, 2 x I2S, 2 x CAN, 1 x USBFS (OTG), ● 2 x ADC (10 channel), 2 x DAC
SOFTWARE	
IDE	PlatformIO IDE, Support debugging, Arduino
Compile Toolchain & Debugger	GCC, OpenOCD
Operating system	RT-Thread、LiteOS
HARDWARE	
Storage expansion	Short body TF card slot
Display expansion	8pin 0.5mm FPC Block Expansion 160x80 RGB IPS LCD (SPI Interface)
Debug interface	2x4 pin leads to JTAG debug interface

Connector	Double row 2.54 pitch pin
Crystal	8MHz Passive High Speed Crystal +32.768KHz Low Speed RTC Crystal

Dimension
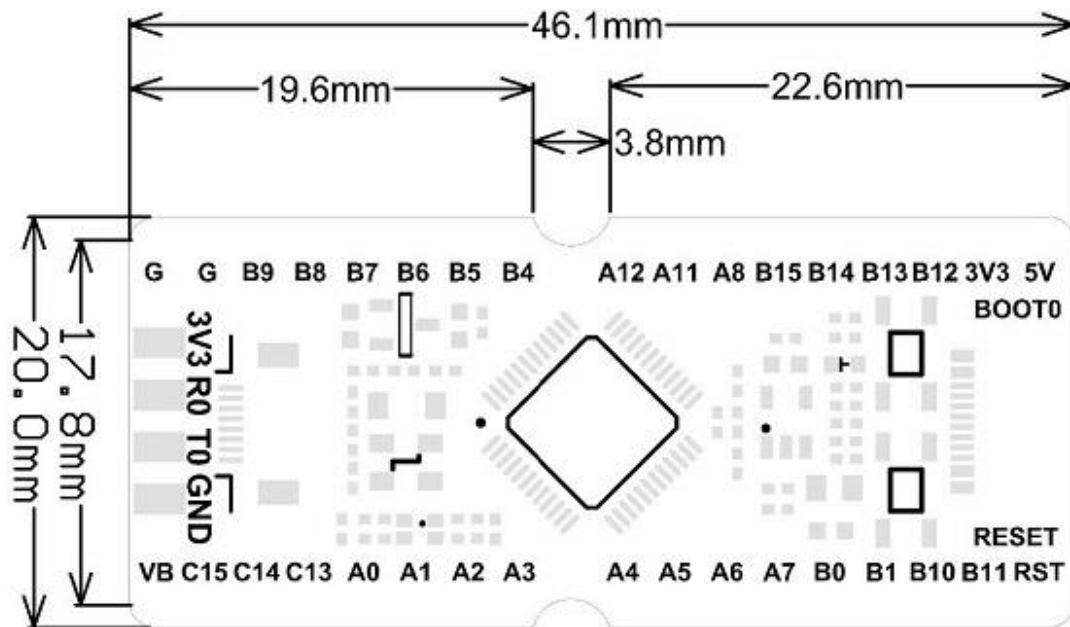
Part List

Part List	
Sipeed Longan Nano Development Board	x1
0.96inch 160x80 IPS RGB LCD	x1
Acrylic transparent case	x1

ECCN/HTS

ECCN	3A991.a
HSCODE	8543709990
UPC	

Documents

Wiki

Resource Download
GD32VF103_User_Manual_EN_V1.0.pdf
GD32VF103_Datasheet_Rev1.0.pdf
Bumblebee core datasheet_en.pdf
Bumblebee core intro_en.pdf

Bumblebee kernel instruction set documentation
Github
SDK
HDK

G G B9 B8 B7 B6 B5 B4 A12 A11 A8 B15 B14 B13 B12 3V3 5V

BOOT0

3V3 R0 T0 GND

RESET

VB C15 C14 C13 A0 A1 A2 A3 A4 A5 A6 A7 B0 B1 B10 B11 RST

JTDO
JTDI
JTCK
JTMS

Longan Nano

H1.7

Seee3

BOOT0 3V3 B12 B13 B14 B15 A8 A11 A12 5V

RESET

B10 B11 RST

A4 A5 A6 A7 B0 B1

A0 A1 A2 A3

B9

G

3V3 R0 T0 GND

VB C15 C14 C13

G   G   B9   B   3B12 3V3 5V
BOOT6
3V3 R0 T0 GND
RESET
VB C15 C14 C13 A0 A1 A2 A3   A4 A5 A6 A7 B0 B1 B10 B11 RST

cm

INCH

cm   1   2   3   4   5   6   7

INCH   1   2