GD32F1x0 CPU Support Package Guide

Version: 3.3

Contents

GD32F1x0 Support Package

This guide describes the following features of the GD32F1x0 CPU support package:

How to create GD32F1x0 projects

How to open GD32F1x0 sample projects

GD32F1x0 specific project properties

GD32F1x0 specific project templates

Supported GD32F1x0 devices

Creating GD32F1x0 Projects

Creating an GD32F1x0 C/C++ executable project

To create a new minimal C/C++ executable project:

> Select the **File > New > New Project** menu item.
>
> Select the **A C/C++ executable for GigaDevice GD32F1x0** project template.
>
> Set the required project name and location directory.
>
> Click **Next**.
>
> If required, change any of the default project settings.
>
> Click **Finish** to create the project.

Creating an GD32F1x0 library project

To create a new library project:

> Select the **File > New > New Project** menu item.
>
> Select the **A library for GigaDevice GD32F1x0** project template.
>
> Set the required project name and location directory.
>
> Click **Next**.
>
> If required, change any of the default project settings.
>
> Click **Finish** to create the project.

Creating an GD32F1x0 externally built executable project

To create a new project that will allow you to debug an existing externally built executable file:

> Select the **File > New > New Project** menu item.
>
> Select the **An externally built executable for GigaDevice GD32F1x0** project template.
>
> Set the required project name and location directory.
>
> Click **Next**.
>
> Set the **Load File** project property to point to the executable file you want to download and debug.
>
> If required, change any of the other default project settings.
>
> Click **Finish** to create the project.

Creating an GD32F1x0 CrossWorks Tasking Library executable project

To create a new C/C++ executable project configured to use the CrossWorks Tasking Library:

> Select the **File > New > New Project** menu item.
>
> Select the **A CrossWorks Tasking Library executable for GigaDevice GD32F1x0** project template.
>
> Set the required project name and location directory.
>
> Click **Next**.

If required, change any of the other default project settings.

Click **Finish** to create the project.

Creating an GD32F1x0 assembly code only executable project

Please note, this template does not add any C/C++ startup code or libraries and is therefore not suitable for creating projects that include C/C++ code.

To create a new assembly code only executable project without:

Select the **File > New > New Project** menu item.

Select the **An assembly code only executable for GigaDevice GD32F1x0** project template.

Set the required project name and location directory.

Click **Next**.

If required, change any of the other default project settings.

Click **Finish** to create the project.

Opening GD32F1x0 Sample Solutions

GD32F1x0 Samples Solution

This solution contains general sample projects that run on GD32F1x0 devices. To open the GD32F1x0 Samples Solution:

> Select the **Tools** > **Show Installed Packages** menu item.
> Select the **GigaDevice GD32F1x0 CPU Support Package** link.
> Select the **Samples Solutions** > **GD32F1x0 Samples Solution** link.

GD32F1x0 CMSIS-DSP Samples Solution

This solution contains sample projects that use the CMSIS-DSP library running on GD32F1x0 devices. To open the GD32F1x0 CMSIS-DSP Samples Solution:

> Select the **Tools** > **Show Installed Packages** menu item.
> Select the **GigaDevice GD32F1x0 CPU Support Package** link.
> Select the **Sample Solutions** > **GD32F1x0 CMSIS-DSP Samples Solution** link.

GD32F1x0 Project Properties

Projects creating using the project templates in this support package have the following device specific project properties:

Heap Size

The heap size is set to be 256 bytes when a project is created. The heap size can be modified using the **Heap Size** project property.

Section Placement

You can select the memory configuration you require using the **Section Placement** project property.

For GD32F1x0 projects, the set of placements are:

Flash - The application runs in internal Flash memory *(default)*.
Flash Vectors In RAM - The application runs in internal Flash memory and exception vectors are copied to RAM memory.
Flash Copy To RAM - The application starts in internal flash and copies itself to run from internal RAM memory.
RAM - The application runs from internal RAM memory only.

Stack Sizes

The main stack size is set to be 256 bytes when a project is created.

The process stack size is set to be 0 bytes when a project is created.

The main and process stack sizes can be modified using the **Main Stack Size** and **Process Stack Size** project properties.

To change the location of the stacks, edit the section placement file and place the *.stack* and *.stack_process* sections as required.

Startup From Reset

By default, the application will only startup from power-on/reset in *Release* configuration. This acts as a safety net in case you accidently download a program in FLASH during development that crashes and prevents the debugger from taking control of the target over the debug interface thus rendering the device unusable.

For GD32F1x0 projects, the **Startup From Reset** project property can be set to one of the following:

No - The application will not startup from reset.

Release Only - The application will only startup from reset when built in *Release* configuration *(default)*.

Yes - The application will always startup from reset.

Target Processor

Once a project has been created you can target different devices by modifying the **Target Processor** project property. See the **GD32F1x0 Devices** section for details on the files, preprocessor definitions and macro definitions used when a device is selected.

GD32F1x0 Project Templates

The project template system simplifies the creation of new projects with the IDE, it also system makes it easy to create new projects with a text editor or script. All that needs to be specified is the project name, the support packages that the project is dependent on, the target processor and the source files you want to add to the project. For example, create a file called *example.hzp* with the following contents:

```
<!DOCTYPE CrossStudio_Project_File>
<solution Name="Example Solution">
  <project Name="Example Project" template_name="GD32F1x0_EXE">
    <configuration Name="Common" package_dependencies="GD32F1x0" Target="GD32F130C8" />
    <folder Name="Source Files">
      <file file_name="file1.c" />
      <file file_name="file2.c" />
    </folder>
  </project>
</solution>
```

You can also add any other property settings that the project requires such as preprocessor definitions or include paths using the property save name, for example:

```
<!DOCTYPE CrossStudio_Project_File>
<solution Name="Example Solution">
  <project Name="Example Project" template_name="GD32F1x0_EXE">
    <configuration Name="Common" package_dependencies="GD32F1x0" Target="GD32F130C8"
 c_preprocessor_definitions="MYDEF1=1;MYDEF2=TWO" c_user_include_directories="$(ProjectDir)/
include1;$(ProjectDir)/include2" />
    <folder Name="Source Files">
      <file file_name="file1.c" />
      <file file_name="file2.c" />
    </folder>
  </project>
</solution>
```

Available GD32F1x0 project templates

Template Name	Template Description
GD32F1x0_ASM_EXE	GD32F1x0 Assembly Code Only Executable
GD32F1x0_CTL_EXE	GD32F1x0 CTL Executable
GD32F1x0_EXE	GD32F1x0 C/C++ Executable
GD32F1x0_EXT_EXE	GD32F1x0 Externally Built Executable
GD32F1x0_LIB	GD32F1x0 Library

GD32F1x0 Devices

This package supports the following GD32F1x0 devices:

> **GD32F130 Family**
> **GD32F150 Family**
> **GD32F170 Family**
> **GD32F190 Family**

GD32F130 Family

GD32F130C4
GD32F130C6
GD32F130C8
GD32F130F4
GD32F130F6
GD32F130F8
GD32F130G4
GD32F130G6
GD32F130G8
GD32F130K4
GD32F130K6
GD32F130K8
GD32F130R8

GD32F130C4

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F130
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F130C4_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F1x0;GD32F130_150;USE_STDPERIPH_DRIVER
__GD32F130_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08003FFF
RAM	0x20000000 - 0x20000FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F130

GD32F130C6

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F130
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F130C6_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F130_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x08007FFF
RAM	0x20000000 - 0x20000FFF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F130

GD32F130C8

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F130
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F130C8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3

GD32F130_150

GD32F1x0

USE_STDPERIPH_DRIVER

__GD32F130_SUBFAMILY

__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include

DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h

DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf

DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml

DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c

DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

DeviceFamily=GD32F1x0

DeviceSubFamily=GD32F130

GD32F130F4

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F130
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F130F4_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F130_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08003FFF
RAM	0x20000000 - 0x20000FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F130

GD32F130F6

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F130
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F130F6_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F130_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08007FFF
RAM	0x20000000 - 0x20000FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F130

GD32F130F8

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F130
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F130F8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F130_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F130

GD32F130G4

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F130
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F130G4_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F130_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x08003FFF
RAM	0x20000000 - 0x20000FFF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F130

GD32F130G6

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F130
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F130G6_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F130_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08007FFF
RAM	0x20000000 - 0x20000FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F130

GD32F130G8

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F130
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F130G8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3

GD32F130_150

GD32F1x0

USE_STDPERIPH_DRIVER

__GD32F130_SUBFAMILY

__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include

DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h

DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf

DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml

DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c

DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

DeviceFamily=GD32F1x0

DeviceSubFamily=GD32F130

GD32F130K4

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F130
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F130K4_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F130_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08003FFF
RAM	0x20000000 - 0x20000FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F130

GD32F130K6

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F130
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F130K6_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F130_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08007FFF
RAM	0x20000000 - 0x20000FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F130

GD32F130K8

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F130
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F130K8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F130_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F130

GD32F130R8

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F130
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F130R8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3

GD32F130_150

GD32F1x0

USE_STDPERIPH_DRIVER

__GD32F130_SUBFAMILY

__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include

DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h

DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F130_Loader.elf

DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml

DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c

DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

DeviceFamily=GD32F1x0

DeviceSubFamily=GD32F130

GD32F150 Family

GD32F150C4

GD32F150C6

GD32F150C8

GD32F150G4

GD32F150G6

GD32F150G8

GD32F150K4

GD32F150K6

GD32F150K8

GD32F150R4

GD32F150R6

GD32F150R8

GD32F150C4

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F150
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F150C4_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F1x0;GD32F130_150;USE_STDPERIPH_DRIVER
__GD32F150_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08003FFF
RAM	0x20000000 - 0x20000FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F150

GD32F150C6

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F150
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F150C6_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F150_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08007FFF
RAM	0x20000000 - 0x200017FF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F150

GD32F150C8

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F150
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F150C8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F150_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F150

GD32F150G4

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F150
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F150G4_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F150_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08003FFF
RAM	0x20000000 - 0x20000FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F150

GD32F150G6

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F150
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F150G6_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3

GD32F130_150

GD32F1x0

USE_STDPERIPH_DRIVER

__GD32F150_SUBFAMILY

__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x08007FFF
RAM	0x20000000 - 0x200017FF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include

DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h

DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf

DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml

DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c

DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

DeviceFamily=GD32F1x0

DeviceSubFamily=GD32F150

GD32F150G8

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F150
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F150G8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F150_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F150

GD32F150K4

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F150
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F150K4_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3

GD32F130_150

GD32F1x0

USE_STDPERIPH_DRIVER

__GD32F150_SUBFAMILY

__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x08003FFF
RAM	0x20000000 - 0x20000FFF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include

DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h

DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf

DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml

DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c

DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

DeviceFamily=GD32F1x0

DeviceSubFamily=GD32F150

GD32F150K6

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F150
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F150K6_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3

GD32F130_150

GD32F1x0

USE_STDPERIPH_DRIVER

__GD32F150_SUBFAMILY

__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x08007FFF
RAM	0x20000000 - 0x200017FF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include

DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h

DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf

DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml

DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c

DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

DeviceFamily=GD32F1x0

DeviceSubFamily=GD32F150

GD32F150K8

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F150
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F150K8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F150_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F150

GD32F150R4

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F150
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F150R4_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F150_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08003FFF
RAM	0x20000000 - 0x20000FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F150

GD32F150R6

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F150
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F150R6_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3

GD32F130_150

GD32F1x0

USE_STDPERIPH_DRIVER

__GD32F150_SUBFAMILY

__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x08007FFF
RAM	0x20000000 - 0x200017FF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include

DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h

DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf

DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml

DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c

DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

DeviceFamily=GD32F1x0

DeviceSubFamily=GD32F150

GD32F150R8

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F150
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F150R8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F130_150
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F150_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F150_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F150

GD32F170 Family

GD32F170C4
GD32F170C6
GD32F170C8
GD32F170T4
GD32F170T6
GD32F170T8
GD32F170R8

GD32F170C4

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F170
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F170C4_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F1x0;USE_STDPERIPH_DRIVER;GD32F170_190
__GD32F170_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08003FFF
RAM	0x20000000 - 0x20000FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F170

GD32F170C6

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F170
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F170C6_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3

GD32F170_190

GD32F1x0

USE_STDPERIPH_DRIVER

__GD32F170_SUBFAMILY

__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x08007FFF
RAM	0x20000000 - 0x20000FFF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include

DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h

DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf

DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml

DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c

DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

DeviceFamily=GD32F1x0

DeviceSubFamily=GD32F170

GD32F170C8

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F170
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F170C8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F170_190
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F170_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F170

GD32F170T4

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F170
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F170T4_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F170_190
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F170_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08003FFF
RAM	0x20000000 - 0x20000FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F170

GD32F170T6

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F170
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F170T6_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3

GD32F170_190

GD32F1x0

USE_STDPERIPH_DRIVER

__GD32F170_SUBFAMILY

__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x08007FFF
RAM	0x20000000 - 0x20000FFF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include

DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h

DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf

DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml

DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c

DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

DeviceFamily=GD32F1x0

DeviceSubFamily=GD32F170

GD32F170T8

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F170
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F170T8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F170_190
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F170_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F170

GD32F170R8

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F170
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F170R8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3

GD32F170_190

GD32F1x0

USE_STDPERIPH_DRIVER

__GD32F170_SUBFAMILY

__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include

DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h

DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F170_Loader.elf

DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml

DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c

DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

DeviceFamily=GD32F1x0

DeviceSubFamily=GD32F170

GD32F190 Family

GD32F190C4

GD32F190C6

GD32F190C8

GD32F190R4

GD32F190R6

GD32F190R8

GD32F190T4

GD32F190T6

GD32F190T8

GD32F190C4

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F190
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F190C4_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F1x0;USE_STDPERIPH_DRIVER;GD32F170_190
__GD32F190_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08003FFF
RAM	0x20000000 - 0x20000FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F190

GD32F190C6

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F190
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F190C6_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F170_190
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F190_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x08007FFF
RAM	0x20000000 - 0x200017FF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F190

GD32F190C8

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F190
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F190C8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F170_190
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F190_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F190

GD32F190R4

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F190
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F190R4_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3

GD32F170_190

GD32F1x0

USE_STDPERIPH_DRIVER

__GD32F190_SUBFAMILY

__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x08003FFF
RAM	0x20000000 - 0x20000FFF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include

DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h

DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf

DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml

DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c

DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

DeviceFamily=GD32F1x0

DeviceSubFamily=GD32F190

GD32F190R6

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F190
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F190R6_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3
GD32F170_190
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F190_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x08007FFF
RAM	0x20000000 - 0x200017FF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F190

GD32F190R8

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F190
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F190R8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3

GD32F170_190

GD32F1x0

USE_STDPERIPH_DRIVER

__GD32F190_SUBFAMILY

__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include

DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h

DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf

DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml

DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c

DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

DeviceFamily=GD32F1x0

DeviceSubFamily=GD32F190

GD32F190T4

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F190
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F190T4_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3
GD32F170_190
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F190_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x08003FFF
RAM	0x20000000 - 0x20000FFF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F190

GD32F190T6

Device Details

CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F190
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F190T6_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions

ARM_MATH_CM3

GD32F170_190

GD32F1x0

USE_STDPERIPH_DRIVER

__GD32F190_SUBFAMILY

__GD32F1x0_FAMILY

Memory Segments

FLASH	0x08000000 - 0x08007FFF
RAM	0x20000000 - 0x200017FF

Project Macros

DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include

DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h

DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf

DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml

DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c

DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

DeviceFamily=GD32F1x0

DeviceSubFamily=GD32F190

GD32F190T8

Device Details	
CMSIS Header File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
CMSIS Include Path	$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
CMSIS System File	$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
Family	GD32F1x0
Sub Family	GD32F190
Loader File	$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
Memory Map File	$(TargetsDir)/GD32F1x0/XML/GD32F190T8_MemoryMap.xml
Register Definition File	$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
Vectors File	$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s

Preprocessor Definitions
ARM_MATH_CM3
GD32F170_190
GD32F1x0
USE_STDPERIPH_DRIVER
__GD32F190_SUBFAMILY
__GD32F1x0_FAMILY

Memory Segments	
FLASH	0x08000000 - 0x0800FFFF
RAM	0x20000000 - 0x20001FFF

Project Macros
DeviceIncludePath=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include
DeviceHeaderFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Include/gd32f1x0.h
DeviceLoaderFile=$(TargetsDir)/GD32F1x0/Loader/GD32F190_Loader.elf
DeviceRegisterDefinitionFile=$(TargetsDir)/GD32F1x0/XML/GD32F1x0_Registers.xml
DeviceSystemFile=$(TargetsDir)/GD32F1x0/CMSIS/Device/Source/system_gd32f1x0.c
DeviceVectorsFile=$(TargetsDir)/GD32F1x0/Source/GD32F1x0_Vectors.s
DeviceFamily=GD32F1x0
DeviceSubFamily=GD32F190