

Discovery kit with STM32F723IE MCU



32F723EDISCOVERY top view with fanout board and bottom view. Pictures are not contractual.

Product status link

[32F723EDISCOVERY](#)

Features

- STM32F723IEK6 microcontroller with 512 Kbytes of Flash memory and 176+16 Kbytes of SRAM, in a BGA176 package
- 240×240-pixel TFT LCD with a parallel interface and capacitive touch panel
- USB OTG HS and OTG FS
- SAI audio codec
- Four digital ST-MEMS microphones
- 8-Mbit 16-bit wide PSRAM
- 512-Mbit Quad-SPI NOR Flash memory
- User and reset push-buttons
- Board connectors:
 - ESP-01 Wi-Fi® module connector
 - Two user USB with Micro-AB
 - Jack for audio line with stereo input and output
 - Stereo speaker output
 - Pmod™ connector
 - STMod+ connector to embedded fanout daughterboard compatible with MikroElektronika mikroBUS™ adapter Click boards™, ESP-01, and Seeed Studio™ Grove modules. Provision for headers for direct breadboard plug-in
 - ARDUINO® Uno V3 expansion connectors
 - 3.3 or 5.0 V power supply output for external applications
- Flexible power-supply options: ST-LINK USB V_{BUS}, user USB HS and FS connectors, or external sources
- Comprehensive free software libraries and examples available with the STM32Cube MCU Package
- On-board ST-LINK/V2-1 debugger/programmer with USB re-enumeration capability: mass storage, Virtual COM port, and debug port
- Support of a wide choice of Integrated Development Environments (IDEs) including IAR Embedded Workbench®, MDK-ARM, and STM32CubeIDE

Description

With the STM32F723 Discovery kit (32F723EDISCOVERY), users develop applications easily on the STM32F7 Series high-performance microcontrollers based on Arm® Cortex®-M7 core. The Discovery kit combines the STM32F723 features with 240×240 pixel LCD with touch panel, SAI audio codec, MEMS microphones, USBs OTG HS and OTG FS, Quad-SPI NOR Flash memory, and microSD™ card connector.

An embedded ST-LINK/V2-1 debugger/programmer is included. Specialized add-on boards can be connected through the ARDUINO® Uno V3, Pmod™, or STMod+ expansion connectors.

1 Ordering information

To order the 32F723EDISCOVERY Discovery kit, refer to [Table 1](#). For a detailed description, refer to its user manual on the product web page. Additional information is available from the datasheet and reference manual of the target microcontroller.

Table 1. List of available products

Order code	Board reference	User manual	Target STM32
STM32F723E-DISCO	<ul style="list-style-type: none"> MB1260⁽¹⁾ MB1280⁽²⁾ 	UM2140	STM32F723IEK6

1. Mother board
2. Fanout daughterboard

1.1 Product marking

The stickers located on the top or bottom side of the PCB provide product information:

- Product order code and product identification for the first sticker
- Board reference with revision, and serial number for the second sticker

On the first sticker, the first line provides the product order code, and the second line the product identification.

On the second sticker, the first line has the following format: "MBxxx-Variant-yyy", where "MBxxx" is the board reference, "Variant" (optional) identifies the mounting variant when several exist, "y" is the PCB revision and "zz" is the assembly revision, for example B01. The second line shows the board serial number used for traceability.

Evaluation tools marked as "ES" or "E" are not yet qualified and therefore not ready to be used as reference design or in production. Any consequences deriving from such usage will not be at ST charge. In no event, ST will be liable for any customer usage of these engineering sample tools as reference designs or in production.

"E" or "ES" marking examples of location:

- On the targeted STM32 that is soldered on the board (For an illustration of STM32 marking, refer to the STM32 datasheet "Package information" paragraph at the www.st.com website).
- Next to the evaluation tool ordering part number that is stuck or silk-screen printed on the board.

1.2 Codification

The meaning of the codification is explained in [Table 2](#).

Table 2. Codification explanation

STM32F7XXY-DISCO	Description	Example: STM32F723E-DISCO
STM32F7	MCU series in STM32 32-bit Arm Cortex MCUs	STM32F7 Series
XX	MCU product line in the series	STM32F723
Y	STM32 Flash memory size: <ul style="list-style-type: none"> • E for 512 Kbytes 	512 Kbytes
DISCO	Discovery kit	Discovery kit

2 Development environment

The 32F723EDISCOVERY runs with the STM32F723IEK6 32-bit microcontroller based on the Arm® Cortex®-M7 core.

Note: Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.



2.1 System requirements

- Multi-OS support: Windows® 10, Linux® 64-bit, or macOS®
- USB Type-A or USB Type-C® to Micro-B cable

Note: macOS® is a trademark of Apple Inc., registered in the U.S. and other countries and regions.
Linux® is a registered trademark of Linus Torvalds.
All other trademarks are the property of their respective owners.

2.2 Development toolchains

- IAR Systems® - IAR Embedded Workbench®⁽¹⁾
- Keil® - MDK-ARM⁽¹⁾
- STMicroelectronics - STM32CubeIDE

1. On Windows® only.

Revision history

Table 3. Document revision history

Date	Revision	Changes
17-Jan-2017	1	Initial release.
14-Dec-2021	2	Reshuffle of the document to align with latest standards: <ul style="list-style-type: none"> • Added Product status link • Updated Features, Description, Ordering information with added Product marking and Codification, and Development environment Removed <i>Demonstration software</i> .

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