

SmartMP3™

Board is ideal for creating mp3 players and adding audio and music features to your prototype devices, even with lower-performance microcontrollers.



TO OUR VALUED CUSTOMERS

I want to express my thanks to you for being interested in our products and for having confidence in MikroElektronika.

The primary aim of our company is to design and produce high quality electronic products and to constantly improve the performance thereof in order to better suit your needs.

A handwritten signature in white ink, appearing to read 'N. Matic', is positioned above the name and title.

Nebojsa Matic
General Manager

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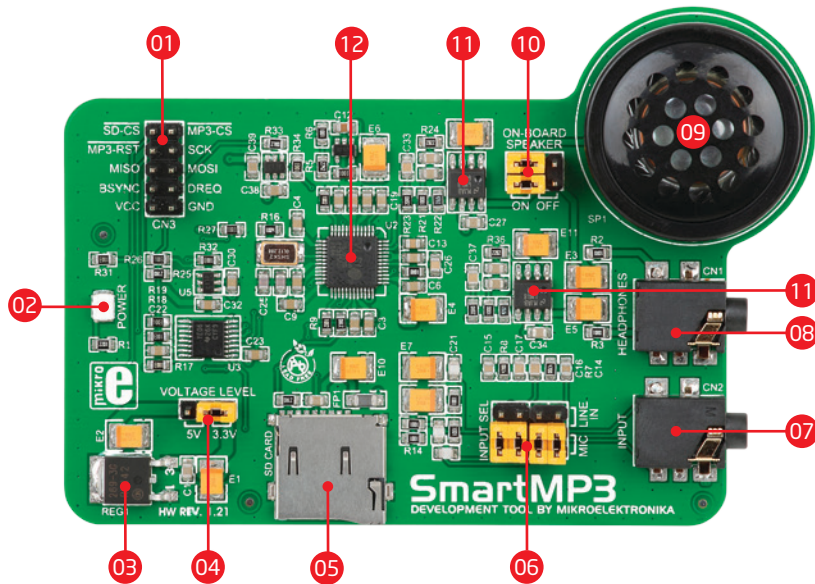
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Introduction

SmartMP3™ is an additional board used to reproduce audio files in several formats. It contains **VS1053** - Ogg Vorbis/MP3/AAC/WMA/FLAC/WAV/MIDI stereo audio codec, two **3.5mm stereo audio connectors** (MIC/LINE IN and Headphones), built-in **speaker**, **microSD** card slot as well as **2x5 male header** for further connectivity with MikroElektronika Easy development boards.

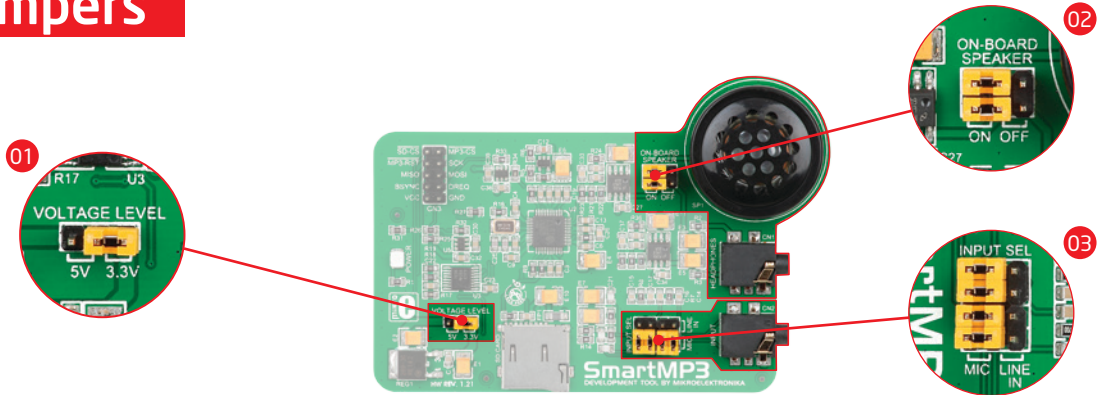
SmartMP3™ communicates with the target board microcontroller via SPI interface. The connectivity can be established through the flat cable provided with the board. With regard to the fact that different development boards use different power supply voltages, it is necessary to adjust SmartMP3™ voltage levels via appropriate jumper (**J1**).





- | | | | | | |
|----|---------------------------|----|-----------------------|----|----------------------------|
| 01 | 2x5 Header | 05 | microSD card slot | 09 | On-board Speaker |
| 02 | Power indication LED | 06 | MIC/LINE IN jumpers | 10 | Speaker/Headphones jumpers |
| 03 | Power supply regulator | 07 | Headphones connector | 11 | Audio amplifiers |
| 04 | Voltage level jumper (J1) | 08 | MIC/LINE IN connector | 12 | VS1053 |

Jumpers



SmartMP3™ also contains several jumpers which provide you with options below:

01 This jumper is used to select whether 3.3V or 5V voltage level will be used (3.3V position by default). In case that Easy development board uses 5V power supply, it is necessary to place jumper **J1** in 5V position. Otherwise, jumper **J1** should be left in its default position (3.3V).

02 These jumpers are used to select whether built-in **speaker** (ON) or **headphones** output (OFF) will be used (ON position by default). In case that you want to use 3.5mm stereo audio connector as headphones output, it is necessary to place jumpers in **OFF** position. Otherwise if you want to use built-in speaker, jumpers should be left in its default position (**ON**).

03 These jumpers are used to select whether **microphone** or **LINE** input will be used (**MIC** position by default). In case that you want to use 3.5mm stereo audio connector as **LINE** input, it is necessary to place jumpers in **LINE IN** position. Otherwise if you want to use it as microphone input, jumpers should be left in its default position (**MIC**).

Connector Pinout

- 01 **GND** - Ground
- 02 **VCC** - Power supply
- 03 **DREQ** - Data request
- 04 **BSYNC** - Byte sync
- 05 **MOSI** - Master Out Slave In

- 06 **MISO** - Master In Slave Out
- 07 **SCK** - SPI Clock
- 08 **MP3-RST** - VS1053 reset
- 09 **MP3-C3** - VS1053 chip select
- 10 **SD-CS** - MicroSD chip select

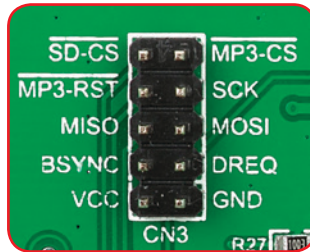


Figure 1: SmartMP3™
connector pinout

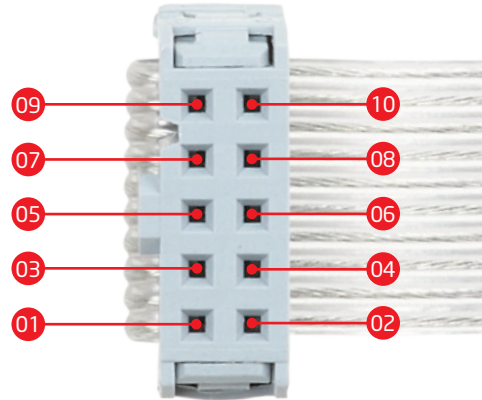
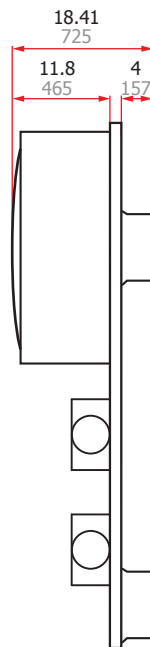
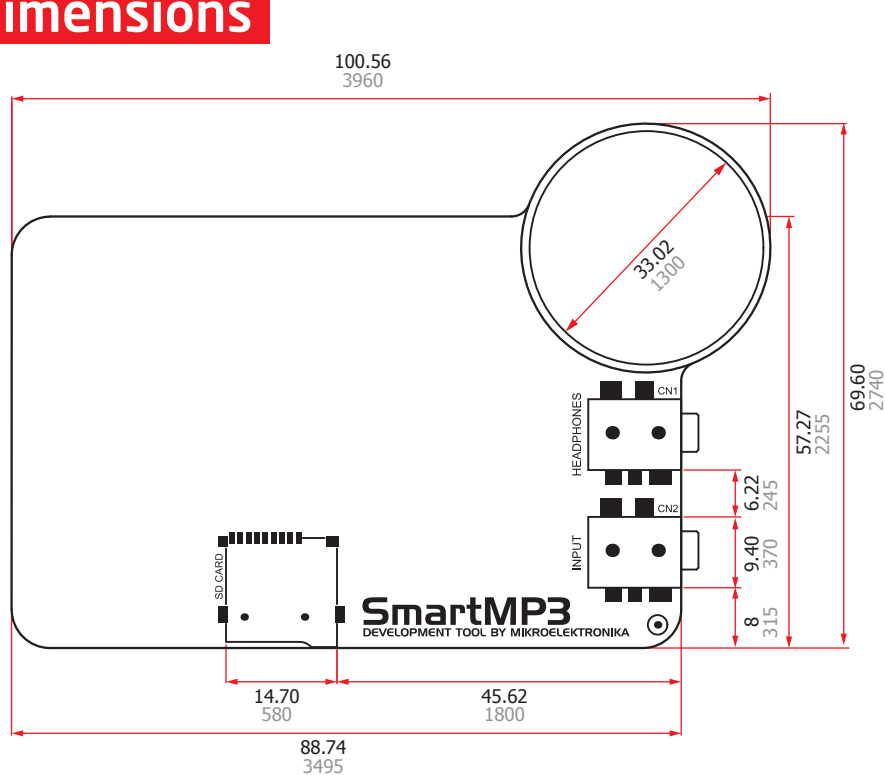


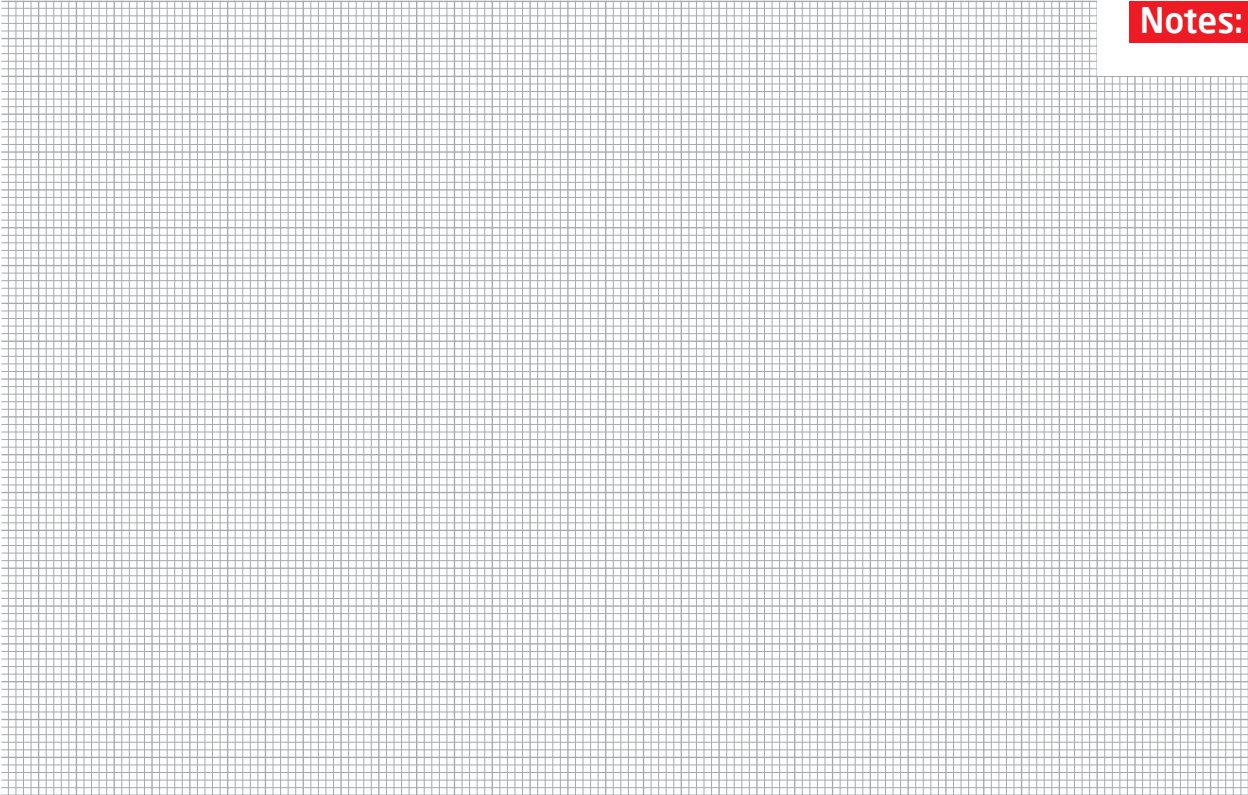
Figure 2: Flat cable pinout

Dimensions



Legend

- mm
- mils



Notes:

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