DIGITAL Potentiometer™

Manual

All Mikroelektronika's development systems feature a large number of peripheral modules expanding microcontroller's range of application and making the process of program testing easier. In addition to these modules, it is also possible to use numerous additional modules linked to the development system through the I/O port connectors. Some of these additional modules can operate as stand-alone devices without being connected to the microcontroller.

Additional Board

MikroElektronika

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DIGITAL Potentiometer Additional Board

The *DIGITAL Potentiometer* additional board is used for digital resistance regulation. Resistance regulation is performed via SPI communication between the additional board and the microcontroller supplied on a development system. The board is connected to a development system via a 2x5 female connector on the additional board and a 2x5 male connector on the development system. Depending on the development system to be connected to the additional board, it is necessary to set the appropriate switches on the DIP switch SW1 to the ON position. Screw terminals CN2 and CN3 are used to connect the potentiometer to a controlled device (for example, audio amplifier's volume regulation). Next to these connectors, there are pins the marks of which have the following meanings:

PA   - potentiometer terminal A connection;
PW   - potentiometer wiper connection; and
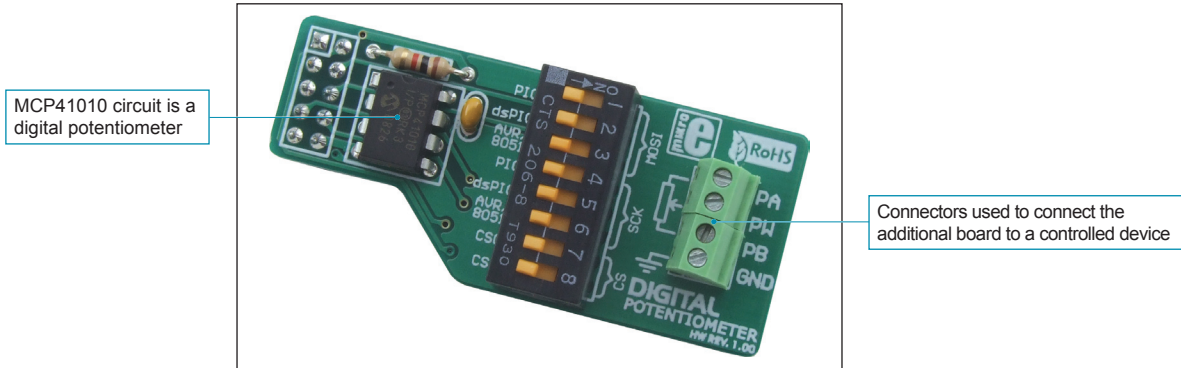PB   - potentiometer terminal B connection.

Figure 1: *DIGITAL Potentiometer* additional board

DIP switch SW1 is used to turn on MOSI, SCK and CS lines that connect a microcontroller and the aditional board.

When the *DIGITAL Potentiometer* board is connected to EasyPIC, LV18F, EasyLV-18F, Easy24-33 and BigPIC development systems, the following switches on the DIP switch SW1 should be set to the ON position:
SW1-1 -> MOSI
SW1-4 -> SCK

For EasyAVR and Easy8051 development systems, the following switches should be set to the ON position:
SW1-3 -> MOSI
SW1-6 -> SCK

For the EASYdsPIC development system, the following switches on the DIP switch SW1 should be set to the ON position:
SW1-2 -> MOSI
SW1-5 -> SCK

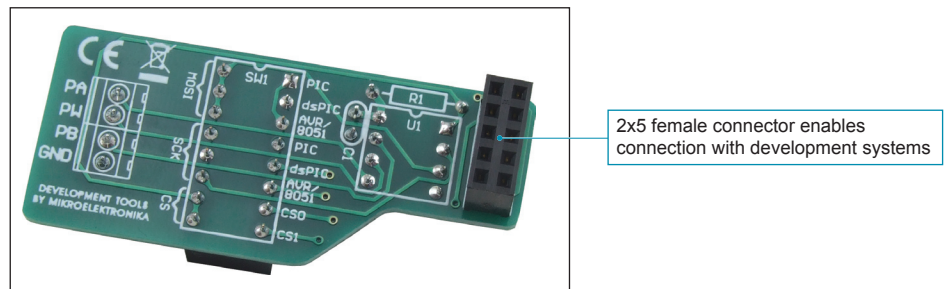The *DIGITAL Potentiometer* additional board is capable of regulating up to 10k resistance.

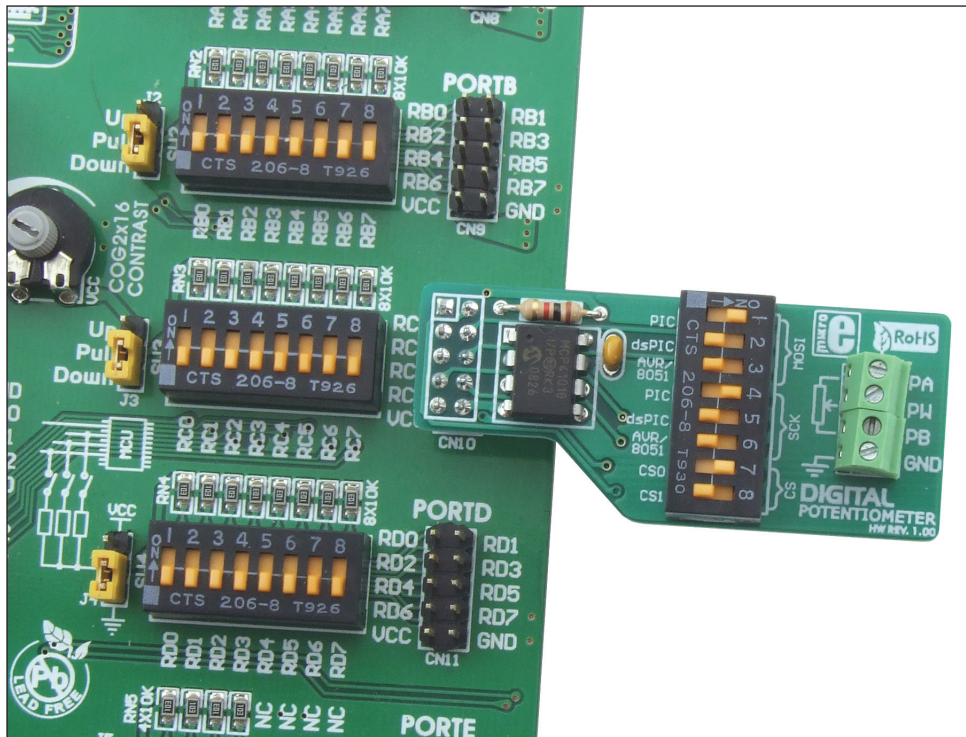**Figure 2:** Back of the *DIGITAL Potentiometer* additional board

Figure 3: *DIGITAL Potentiometer* additional board connected to a development systems

The function of MCP41010 circuit's pins is as follows:

CS   - Chip select
SCK   - Serial Clock
MOSI - Serial Data Input
PA   - Potentiometer terminal A connection
PW   - Potentiometer wiper connection
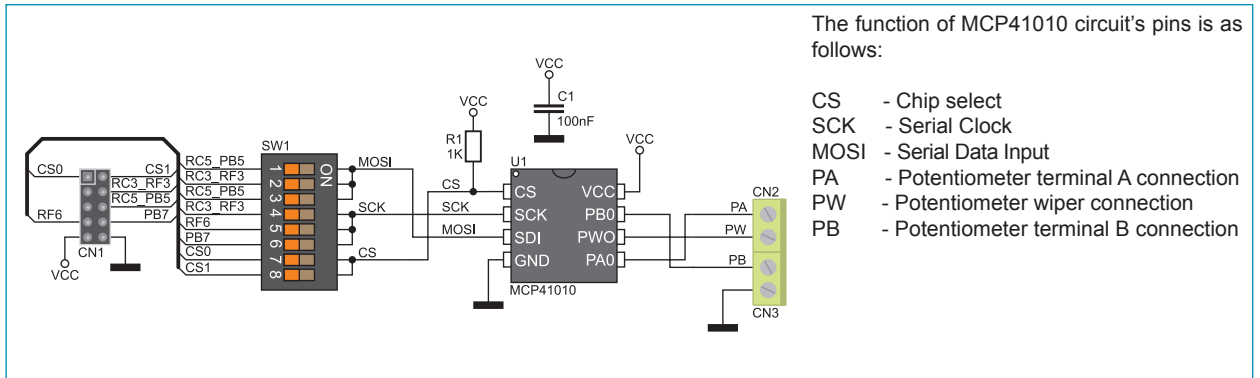PB   - Potentiometer terminal B connection

Figure 4: *DIGITAL Potentiometer* additional board connection schematic

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