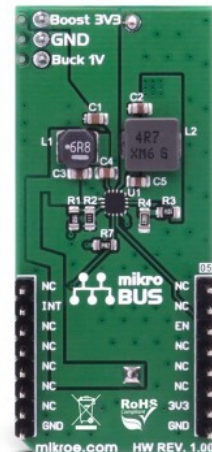


MIC23099 Click



PID: MIKROE-2765

MIC23099 click carries the [MIC23099](#), a single AA/AAA cell step-down/step-up regulator with battery monitoring. The click is designed to run on a 3.3V power supply. It communicates with the target microcontroller over the following pins on the mikroBUS™ line: CS, INT.

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How the click works

MIC23099 click has three screw terminals (Buck 1V, GND and Boost 3V3) which are outputs for connecting some external consumer.

The low-battery level is indicated by an onboard STAT LED.

Note: The MIC23099 is not a battery charger and it needs a battery to work properly. The battery is not included.

MIC23099 features

The MIC23099 is a high-efficiency, low-noise, dual output, integrated power management

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ISO 27001: 2013 certification of informational security management system.
ISO 14001: 2015 certification of environmental management system.
OHSAS 18001: 2008 certification of occupational health and safety management system.



ISO 9001: 2015 certification of quality management system (QMS).

solution for **single-cell** alkaline or NiMH battery applications.

To minimize switching artifacts in the audio band, both the converters are designed to operate with a minimum switching frequency of 80 kHz for the buck and 100 kHz for the boost. The high-current boost has a maximum switching frequency of 1 MHz, minimizing the solution footprint.

The MIC23099 incorporates both battery management functions and fault protection.

Specifications

Type	Buck-Boost
Applications	Voltage regulation for portable devices with AA or AAA batteries
On-board modules	MIC23099 - a high-efficiency, low-noise, dual output, integrated power management solution for single-cell alkaline or NiMH battery applications
Key Features	The low-battery level is indicated by an onboard STAT LED
Interface	GPIO
Feature	No ClickID
Compatibility	mikroBUS™
Click board size	L (57.15 x 25.4 mm)
Input Voltage	3.3V

Pinout diagram

This table shows how the pinout on **MIC23099 click** corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin					Pin	Notes
	NC	1	AN	PWM	16	NC	
	NC	2	RST	INT	15	INT	Power Good output pin
Enable input pin	EN	3	CS	TX	14	NC	
	NC	4	SCK	RX	13	NC	
	NC	5	MISO	SCL	12	NC	
	NC	6	MOSI	SDA	11	NC	
Power supply	+3.3V	7	3.3V	5V	10	NC	
Ground	GND	8	GND	GND	9	GND	Ground

Programming

Code examples for MIC23099 click, written for MikroElektronika hardware and compilers are available on Libstock.

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Code snippet

The following code snippet sets the EN pin to high, to enable the operation of this click.

```
01 sbit MIC23099_EN_PIN at GPIOD_ODR.B13;
02 void systemInit()
03 {
04     GPIO_Digital_Output( &GPIOD_ODR, _GPIO_PINMASK_13 );
05 }
06
07 void MIC23099_Click_Init()
08 {
09     MIC23099_EN_PIN = 1;
10 }
11
12 void main()
13 {
14     systemInit();
15     MIC23099_Click_Init();
16 }
```

Resources

[mikroBUS™](#)

[Click board™ Catalog](#)

[Click Boards™](#)

Downloads

[MIC23099 click datasheet](#)

[MIC23099 click schematic](#)

[MIC23099 click example on Libstock](#)

[MIC23099 click 2D and 3D files](#)

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