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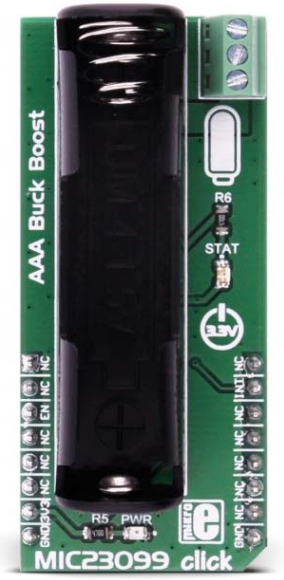
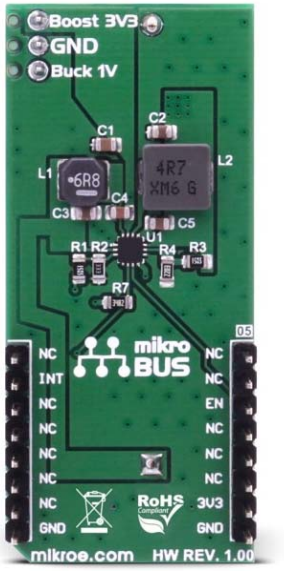
MIC23099 click

PID: MIKROE-2765

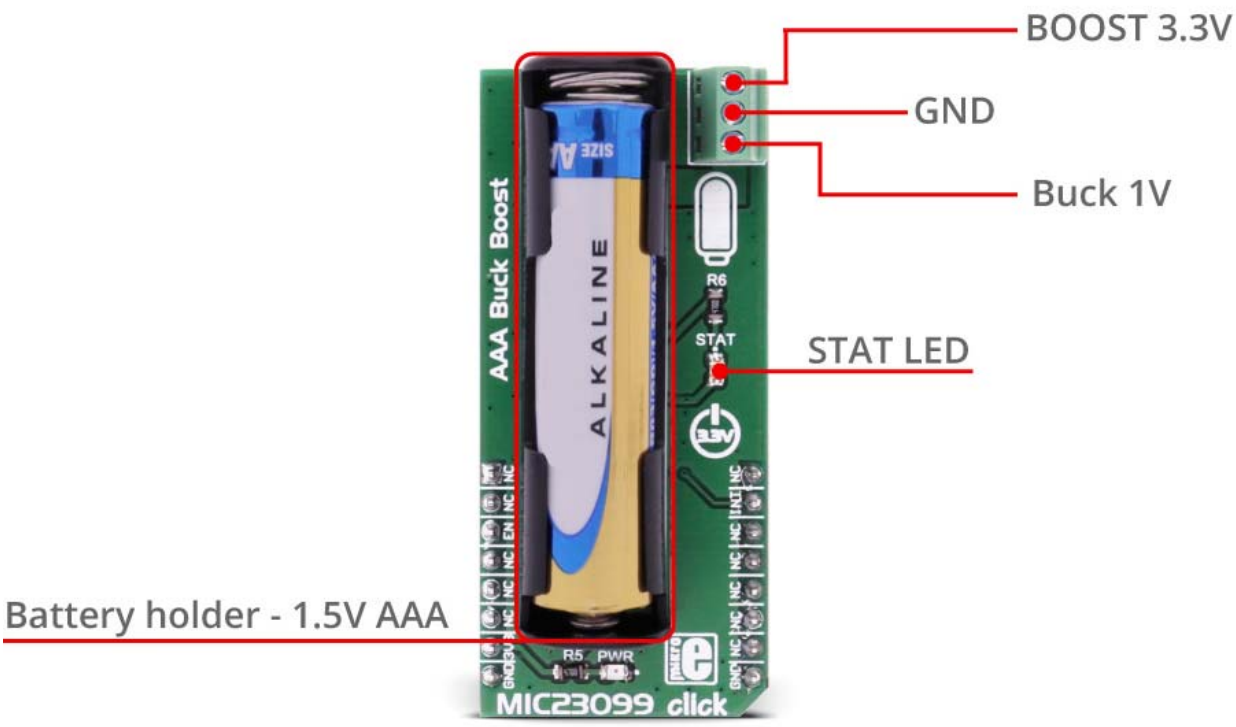




MIC23099 click carries the MIC23099, a single AA/AAA cell step-down/step-up regulator with battery monitoring. The click is designed to run on a 3.3V power supply. It communicates with the target microcontroller over the following pins on the mikroBUS™ line: CS, INT.

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 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	Voltage regulator
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
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	mikroBUS				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.

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 }
```