# imall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832 Email & Skype: info@chipsmall.com Web: www.chipsmall.com Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





### **PWM click**



### 1. Introduction

PWM click is a simple solution for controlling **16 PWM outputs** through a single I<sup>2</sup>C interface. The click board<sup>™</sup> carries the **PCA9685PW IC**. In addition to mikroBUS<sup>™</sup> I<sup>2</sup>C pins (SCL, SDA), the board also uses a LOW Output Enable Input pin (DE), which is in place of the default mikroBUS<sup>™</sup> RST pin. PWM click is designed to use either a 3.3V or SV power supply.

### 2. Soldering the headers

2

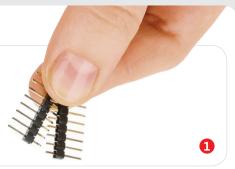
Before using your click board<sup>™</sup>, make sure to solder 1x8 male headers to both left and right side of the board. Two 1x8 male headers are included with the board in the package.

Turn the board upside down so that

the bottom side is facing you upwards.

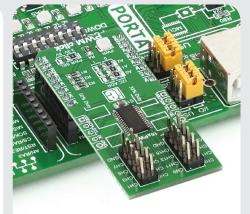
Place shorter pins of the header into the

appropriate soldering pads.





Turn the board upward again. Make sure to align the headers so that they are perpendicular to the board, then solder the pins carefully.



#### 4. Essential features

*PWM click* can be used to control anything from a LED strip, set of servo motors, to a complex robot with a multitude of moving parts. The board has an additional set of pins that allow you to connect up to seven PWM clicks together (using three jumpers to specify a different I<sup>2</sup>C address for each one). This way, you can get a total of 112 PWM outputs on a single I<sup>2</sup>C line!

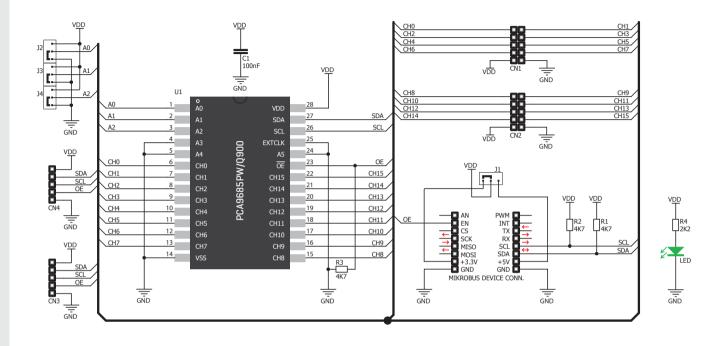
## . . . . .

### 3. Plugging the board in

Once you have soldered the headers your board is ready to be placed into the desired mikroBUS<sup>™</sup> socket. Make sure to align the cut in the lower-right part of the board with the markings on the silkscreen at the mikroBUS<sup>™</sup> socket. If all the pins are aligned correctly, push the board all the way into the socket.



5. Schematic



#### 8. Code examples

Once you have done all the necessary preparations, it's time to get your click<sup>™</sup> board up and running. We have provided examples for mikroC<sup>™</sup>, mikroBasic<sup>™</sup> and mikroPascal<sup>™</sup> compilers on our **Libstock** website. Just download them and you are ready to start.



### 9. Support

MikroElektronika offers **free tech support** (www.mikroe.com/support) until the end of the product's lifetime, so if something goes wrong, we're ready and willing to help!



### 6. Dimensions

Сне т Онв Сна пон Сни т Они сна пон Сни т Сна т Они Сни т Они сна пон Сни т Они сна сна Сни т Они сна сна Сни т Они сна сна Сна т Они сна сна Сна т Они		25.4 mm / 1000 mils
	57.15 / 2250 mils	

	mm	mils
LENGTH	57.15	2250
WIDTH	25.4	1000
HEIGHT*	3.5	138

\* without headers

### 7. SMD jumper



*PWM click* has a PWR SEL jumper (zero ohm resistor) that lets you switch the board form 3.3V to 5V power supply.

### 10. Disclaimer

MikroElektronika assumes no responsibility or liability for any errors or inaccuracies that may appear in the present document. Specification and information contained in the present schematic are subject to change at any time without notice.

Copyright © 2015 MikroElektronika. All rights reserved.