WEARIC

WEARIC - TEXTILE HEATING ELEMENT DATASHEET

PRODUCT DESCRIPTION

The WEARIC textile heating element is the perfect wearable heating element. Stainless steel fibers between two cotton fabrics build the a breathable system which is ideal for wearable heating systems. Connect 5V to the snaps and the textile will heat up immediatly. The highest temperature which can be reached depends on the application enviroment.
The heating element is very thin and breathable. It can be easily integrated into every application. With 15mm press fasteners it is possible to connect your electronics fast and easy with the heating element. You only have to connect a PWM-Controller and a temperature sensor between the heating element and the µC or you just easily use the WEARIC expansion board to get unlimited possibilities - Do it!
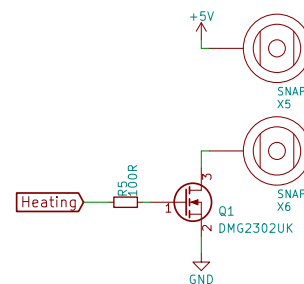

APPLICATIONS

wearables, smart home, bed, baby; chair, games, socks, high temperature heating

TECHNICAL DETAILS EXPANSION BOARD

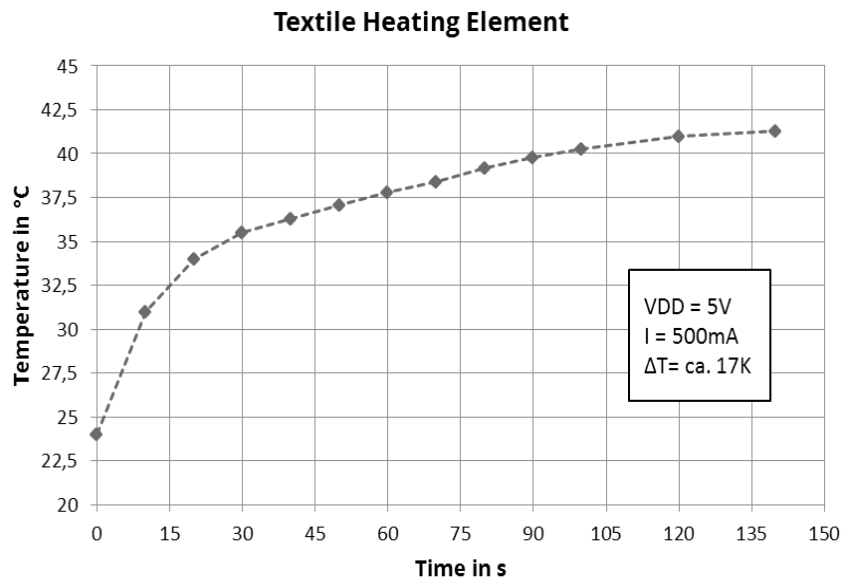|	
Size	160 x 90mm
Thickness	1,25mm
Connectors	2 Snaps (15mm s-spring)
Heating Area	90 x 60mm
Resitance	10Ω
Maximum Voltage	5V
Maximum Power	2,5W
Textile Material	Cotton, Stainless Steel & Silver Yarn
Electronic Circuit	PWM-Controller, transistor
Washability	limited washability

CIRCUIT DIAGRAM

COMPATIBILITY WEARIC EXPANSION BOARD

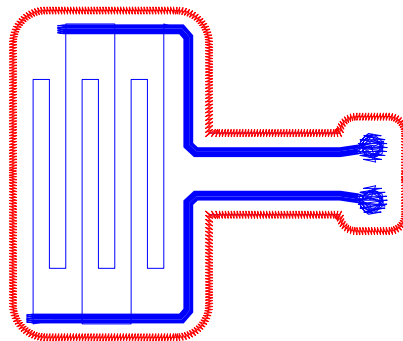|			
Value ADU	0 - 255	Voltage	5V
Base Resistance Transistor	100Ω	app. Temp. difference	17K
Current	0,5A		

CHARACTERISTIC CURVE

The graph below illustrates how temperature changes during time when 5V are applied on the heating element. Note: the heating element can be regulated continously with a PWM-Controller and a temperature sensor.

Textile Heating Element

VDD = 5V
I = 500mA
ΔT= ca. 17K

HEATING TEXTILE SCHEME

SAFETY INFORMATION

Only use the WEARIC Expansion Board together with the WEARIC textile heating element. Furthermore it is only allowed to supply the textile heating element with a maximum of 5V. Otherwise the textile can overheat.

DOWNLOADS

More informations, datasheets, PCB Layout, circuit diagrams, etc. you can find them in our download section on www.wearic.com

USED MATERIALS

You want to build your individual Smart Textile sensor? You need the following materials which are easily accesible in our Online-Shop:

Item	Item Nr.
Cotton fabric	WRC103
Silver Yarn	WRC021
Stainless Steel Yarn	WRC023
15mm snap incl. tooling	WRC024