



>=5
<5
=0

Stock
component



Description

TRANSISTORS

NPN General purpose SMD Imax=100mA, Vmax=45V
PNP General purpose SMD Imax=100mA, Vmax=45V
NPN General purpose Through hole Imax=100mA, Vmax=45V
PNP General purpose Through hole Imax=100mA, Vmax=45V
NPN power transistor Imax=1.5A, Vmax=80V
PNP power transistor Imax=1.5A, Vmax=80V

DIODES

General purpose, Vmax=50V
General purpose, Vmax=1000V
Schottky, Vmax=40V, Imax=9A
Schottky, Vmax=45V, Imax=5A

MOSFETS

N type MOSFET, 3.3V logic level 100mA VDSmax=60V VGSmax=20V RDS<0.2ohm
N type MOSFET, 3.3V logic level 6A VDSmax=20V VGSmax=12V RDS<0.020ohm
N type MOSFET, 3.3V logic level 3A VDSmax=40V VGSmax=20V RDS<0.0050hm
P type MOSFET 5A VDSmax=20V VGSmax=8V RDS<0.1050hm
P type MOSFET 60A VDSmax=30V VGSmax=20V RDS<0.0040hm
P type MOSFET 160mA VDSmax=60V VGSmax=20V RDS<0.2hm

MOSFET drivers

High side MOSFET driver <150V, Iact=0.2mA

Power supply IC's

Regulator, fixed Vout=5V, Iq=8mA, Imax=1A, VinMax=35V
Regulator, fixed Vout=12V, Iq=8mA, Imax=1A, VinMax=35V
Series regulator, variable Imin=0mA, Imax=1.5A
Low dropout regulator, fixed Vout=3.3V, Iq=0.5uA, VinMax=6V, Imax=200mA
Low dropout regulator, fixed Vout=3.3V, Iq=2uA, VinMax=12V, Imax=200mA
Low dropout regulator, fixed Vout=3.3V, Iq=2uA, VinMax=12V, Imax=200mA
Low dropout regulator, fixed Vout=3.3V, Iq=25uA, VinMax=8V, Imax=220mA
Buck converter, variable, Iq=5mA, Vmax=45V, Imax=3A, Vin=4.5V <- 40V
Buck converter, variable, Iq=3mA, Vmax=36V, Imax=5A
Buck converter, variable, Iq=15uA, Vmin=4.5V Vmax=30V, Imax=0.6A
Buck converter, variable, Iq=25uA, Vmin=5V, Imax=1A or 2A, no dropout
Boost converter, variable, Iq=150uA, Vmin=3V, Imax=1A
Boost converter, variable, Iq=20mA, Vmin=4V, Vmax=40V, Imax=4A
Buck-Boost converter, variable, Iq=15uA, Vmin=1.6V, Vmax=5.5V, Imax=1.5A

Logic gates

NAND gate, single, 2.5V <=> 5.5V

Battery power management IC's

Single cell LiPo BMS
Single cell LiPo charger
High/low side I²C current monitor, Vmax=26V
Analog hall effect current monitor (Imax=200A)
Battery SoC meter (coulomb counter)

Communications

RS485 transceiver 40Mbps half duplex
USB <- UART bridge
CAN bus controller

I²C

I²C level translator
I²C IO expander
I²C ADC 16bit 4 single ended input / 2 diff input 860 sps
I²C DAC 12bit 4 single ended output

Motor drivers

H-bridge Vmax=50V, Imax=5A
H-bridge Vmax=50V, Imax=1.5A
H-bridge Vmax=10V, Imax=1.5A
Stepper motor driver Vmax=30V, Imax=0.75A

Opamps, comparators

Comparator, Iq=700nA, Vmax=11V, internal reference
Comparator, Iq=0.8uA, Vmax=36V, open collector output
Opamp, quad, V<=2.5V <- 5.5V rail to rail Voh=250V, Iisupply=4mA Vnoise=12mV/sqrHz
Opamp, quad Vmax=30V Voh=2=2mV, Iisupply=1.5 mA, Vnoise=40mV/sqrHz
Opamp, single Vmax=36V Voh=2=10mV, Iisupply=2.5mA Vnoise=15mV/sqrHz
Opamp, quad Vmax=36V Voh=2=10mV, Iisupply=2.5mA Vnoise=15mV/sqrHz

Sensors

Latching (bipolar) Hall effect sensor (Vcc=3.3V - 24V)
Non-latching (unipolar) Hall effect sensor (Vcc=5V - 24V)
1 bar differential pressure sensor

LEDs

RGB LED, serial protocol
Red LED
Green LED
Blue LED
Yellow LED
White LED

Phototransistors

Visible light phototransistor

Optocouplers

Transistor based optocoupler

Optical switch

Optical switch / photo interrupter

Microcontrollers

8-bit XMEGA series microcontroller
8-bit AVR microcontroller (arduino)

Component type

Package type

Package

Datasheet

BCW71

SMD

SOT23

https://assets.nexperia.com/documents/data-sheet/BCW71_72.pdf

BCX71

SMD

SOT23

<https://assets.nexperia.com/documents/data-sheet/BCX71.pdf>

BC547

TH

TO92

<https://www.farnell.com/datasheets/29764.pdf>

BC557

TH

TO92

<https://www.onsemi.com/pdf/datasheet/bc556b-d.pdf>

BD139

TH

TO126

<https://www.st.com/resource/en/datasheet/cd00001225.pdf>

BD140

TH

TO126

<https://www.st.com/resource/en/datasheet/cd00001225.pdf>

1N4001

SMD + TH

DO-214AC or 400 mil axial

<https://www.vishay.com/docs/88303/1n4001.pdf>

1N4007

SMD + TH

DO-214AC or 400 mil axial

<https://www.vishay.com/docs/88303/1n4007.pdf>

5634

SMD

DO-234AB

<https://www.tsmc.eu/Documents/1869/1458x08b-f18996-9e0825x384/k32.pdf>

HTA3.45

SMD

DO-214AC

<https://www.farnell.com/datasheets/2864105.pdf>

2N7002

SMD

SOT23

<https://www.onsemi.com/pdf/datasheet/nd70002-d.pdf>

IRLM6244

SMD

SOT23

<https://www.farnell.com/datasheets/1749279.pdf>

IPD048N08L3

SMD

TO252 (DPAK)

<https://www.farnell.com/datasheets/1529263.pdf>

S2323

SMD

SOT23

<https://www.farnell.com/datasheets/2049166.pdf>

S1745

SMD

Powerpack S08

<https://www.vishay.com/docs/64814/s1745dp.pdf>

BSH201

SMD

SOT23

<https://assets.nexperia.com/documents/data-sheet/BSH201.pdf>

LTC7001

SMD

MSOP10

<https://www.analog.com/media/en/technical-documentation/data-sheets/lc7001.pdf>

LM805

TH

TO220

<https://www.ti.com/~/documents/product/tps340.pdf>

LM7812

TH

TO220

<https://www.ti.com/~/documents/product/tps340.pdf>

LM4317

TH

TO209

<https://www.ti.com/~/documents/product/tps782.pdf>

TPS78233

SMD

SOT23-6

<https://www.ti.com/~/documents/product/tps782.pdf>

MCP1702-33

TH

TO92

<https://www.microchip.com/en-us/product/MCP1702>

MCP1702-33

SMD

SOT89

<https://www.microchip.com/en-us/product/MCP1702>

LE1117S3UR

SMD

SOT23-3

<https://www.farnell.com/datasheets/209188.pdf>

LM2596

SMD

TS58

<https://www.ti.com/~/documents/product/tps2596.pdf>

TPS5450

SMD

S08 powerpad

<https://www.ti.com/~/documents/product/tps5450.pdf>

MAX1778

SMD

MAX1778

<https://data sheets.maximintegrated.com/en-us/docs/MAX1778.pdf>

TPS62A0X

SMD

SOT563

<https://www.ti.com/~/documents/product/tps62a01.pdf>

MT3608

SMD

SOT23-6

<https://www.ti.com/~/documents/product/mt3608.pdf>

LM2587-ADJ

TH

TO220-5

<https://www.ti.com/~/documents/product/lm2587.pdf>

TPS61100

SMD

SOT363

<https://www.ti.com/~/documents/product/tps61100.pdf>

Cetest, EIR-9%

In labo: UC2577 variant is aanwezig

<u>Stock</u>	<u>Description</u>
--------------	--------------------

	Displays
--	-----------------

	0,96" monochrome OLED
--	-----------------------

	1,3" color TFT display, I _{display} =5mA, I _{backlight} =22mA
--	---

	Battery,power management IC's
--	--------------------------------------

	Single cell LiPo BMS
--	----------------------

	1A single cell battery charger
--	--------------------------------

	Single to positive/negative boost converter (DD1718PA) (12V version)
--	--

	Boost converter, variable, I _q =150μA, V _{min} =3V, I _{max} =1A
--	--

	Boost / buck converter, V _{in} =2,5V - 15V V _{out} = 3,3V
--	---

	3A 40V CC/CV buck converter module
--	------------------------------------

	3A 40V buck converter module
--	------------------------------

	35V 5A boost converter module
--	-------------------------------

	120V --> 12V, 3A stepdown module
--	----------------------------------

	120V --> 5V, 5A stepdown module
--	---------------------------------

	Energy harvester (V _{in} =2,7V - 20V) I _q =1μA
--	--

	Buck converter, variable, I _q =25μA, V _{inmax} =5V, I _{max} =1A no dropout
--	---

	Buck-Boost converter, variable, I _q =15μA, V _{min} =1,6V, V _{max} =5,5V, I _{max} =1,5A
--	--

	Boost converter, V _{in} :[2,7V,12V] I _q =150μQ, I _{max} =3A
--	--

	Wired communications
--	-----------------------------

	CAN bus controller
--	--------------------

	USB <-> UART bridge
--	---------------------

	Wireless communications
--	--------------------------------

	433 MHz OOK transmitter (smallest module in compartment)
--	--

	433 MHz OOK receiver (larger module in compartment)
--	---

	I²C
--	-----------------------

	I ² C IO expander
--	------------------------------

<u>Component type</u>	<u>Locatie</u>	<u>Datasheet</u>
SSD1306	DIV2 / A2	https://www.aliexpress.com/item/32957309383.html
ST7789	DIV2 / A2	https://www.digikey.com/htmldatasheets/productio https://www.aliexpress.com/item/32977104490.html https://www.makerfabs.com/desfile/files/ST7789-Da
DW01	DIV2 / E1	http://hmsemi.com/downfile/DW01A.PDF
TP4056	DIV2 / F3	https://www.aliexpress.com/item/32670803042.html
XL6007	DIV2 / F8	https://www.aliexpress.com/item/32824676563.html http://www.ksmcu.com/pdf/XL6007%20datasheet.pdf
MT3608	DIV2 / D3	https://www.aliexpress.com/item/100500274821174 https://www.olimex.com/Products/Breadboarding/E
MT3608	DIV2 / D3	https://nl.aliexpress.com/item/1005002849970161.html https://www.olimex.com/Products/Breadboarding/E
LM2596	DIV2 / D6	https://www.ti.com/lit/ds/symlink/lm2596.pdf https://www.aliexpress.com/item/32817719968.html
LM2596	DIV2 / D4	https://www.ti.com/lit/ds/symlink/lm2596.pdf https://www.aliexpress.com/item/32845321243.html
LM2587	DIV2 / D5	https://www.ti.com/lit/ds/symlink/lm2587.pdf https://www.aliexpress.com/item/32663310105.html
?	DIV2 / C2	https://www.aliexpress.com/item/100500172300138
?	DIV2 / C2	https://www.aliexpress.com/item/100500172300138
LTC3588	DIV2 / B4	https://www.analog.com/media/en/technical-docur
TPS62A0X	DIV2/ A4	https://www.ti.com/lit/ds/symlink/tps62a01.pdf
TPS631000	SMD CHIPS 1	https://www.ti.com/product/TPS631000
TPS61088	DIV2 / A6	https://nl.aliexpress.com/item/1005006072690195.html https://www.ti.com/lit/ds/symlink/tps61088.pdf
MCP2515	DIV2 / D8	https://www.aliexpress.com/item/32858168978.html https://www.aliexpress.com/item/32293255160.html https://ww1.microchip.com/downloads/en/DeviceD
FT232RL	DIV2 / D7	https://www.aliexpress.com/item/32645814447.html https://www.farnell.com/datasheets/2007793.pdf
SYN115	DIV2 / E5	https://nl.aliexpress.com/item/32849777832.html https://www.rhydolabz.com/documents/33/SYN113
SYN480R	DIV2 / E5	https://nl.aliexpress.com/item/32849777832.html https://datasheet.lcsc.com/lcsc/2202221830_Synoxo
PCF8574	DIV2 / E3	https://www.aliexpress.com/item/32224660654.html

[n/2047793/0/0/1/ssd1306.html](#)

[tasheet.pdf](#)

[df](#)

[2.html](#)

[B-PWR-3608/resources/MT3608.pdf](#)

[.ml](#)

[B-PWR-3608/resources/MT3608.pdf](#)

[2.html](#)

[2.html](#)

[entation/data-sheets/35882fc.pdf](#)

[.ml](#)

[pc/MCP2515-Stand-Alone-CAN-Controller-with-SPI-20001801J.pdf](#)

[-SYN115-datasheet-version-1-1-.0.pdf](#)

[-SYN480R_C15561.pdf](#)

I²C ADC 16bit 4 single ended input / 2 diff input 860 sps

I²C pressure, temperature, humidity sensor (GY-BMEP)

I²C pressure, temperature, humidity sensor

3 axis gyroscope module (GY-50)

3 axis gyroscope, accelerometer module (GY-521)

3 axis magnetometer (GY-273)

2m laser rangefinder

I²C servo / power LED controller

I²C current sensor

Motor drivers

H-bridge V_{max}=10V, I_{max}=1,5A

Stepper motor driver V_{max}=30V, I_{max}=0,75A

Stepper motor driver V_{max}=45V, I_{max}=2,5A

Audio

Bluetooth audio interface
50W Class D audio amplifier

I2S Microphone + amplifier

3W audio amplifier + I2S DAC

8002B audio amplifier + speaker

Sensors

PIR sensor module 3,3V <->24V

Others

Single relay module (digital input)

ADS1115	DIV2 / A1	http://www.farnell.com/datasheets/1716973.pdf https://www.aliexpress.com/item/4000160285273.htm https://www.ti.com/lit/ds/symlink/ads1115.pdf
BMP280	DIV2 / B1	https://www.aliexpress.com/item/4000090163194.htm https://cdn-shop.adafruit.com/datasheets/BST-BMP
BME680	DIV2 / C3	https://nl.aliexpress.com/item/4001113450307.html? https://cdn-shop.adafruit.com/product-files/3660/B
L3G4200D	DIV2 / B3	https://www.aliexpress.com/item/2023848345.html https://www.elecrow.com/download/L3G4200_AN33
MPU-6050	DIV2 / D2	https://www.aliexpress.com/item/100500162187747? https://invensense.tdk.com/wp-content/uploads/20
HMC5883L	DIV2 / B3	https://cdn-shop.adafruit.com/datasheets/HMC5883 https://www.aliexpress.com/item/32504223001.html
VL53L30X	DIV2 / C7	https://www.aliexpress.com/item/32800786275.html https://www.st.com/resource/en/datasheet/vl53l0x
PCA9685	DIV2 / E2	https://www.aliexpress.com/item/4000468996665.htm https://www.farnell.com/datasheets/1919279.pdf
INA219	DIV2 / F1	https://nl.aliexpress.com/item/33047166203.html https://www.ti.com/lit/ds/symlink/ina219.pdf
DRV8833	DIV2 / E4	https://www.aliexpress.com/item/100500620519075? https://www.ti.com/lit/ds/symlink/drv8833.pdf
A3967	DIV2 / C4	https://www.aliexpress.com/item/32652039984.html https://www.allegromicro.com/-/media/files/datashe
DRV8825	DIV2 / C4	https://nl.aliexpress.com/item/1005003417425013.htm https://www.ti.com/lit/ds/symlink/drv8825.pdf
JDY-62	DIV2 / B5	https://www.aliexpress.com/item/33012721487.html
TPA3118	DIV2 / E7	https://www.aliexpress.com/item/32810352446.html https://www.ti.com/lit/ds/symlink/tpa3118d2.pdf
INMP441	DIV2 / E8	https://nl.aliexpress.com/item/1005003340565935.htm https://invensense.tdk.com/wp-content/uploads/20
MAX98357	DIV2 / E7	https://nl.aliexpress.com/item/1005004280540810.htm https://www.analog.com/media/en/technical-docur
8002B	DIV2 / B9	https://nl.aliexpress.com/item/1005004312864454.htm
	DIV2 / C5	https://www.aliexpress.com/item/1005004138735636
	DIV2 / C1	https://nl.aliexpress.com/item/32904811782.html?

[ml](#)

[ml](#)

[280-DS001-11.pdf](#)

[,](#)

[√E680.pdf](#)

[93.pdf](#)

[L.html](#)

[15/02/MPU-6000-Datasheet1.pdf](#)

[3L_3-Axis_Digital_Compass_IC.pdf](#)

[?spm=a2g0o.order_list.0.0.17d218027zXHOg](#)

[-](#)

[pdf](#)

[ml](#)

[2.html](#)

[eets/a3967-datasheet.pdf](#)

[.ml](#)

[.ml?](#)

[15/02/INMP441.pdf](#)

[.ml?](#)

[entation/data-sheets/MAX98357A-MAX98357B.pdf](#)

[.ml?](#)

[5.html](#)

Description

Switches

SMD push button (6 mm x 6 mm)

TH push button (6 mm x 6 mm)

Connectors

2.5mm DC power connector (PCB mount)

Resistors SMD 0805 footprint

0 Ω

0.47 Ω

1 Ω

4.7 Ω

10 Ω

22 Ω

33 Ω

39 Ω

47 Ω

68 Ω

75 Ω

100 Ω

120 Ω

150 Ω

220 Ω

330 Ω

470 Ω

680 Ω

<u>Component type</u>	<u>Package type</u>	<u>Package</u>
B3FS	SMD TH	
FC681465	TH	

Resistors TH, 400 mil terminal spacing

1 Ω
 1.2 Ω
 1.5 Ω
 1.8 Ω
 2.2 Ω
 2.4 Ω
 3.3 Ω
 3.9 Ω
 4.7 Ω
 5.6 Ω
 6.8 Ω
 8.2 Ω

 10 Ω
 12 Ω
 15 Ω
 18 Ω
 22 Ω
 27 Ω
 33 Ω
 36 Ω
 39 Ω
 47 Ω
 56 Ω
 68 Ω
 75 Ω
 82 Ω

 100 Ω
 120 Ω
 130 Ω
 150 Ω
 180 Ω
 200 Ω
 220 Ω
 270 Ω
 330 Ω

Datasheet

<http://www.farnell.com/datasheets/2340395.pdf>

<http://www.farnell.com/datasheets/1804042.pdf>

<https://www.farnell.com/datasheets/816904.pdf>

1 k Ω
1,1 k Ω
1.5 k Ω
1.8 k Ω
2 k Ω
2.2 k Ω
3.3 k Ω
3.9 k Ω
4.7 k Ω
5.6 k Ω
6.8 k Ω
8.2 k Ω

10 k Ω
12 k Ω
15 k Ω
20 k Ω
21 k Ω
22 k Ω
33 k Ω
39 k Ω
47 k Ω
56 k Ω
68 k Ω

100 k Ω
110 k Ω
120 k Ω
150 k Ω
180 k Ω
220 k Ω
270 k Ω
330 k Ω
390 k Ω
470 k Ω
560 k Ω
680 k Ω

360 Ω
390 Ω
470 Ω
560 Ω
620 Ω
680 Ω
820 Ω

1 k Ω
1.2 k Ω
1.5 k Ω
1.6 k Ω
1.8 k Ω
2.2 k Ω
2.7 k Ω
3.3 k Ω
3.6 k Ω
3.9 k Ω
4.7 k Ω
5.6 k Ω
6.8 k Ω
7.5 k Ω
8.2 k Ω

10 k Ω
12 k Ω
15 k Ω
18 k Ω
22 k Ω
27 k Ω
33 k Ω
36 k Ω
39 k Ω
43 k Ω
56 k Ω
68 k Ω
82 k Ω

100 k Ω
120 k Ω
150 k Ω
180 k Ω
200 k Ω
220 k Ω
270 k Ω
330 k Ω
360 k Ω
390 k Ω
470 k Ω
560 k Ω
680 k Ω

1 M Ω
2M Ω
2.2 M Ω
3.3 M Ω
4.7 M Ω
10 M Ω

Capacitors SMD 0805 footprint

2.2 pF
3.3 pF
4.7 pF
6.8 pF
8 pF

10 pF
12 pF
15 pF
22 pF
33 pF
47 pF
68 pF

100 pF
150 pF
200 pF
220 pF
270 pF
330 pF
470 pF
680 pF

1 nF
2.2 nF
3.3 nF
4.7 nF
6.8 nF

820 k Ω

10 M Ω

Capacitor TH, unspecified footprint

1 pF

1.2 pF

1.5 pF

1.8 pF

3.9 pF

4.7 pF

5.6 pF

6.8 pF

8.2pF

10 pF

12 pF

15 pF

27 pF

33 pF

39 pF

47 pF

68 pF

82 pF

100 pF

120 pF

150 pF

180 pF

220 pF

270 pF

330 pF

390 pF

470 pF

560 pF

680 pF

820 pF

1 nF

1.2 nF

1.5 nF

1.8 nF

2.2 nF

2.7 nF

10 nF
15 nF
22 nF
33 nF
47 nF
68 nF

100 nf

1 μ F
2.2 μ F
4.7 μ F

10 μ F
22 μ F
47 μ F

3.3 nF
3.9 nF
4.7 nF
5.6 nF
6.8 nF
8.2 nF

10 nF
12 nF
15 nF
22 nF
27 nF
33 nF
39 nF

100 nF
150 nF
220 nF
270 nF
330 nF
470 nF
560 nF
680 nF
820 nF

1 μ F
3.3 μ F
4.7 μ F
6.8 μ F
8.2 μ F

10 μ F
22 μ F
33 μ F
47 μ F
68 μ F
82 μ F

100 μ F
150 μ F
220 μ F
330 μ F
470 μ F
820 μ F

