

# USB module with USB 2.0 functionality and latest USB charging technology PD 3.0

## Our USPs

- › Small, robust design according to OEM requirements
- › Very good efficiency with high operating temperature range up to max. +85 °C
- › Charging functionality according to USB Type-C Specification with max. 27 W
- › Additional USB 2.0 functionality
- › Additional power supply possible via  $V_{conn}$



## Your Advantages

- › Module according to common automotive standards
- › Full functionality up to an ambient temperature of +55 °C @ 27 W output power
- › Integrated short-circuit protection to  $V_{bus} / V_{bat}$  on all used connector pins incl. GND pin
- › USB 2.0 signal re-synchronization
- › Apple CarPlay / Android Auto capable
- › Overvoltage protection

## Technical Information

### Electrical

$V_{Supply}$	9 V – 18 V
$V_{bus}$	4.75 V – 5.5 V (Type-C Standard)
Supported PDOs	5 V @ 3 A / 9 V @ 3 A / 15 V @ 1.8 A / 20 V @ 1.35 A PPS: 3.3 V – 11.0 V @ 3 A
Output current $V_{bus}$	max. 3 A
Output power $V_{conn}$	max. 100 mW

### Mechanical

Dimensions l x w x h	approx. 70 mm x 40 mm x 26 mm
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### Environmental

Operating temperature range	-40 °C bis +85 °C
Tested according to	LV 124

## Requirements

Single USB Type-C charging module according to automotive quality standards including

- › USB 2.0 functionality with signal re-synchronization
- › illuminated customer interface (optional)

## Applications

- › Designed for cockpit integration

## Protocols & Signals

- › Charging currents according to USB Type-C and USB Power Delivery 3.0 Standard
- › Additional charging profiles
  - › USB Type-C charging (5 V / 3 A)
  - › PDOs 5 V / 9 V / 15 V / 20 V (max. 27 W)
  - › PD PPS 3.3 V – 11 V (max. 27 W)

PD	Power Delivery
PPS	Programmable Power Supply
BC	Battery Charging
$V_{Supply}$	Input supply voltage
$V_{bus}$	Supported output voltage



# MD in a Nutshell



The C.A.S.E. megatrend describes the four essential future topics for the automotive industry: Connected, Autonomous, Shared & Service and Electric. Data plays a central role and drives the future of the automotive industry. Data is generated, transferred, merged and evaluated. We are experts in the transmission of the rapidly increasing data volumes and have developed the latest technological solutions for this future topic.

# 25

years experience  
in the automotive industry



# 100 %

automotive



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