

USB Smart Charge Modules



Molex USB smart-charge modules lead the market by combining automotive-grade durability and off-the-shelf availability through distribution.

Features and Benefits

Single Port Charger

Modern Features

Easy to read lettering and display.
Blue LED backlighting.
Panel Thickness: 3.4 mm to 3.8 mm.



Electric Performance

1A output current.
Battery Operating Voltage: 9V to 16V.
Operating temperature: -40°C to 85°C.



Easy to Design-In

Plastic housing designed to fit existing rocker panel switch cut out.

Quality Connector Styles

Automotive-grade USB Type A on the front. 10K cycle life.
MicroFit on the rear.

Charging Profiles Supported:

USB Battery Charging Specification BC1.2 compliant.
YD/T 1591-2009 (China Telecom Specification).
Apple MFI compliant.
1.2 V Mode.

Single Port USB Smart Charger

Electric Performance

2.4A output current.
Battery Operating Voltage: 9V to 16V.
Operating temperature: -40°C to 85°C.



Modern Features

Easy to read lettering and display.
LED backlight.
Painted and laser etched housing.
Panel Thickness: 2.35- 2.65 mm.



Safety Protection Features

Over voltage, Reverse battery and over current protection.
ESD and short circuit protection

Quality Connector Styles

Automotive-grade USB Type A on the front. 10K cycle life.
Molex Mini50 on the rear

Safety Protection Features

Over voltage, Reverse battery and over current protection.
ESD and short circuit protection.
Optional tethered dust caps.

Dual Port USB Smart Charger

Electric Performance

2.4A output current.
Battery Operating Voltage: 9V to 16V.
Operating temperature: -40°C to 85°C.



Modern Features

Easy to read lettering and display.
Halo Lighting (Light Pipe).
Cosmetic Molding and Pad Printed Icon.
Panel Thickness: 2.5- 3.5 mm

Charging Profiles Supported:

USB Battery Charging Specification BC1.2 compliant.
YD/T 1591-2009 (China Telecom Specification).
Apple MFI compliant.
1.2 V Mode.



Quality Connector Styles

Automotive-grade USB Type A on the front. 10K cycle life.
Molex Mini50 on the rear

USB Smart Charge Modules



Applications

Commercial Vehicle

Construction equipment
Farm equipment
Trains
Airplanes

Automotive

Cars
Pickup trucks
SUVs



Automotive



Commercial Vehicle

Specifications

Single Port USB Charger Module

REFERENCE INFORMATION

Packaging: Individual
Mates With: Micro-Fit 3.0™ Receptacle (Series No. 43645) and Micro-Fit 3.0™ Female Crimp (Series 43030, 45773)
Use With:
USB A Type Connector
Designed In: Millimeters
RoHS: Yes (with exemption)
Halogen Free: No
Glow Wire Compliant: No

ELECTRICAL

Voltage (max.): 16V DC
Input: 9 to 16V DC
Output (max.): 5V DC +/-5% 1.0A
Backlight: Blue LED, 12V DC

MECHANICAL

Mating cycles: 5,000

PHYSICAL

Housing: Polycarbonate/Acrylonitrile Butadiene Styrene (PC+ABS), Black
Dimensions (mm): 48.00 H x 26.00 W x 37.05 D
Operating Temperature:
-40 to +85°C (automotive grade)

Single Port USB Smart Charger Module

REFERENCE INFORMATION

Packaging: Per PK-68532-4510
Mates With: Mini50 and MicroFit
Use With: Mini50 and MicroFit
Designed In: Millimeters
RoHS: Yes (with exemption)
Halogen Free: No
Glow Wire Compliant: No
Supported charging schemes:
D+ and D- Divider Mode 2.7V and 2.7V
D+ and D- 1.2V Mode
D+ and D- Shorted Mode per USB Battery Charging Specification 1.2 (BC1.2).

MATERIALS

PCB: FR4, UL 94V-0
Plastic Housings: PC,
Color: black for rear housing
white for front housing
Color finish: black over white material
(on front housing)
USB Type A:
Housing material: high temp thermoplastic,
UL-94v-0, color: black.
Terminal: phosphor bronze, plating: gold 0.75µm
Shield: stainless steel, NI 0.75µm min.
Mini50 connector:
Housing material: polyester alloy, color: black
Terminal: brass, plating: tin

PHYSICAL

Industrial Operating Range: -40°C to +85°C
Non-operating: -55°C to +85°C USB Module
Envelope Dimensions:
49.0 X 22.8 X 40.58 mm
Insertion: 35n max
Extraction: 10n min
Durability: 10,000 cycles
Pull out force for docking module measured on
metal plate cut out/fixture (with recommended
opening): 100n min.
Module weight: 0.028 kg

ELECTRICAL

Input voltage range: 9VDC – 16VDC
Output voltage range: 5VDC +/- 10% USB output
Maximum output charging current: 2.4 A DC, limited
to 2.9 A
Maximum input current at maximum load: 1.5A DC
Maximum input current for illumination line: 12mA
DC

USB Smart Charge Modules



Specifications

Dual Port USB Smart Charger Module

REFERENCE INFORMATION

Packaging: Per PK-68532-4460
Packaging for module 685324466 according to:
rpk_68532_001/2
Mates With: Mini50 and MicroFit
Use With: Mini50 and MicroFit
Designed In: Millimeters
RoHS: Yes (with exemption)
Halogen Free: No
Glow Wire Compliant: No
Supported charging schemes:
D+ and D- Divider Mode 2.7V and 2.7V
D+ and D- 1.2V Mode
D+ and D- Shorted Mode per USB Battery Charging
Specification 1.2 (BC1.2).

MATERIALS

Front housing: pc+abs, cycloloy lg9000, pg05 black
Surface finish (faceplate): nissan#424
Light pipes: sc-28876 rtp 0300 2405 lt diff.
Rear housing: pc+abs, cycloloy lg9000, pg05 black
Rubber cover: empilon ha65s4
Printing circuit board: fr4, thickness 1.6 mm
Input power conn.: 2usb ports type a
Terminal: phosphor bronze, plating: gold 0.75µm
Shield: stainless steel, NI 0.75µm min.
Mini50 connector:
Housing material: polyester alloy, color: black
Terminal: brass, plating: tin

PHYSICAL

Industrial Operating Range: -40°C to +85°C
Non-operating: -55°C to +85°C USB Module
Color for illuminated usb halo is white
candles per illuminated usb halo: ordinary switch
2cd/m2
Insertion: 49n max
Extraction: 68.8n min
Durability: 10,000 cycles

ELECTRICAL

Input voltage range: 9VDC – 16VDC
Output voltage range: 5VDC +/- 0.25V @ 2.4A
Maximum output charging current: 2.4 A DC, limited
to 2.9 A
Maximum input current at no load: 26mA

Ordering Information

Series No.	Ports	Output Current	Charging Profiles Supported
68532-4461	Dual	2.4 Amps	USB Battery Charging Specification BC1.2 compliant. YD/T 1591-2009 (China Telecom Specification) Apple MFI Compatible.
68532-4462			
68532-4510	Single	1 Amp	USB Battery Charging Specification BC1.2 compliant. YD/T 1591-2009 (China Telecom Specification) Apple MFI compliant. 1.2 V Mode
79540-5015			-----

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