



Shining 16 QC 2.0 Car Charger

16W(Max Output)



Introduction

Less time charging. More time doing.

FSP QC 2.0 16W Car Charger is certified by Qualcomm's standard class A. When it charges a QC 2.0 enabled device, It can charge up to 75% faster than normal ones, and then save users' precious time.

Ultra compact and stylish outlook, featured with wide DC 12-24V input range, it fits all vehicles.

Features

- Qualcomm QC 2.0 ready, charging up to 75% faster, saving time
- Wide DC 12-24V input range for all vehicles
- Ultra compact, stylish outlook fits all cars
- Output rating: 12V/1A, 9V/1.8A and 5V/2.4A
- 2.4A output current, ideal for iPad charging



Shining 16 QC 2.0 Car Charger

16W(Max Output)

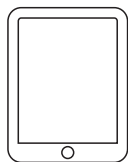
Product Overview

Ultra compact

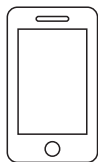
Stylish outlook fits all cars

High Compatibility

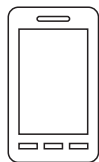
Compatible with most of portable devices
Output rating: 12V/1A, 9V/1.8A and 5V/2.4A



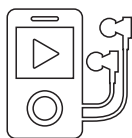
iPad / Tablet



iPhone



Android



MP3



Game Console

Up to 75% Faster than Normal Charging

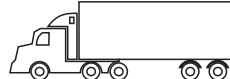
QC 2.0 ready, saving charging time

*In the condition of powering up QC 2.0 enabled device's

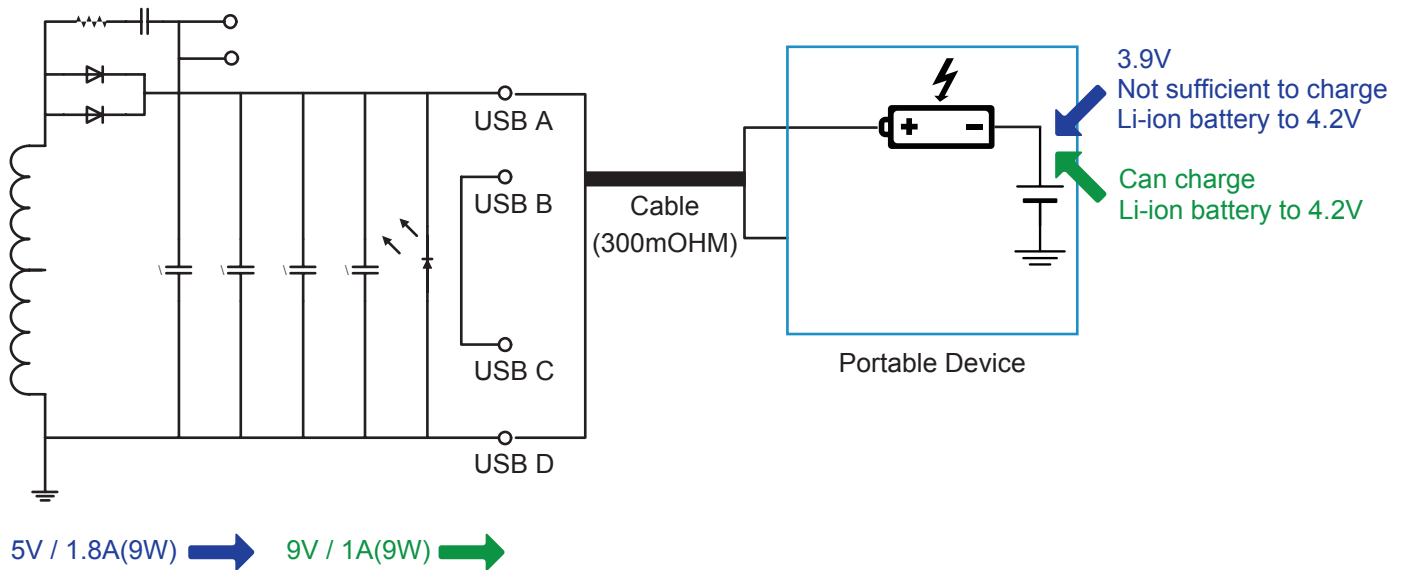
3300 mAh battery from 0% to 60% power level

Workable in All Vehicles

Wide DC 12-24V input range



What is QC 2.0? The theory behind.



Cable (Line) Losses(5V/1.8A)

Power Loss (schottky) + Cable/PD Power Loss= 0.72w + 1.94W = 2.7W

-Power Loss (schottky) = 0.4V x 1.8A = 0.72W

-Cable/PD Power Loss= $I^2 \times R = 1.8A \times 1.8A \times 600mOHM = 1.94W$

→ 8% Efficiency Loss
→ 22% Efficiency Loss

Cable (Line) Losses(9V/1A)

Power Loss (schottky) + Cable/PD Power Loss= 0.4W + 0.6W = 1W

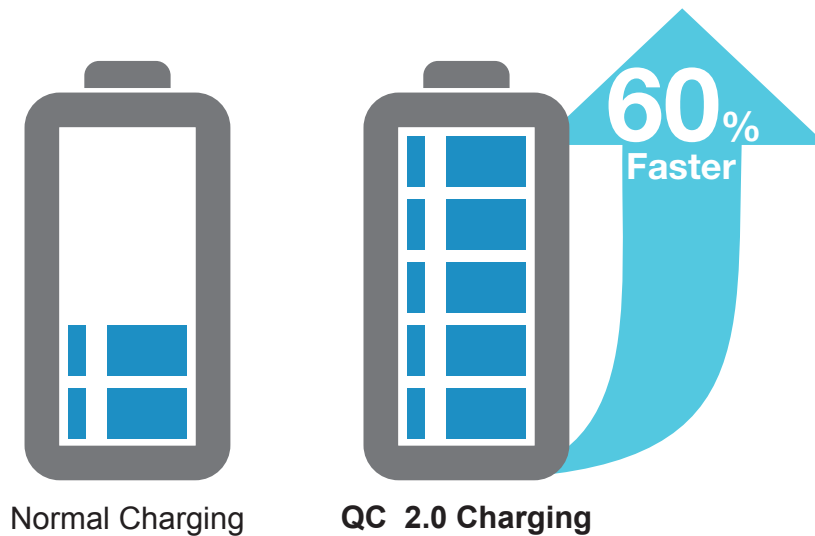
-Power Loss (schottky) = 0.4V x 1A = 0.4W

-Cable/PD Power Loss= $I^2 \times R = 1.0A \times 1.0A \times 600mOHM = 0.6W$

→ 4.4% Efficiency Loss
→ 6.7% Efficiency Loss

Comparison of Cable (Line) Losses: 9V/1A : 5V/1.8A = 1 : 2.7 times

FSP Testing Report



In FSP's laboratory tests, the results show that the QC 2.0 car charger is 60% faster than the normal one when 100% fully charging a QC2.0 enabled smart phone with battery capacity 3000mAh*.

Tester	Output Range	Testing Result (Testee: QC2.0 enabled smart phone with battery capacity 3000mAh)	
		Input current to smart phone	Charging time consumed (Up to 100% battery level)
QC2.0 Car Charger	5V / 2A ; 9V / 1.2A	0.843A(@9V)	2 hrs 56 mins
Normal Car Charger	5.1V / 1.5A	0.763A(@5V)	7 hrs

*XIAOMI's "Mi 4" smart phone is used as the device charged. It is a Quick Charge 2.0 enabled device with battery capacity: 3000mAh.

Specifications



Model	FSP016-DRRN1
Input Voltage Range	DC 12.5-24V
Output Range	5V / 2.4A 9V / 1.8A Auto Selector
Output Connector	USB Type A
Efficiency	>85%
No Load Power Consumption	<0.1 W
Operating Temperature	0~35 degrees
Warranty	2 Years
Protection	Short Circuit Protection Constant Voltage Protection Constant Current Protection Over Temperature Protection



Shining 16 QC 2.0 Car Charger

16W(Max Output)

Package Information

Model Name	FSP016-DRRN1
Color	Silver
EAN Code	471114048678
UPC Code	845685006981
Shipping Dimensions (L×W×H)	105×132×33 mm
Shipping Weight	53g
Unboxed Product Weight	16g
Master Pack Dimension (L×W×H)	510×475×302mm
Master Pack Quantity	80 retail boxes per master package
Master Pack Weight	7.46 kg
Pallet Quantity (Per Layer)	1200 (80 retail boxes × 15 master boxes)
Country of Origin	China



Shining 16 QC 2.0 Car Charger

16W(Max Output)

Appendix

Quick Charge 2.0 Certified Smartphones and Tablets:

- + Asus Transformer T100
- + Asus Zenfone 2
- + Droid Turbo by Motorola
- + Eben 8848
- + Fujitsu Arrows NX
- + Fujitsu F-02G
- + Fujitsu F-03G
- + Fujitsu F-05F
- + Google Nexus 6
- + HTC Butterfly 2
- + HTC One (M8)
- + HTC One (M9)
- + Kyocera Urbano L03
- + LeTV One Max
- + LeTV One Pro
- + LG G2 Flex 2
- + LG G4
- + Moto X Pure Edition
- + Moto X Style
- + New Moto X by Motorola
- + Panasonic CM-1
- + Ramos Mos1
- + Samsung Galaxy S5 (Japan)
- + Samsung Galaxy S6
- + Samsung Galaxy S6 Edge
- + Samsung Note 4
- + Samsung Note Edge
- + Sharp Aquos Pad
- + Sharp Aquos Zeta
- + Sharp SH01G/02G
- + Sony Xperia Z2 (Japan)
- + Sony Xperia Z2 Tablet (Japan)
- + Sony Xperia Z3
- + Sony Xperia Z3 Compact
- + Sony Xperia Z3 Tablet
- + Sony Xperia Z3+
- + Sony Xperia Z4
- + Sony Xperia Z4 Tablet
- + Xiaomi Mi 3
- + Xiaomi Mi 4
- + Xiaomi Mi Note
- + Xiaomi Mi Note Pro
- + Yota Phone 2
- + ZTE Axon Pro
- + ZTE Nubia My Prague
- + ZTE Z9

More information, please go to: www.qualcomm.com/quickcharge