
CN2513

USB Dedicated Charging Port Controller

Features

- Supports USB DCP Shorting D+ Line to D- Line per USB Battery Charging Specification, Revision 1.2 (BC1.2)
- Supports Shorted Mode (Shorting D+ Line to D- Line) per Chinese Telecommunication Industry Standard YD/T 1591-2009
- Supports USB DCP Applying 2.7 V on D+ Line and 2 V on D- line (or USB DCP Applying 2 V on D+ Line and 2.7 V on D- Line)
- Supports USB DCP Applying 2.7 V on D+ Line and 2.7 V on D- Line
- Supports USB DCP Applying 1.2 V on D+ and D- Lines
- Automatically Switch D+ and D- Lines Connections for an Attached Device
- Dual USB Port Controller
- Single USB Port Controller
- Operating Range: 4.5 V to 5.5 V
- Available in SOT23-6 Package

Applications

- Vehicle USB Power Charger
- AC-DC Adapter with USB Port
- Other USB Charger

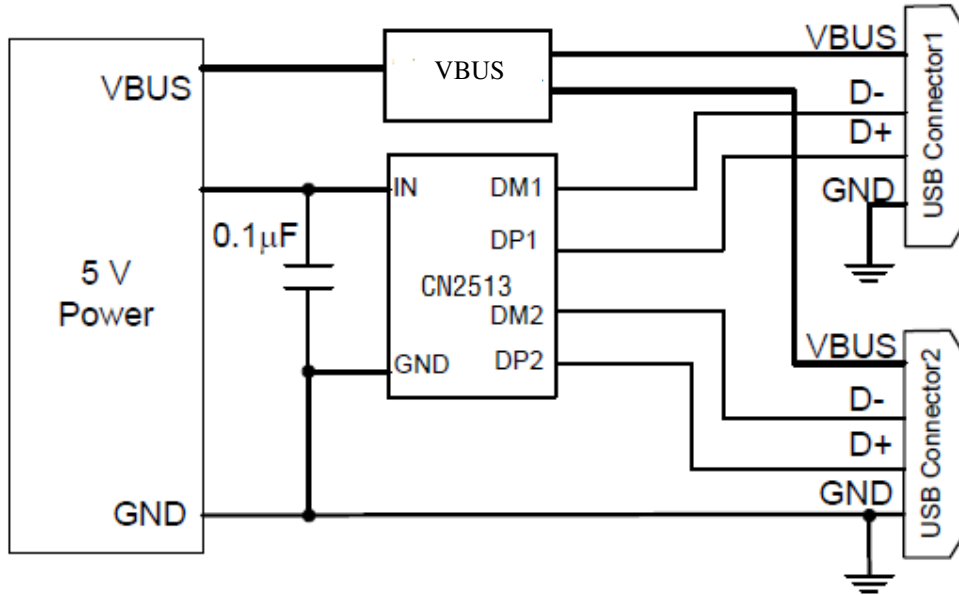
Description

The devices are USB dedicated charging port (DCP) controllers. An auto-detect feature monitors USB data line voltage, and automatically provides the correct electrical signatures on the data lines to charge compliant devices among the following dedicated charging schemes:

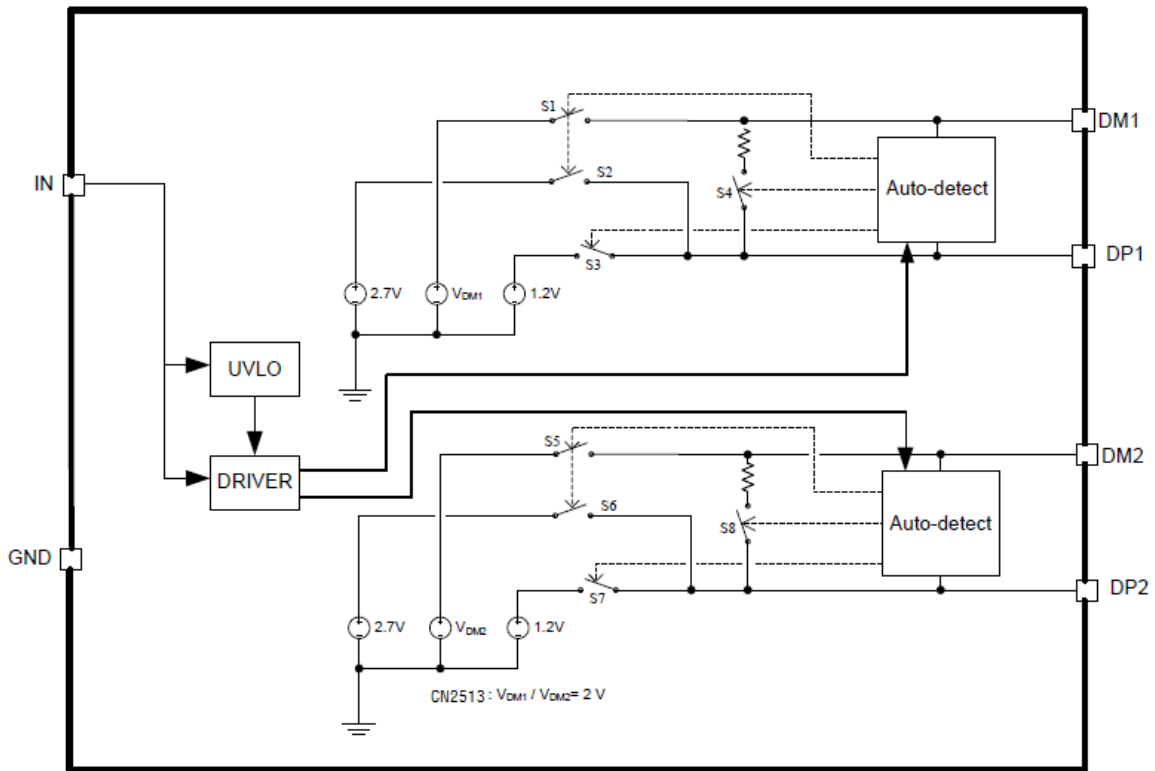
1. Divider 1 DCP, required to apply 2 V and 2.7V on the D+ and D- Lines respectively
2. Divider 2 DCP, required to apply 2.7 V and 2V on the D+ and D- Lines respectively
3. Divider 3 DCP, required to apply 2.7 V and 2.7 V on the D+ and D- Lines respectively
4. BC1.2 DCP, required to short the D+ Line to the D- Line
5. Chinese Telecom Standard YD/T 1591-2009 Shorted Mode, required to short the D+ Line to the D- Line
6. 1.2 V on both D+ and D- Lines.

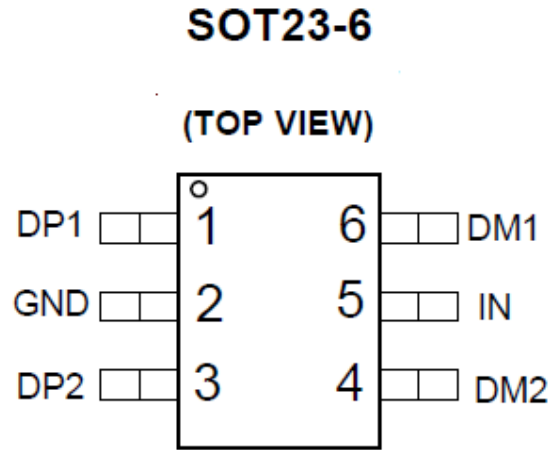
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Typical Application Circuit



Function Block Diagram



Pin Assignment**Figure 1 Pin Assignment****Pin Description**

Pin Name	Pin Number	TYPE(1)	Description
DP1	1	I/O	Connected to the D+ or D– line of USB connector, provide the correct voltage with attached portable equipment for DCP detection.
GND	2	G	Ground connection
DP2	3	I/O	Connected to the D+ or D– line of USB connector, provide the correct voltage with attached portable equipment for DCP detection.
DM2	4	I/O	Connected to the D+ or D– line of USB connector, provide the correct voltage with attached portable equipment for DCP detection.
IN	5	P	Power supply. Connect a ceramic capacitor with a value of 0.1- μ F or greater from the IN pin to GND as close to the device as possible.
DM1	6	I/O	Connected to the D+ or D– line of USB connector, provide the correct voltage with attached portable equipment for DCP detection.

(1) G = Ground, I = Input, O = Output, P = Power