

### Description

The PJ3002SE is the USB dedicated charging port controller IC. The IC is used to facilitate charging procedure when most of the mainstream handheld devices are detected. The PJ3002SE is suitable for all the charger products using USB interface like power bank, wall adapter and even MID device with OTG function. The IC is provided with enhanced ESD protection up to +/-8kV with application on D+/D- Pins.

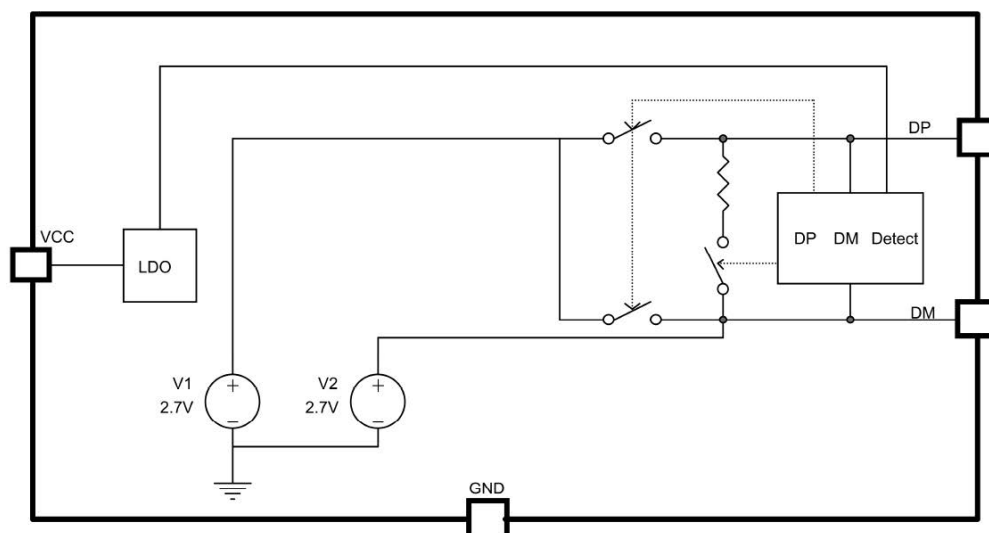
### Features

- 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 2.7 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
- Operating Range: 4.5 V to 5.5 V
- Available in SOT-23-5 Package

### Applications

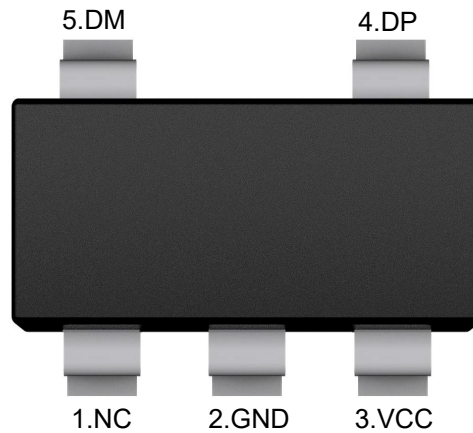
- Power bank
- USB Ports (Hosts and Hubs)
- Wall Charging Adapters

### Block Diagram



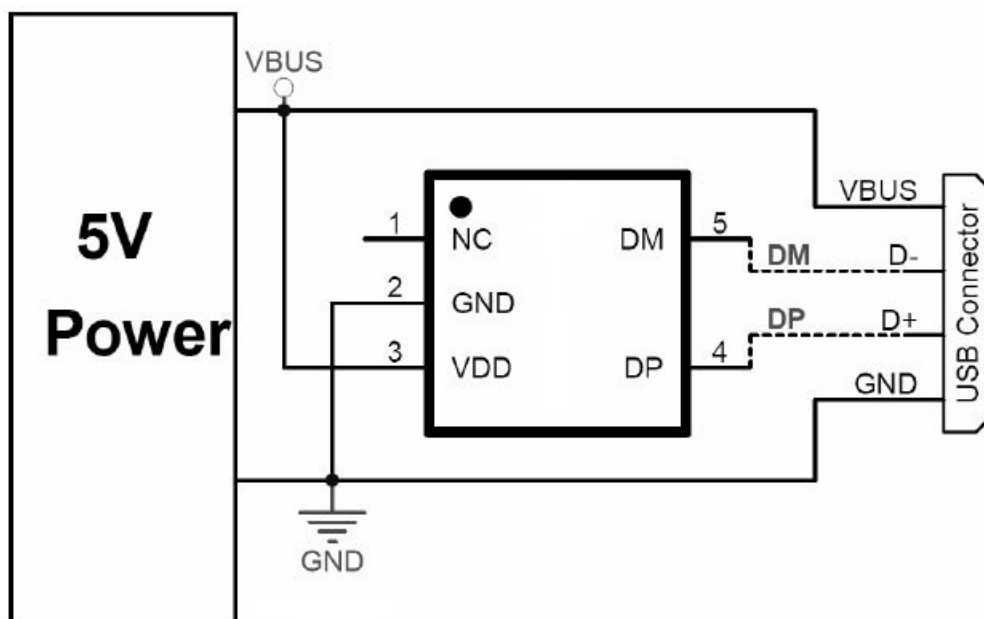
### Pin Function And Descriptions

**SOT-23-5**



Pin	NAME	DESCRIPTION
1	NC	No Connected
2	GND	Ground
3	VCC	Power
4	DP	USB positive data-channel to external USB device
5	DM	USB negative data-channel to external USB device

### Application Circuits



2.4A Configuration / Typical application circuits



### Absolute Maximum Ratings (at $T_A = 25^\circ\text{C}$ )

Characteristics	Symbol	Rating	Unit
VIN to GND		-0.3 to +7	V
DP1,DM1,DP2,DM2 to GND		-0.3 to +6	V
Operating Junction Temperature		-40 to +125	$^\circ\text{C}$
Storage Junction Temperature		-55 to +150	$^\circ\text{C}$
Junction to Ambient Thermal Resistance	$R_{\theta JA}$	180	$^\circ\text{C/W}$
Junction to board thermal resistance	$R_{\theta JB}$	120	$^\circ\text{C/W}$
Junction to case thermal resistance	$R_{\theta JC}$	42	$^\circ\text{C/W}$

### ESD Ratings

		Value	Unit
Electrostatic discharge	Human-body model (HBM)	$\pm 8000$	V

### Recommended Operating Conditions

	Symbol	Min.	Max.	Unit
Input voltage of VCC	$V_{CC}$	4.5	5.5	V
DP1,DP2 data line input voltage	$V_{DP}$	0	5.5	V
DM1,DM2 data line input voltage	$V_{DM}$	0	5.5	V
DP1,DP2 Continuous sink or source current	$I_{DP}$	0	$\pm 10$	mA
DM1,DM2 Continuous sink or source current	$I_{DM}$	0	$\pm 10$	mA



## Electrical Characteristics

(T<sub>J</sub>=25°C. V<sub>CC</sub>=5V, unless otherwise specified)

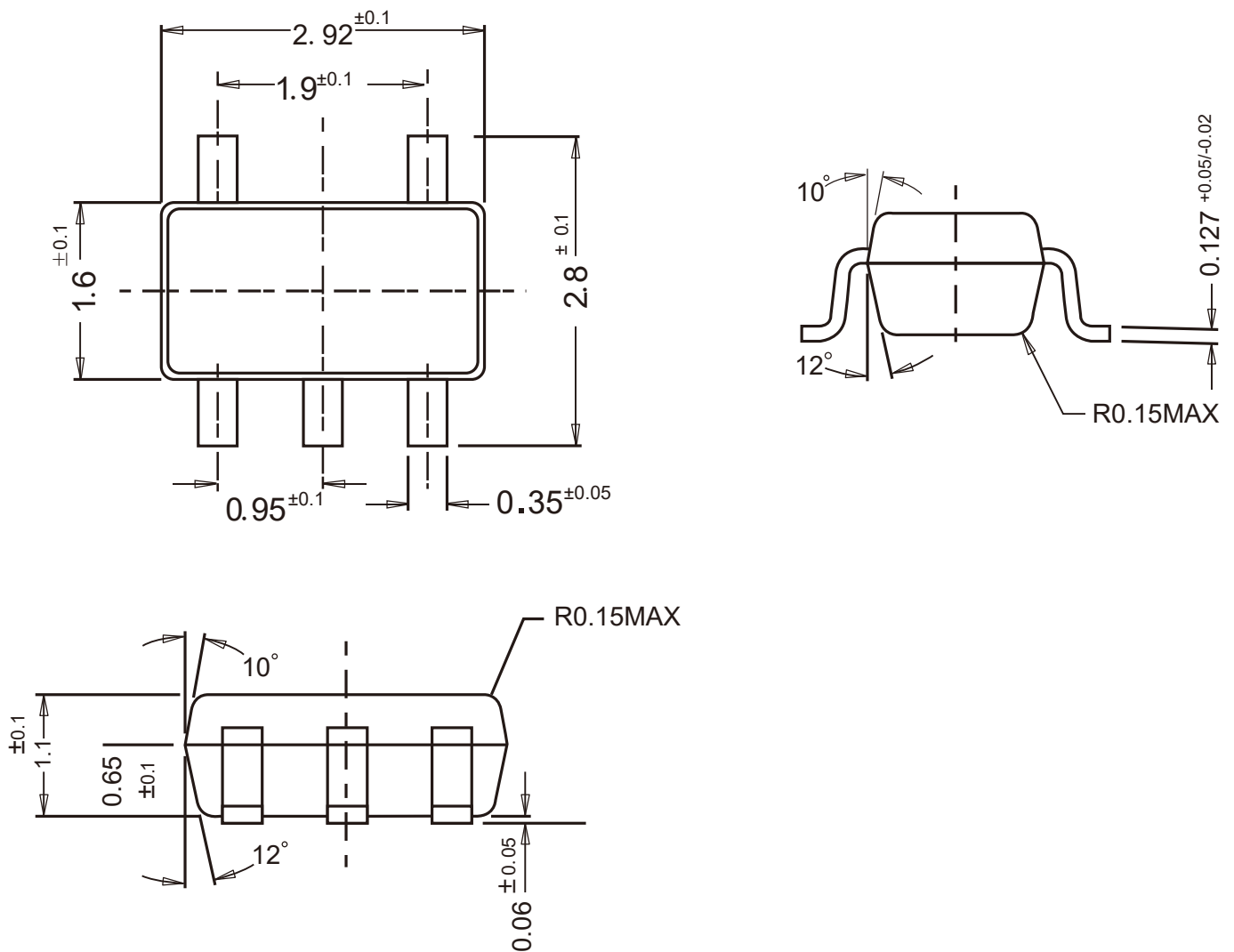
Characteristics	Symbol	Conditions	Min.	Typ.	Max.	Units
Input Voltage	VCC		4.3	5	5.5	V
UVLO Voltage	V <sub>UVLO</sub>		3.1	3.7	4.3	V
UVLO Hysteresis				0.1		V
Quiescent Current	I <sub>CCQ</sub>	VCC=5V		220		uA
<b>BC 1.2 DCP Mode</b>						
DP,DM Short Resistance	R <sub>DPM</sub>			160	200	Ω
Resistance between DPX and GND	R <sub>DPG</sub>	V <sub>DPX</sub> =0.8V		650	1000	KΩ
Resistance between DMX and GND	R <sub>DMG</sub>	V <sub>DMX</sub> =0.8V		650	1000	KΩ
DPx threshold of Goes to divider mode	V <sub>DPX_TH</sub>			300		mV
<b>Divider Mode</b>						
DPx output voltage	V <sub>DPX_2.7</sub>		2.6	2.7	2.8	V
DMx output voltage	V <sub>DMX_2.7</sub>		2.6	2.7	2.8	V
DPx output impedance	R <sub>DPX</sub>		24	30	36	KΩ
DMx output impedance	R <sub>DMX</sub>		24	30	36	KΩ
<b>1.2V /1.2V Mode</b>						
DPX output voltage	V <sub>DPX_1.2</sub>		1.12	1.2	1.28	V
DMX output voltage	V <sub>DMX_1.2</sub>		1.12	1.2	1.28	V

Note: 1. DPX Stands for DP1 or DP2, DMX Stands for DM1 or DM2

### Package Outline

SOT-23-5

Dimensions in mm



### Ordering Information

Device	Package	Shipping
PJ3002SE	SOT-23-5	3,000PCS/Reel&7inches