

**ZCC6012**  
**USB PD 2.0/3.0 Controller**  
V0.9

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## 1. Features

- On-chip Multiple Charging Standard Identification:
  - USB Power Delivery 3.0 Fix PDO (support 18W/20W/25W multi-configuration)
  - USB Power Delivery 2.0 Fix PDO
  - USB Type C CC-logic
- CC pin protection up to 12V
- 8kV HBM and 400V MM contact ESD Level
- -40°C ~ +125°C Operating Temperature
- Package: SOT23-6
- RoHS compliant and Halogen free

## 2. Application

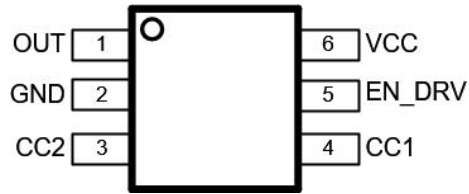
- Wall Adapter
- Car Charger
- Portable Power Bank
- USB Power Plugs

## 3. Ordering Information

Part Number	Package	Marking	Packing	MOQ
ZCC6012	SOT23-6			
ZCC6012-W	KGD	-	Cassette	25 pcs wafer

Marking rule : TBD

#### 4. PAD Assignment



#### 5. PAD Descriptons

PAD Name	PAD Number	Descriptons
OUT	1	Feedback output
GND	2	Ground
CC2	3	USB Type-C Configuration channel signal2.
CC1	4	USB Type-C Configuration channel signal1.
EN_DRV	5	Muti-PDO configuration : 18W (5V/3A, 9V/2A, 12V/1.5A) 18W(5V/2.4A, 9V/2A) 20W(5V/3A, 9V/2.22A, 12V/1.67A) 20W(5V/3A, 9V/2.22A) 25W(5V3A, 9V/2.77A)
VCC	6	Supply input voltage pin.

## 6. Absolute Maximum Ratings (Ref.)

Exceeding the Absolute Maximum Ratings may damage the device.

Characteristics	Symbol	Rating	Unit
Supply Voltage	$V_{CC}$	-0.3 to 6	V
FB	FB	-0.3 to 6	V
CC1, CC2	CC1, CC2	-0.3 to 12	V
Maximum Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_S$	-60 ~ 150	°C
Lead Temperature (Soldering, 10 sec.)	-	260	°C
ESD Withstand Voltage :			
- Human Body Mode	HBM	8000	V
- Machine Mode	MM	400	V
- Socket Charge Device Mode	sCDM	2000	V

## 7. Recommended Operating Conditions (Ref.)

The device is not guaranteed to operate beyond the Maximum Recommended Operating.

Parameter	Rating
Supply Input Voltage ( $V_{CC}$ )	3.3V – 5.6V
CC1, CC2, FB	0V – 3.3V
Operating Temperature Range	-40°C to +125°C
Operation Current	< 1mA

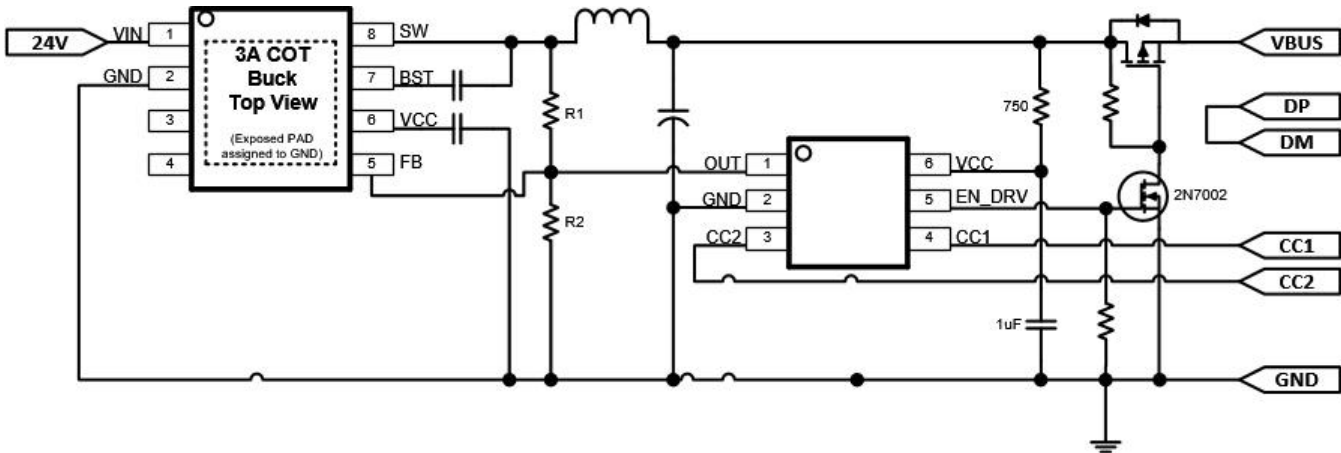
## 8. Electrical Characteristics

( $V_{DD}=5V$ ,  $T_A=25^\circ C$  and the recommended supply voltage range, unless otherwise specified.)

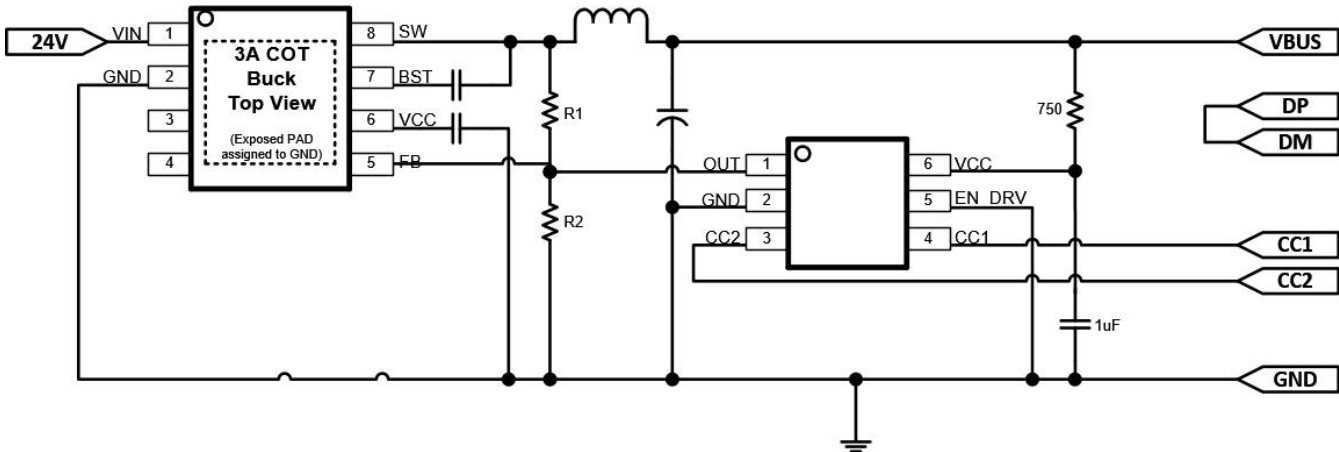
Characteristics	Symbol	Conditions	MIN	TYP	MAX	Unit
<b>Supply Input</b>						
Supply Voltage Range	$V_{CC}$					V
Input UVLO Threshold	$V_{UVLO}$	$V_{CC}$ rising.				V
Input UVLO Hysteresis		$V_{CC}$ falling.				V
VCC Supply Current	$I_{CC}$	$V_{CC} = 5.0V$				μA
VCC Shunt Voltage	$V_{CC\_SHDN}$					V

### 9. Typical Application Circuit

With VBUS Load Switch

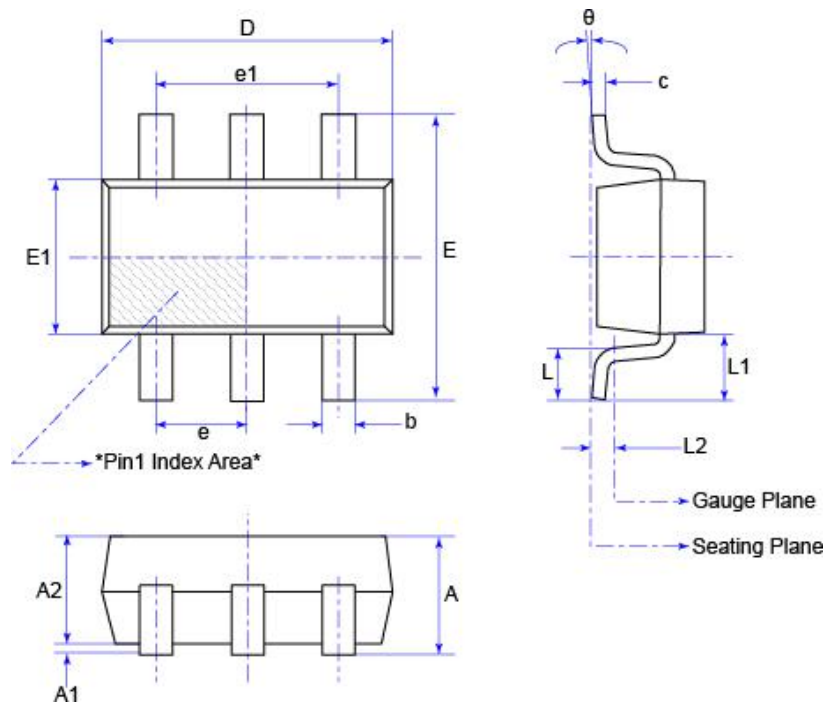


Without VBUS Load Switch



## 10. Package Dimensions

SOT23-6L



Unit: mm

Symbol	Min	Max
A	-	1.35
A1	-	0.15
A2	1.00	1.20
b	0.30	0.50
c	0.08	0.21
D	2.72	3.12
E	2.60	3.00
E1	1.40	1.80
e	0.95 BSC	
e1	1.80	2.00
L	0.30	0.60
L1	0.60 REF	
L2	0.25 BSC	
θ	0°	8°