

1. Features

- Compliant with USB Type-C specification Rev.1.1 DFP mode
- Supports Type-C current 3A advertisement
- Compliant with USB Battery Charging specification Rev.1.2
- Supports Apple divide mode (2.4A)
- Supports Samsung divide mode (2.1A)
- Supports China Telecommunication Industry Standard YD/T 1591-2009
- Built-in gate driver for VBUS power MOSFET
- Discharges VBUS when detached
- Two-ports product (both legacy fast charging port and type-C fast charging port) is possible with only one PL2887 IC
- ESD HBM> 8KV, MM>400V
- Single 5V power supply
- SOT23-8 package

2. General Description

The PL2887 is a USB fast charging controller that supports both USB Type-C fast charging and conventional USB fast charging modes at the same time. With USB Type-C charging mode, the PL2887 advertises 3A current through CC1/CC2 pins. With conventional charging mode, the PL2887 supports USB battery charging specification Rev.1.2 (BC1.2), Apple divide mode (2.4A), Samsung divide mode (2.1A), and China Telecommunication Industry Standard YD/T 1591-2009 modes.

To be compliant with USB Type-C specification, the PL2887 has built-in gate driver to control VBUS power MOSFET and also discharges VBUS when detached.

3. Target Application

- USB adapters
- USB wall chargers
- USB car chargers
- Power banks

4. Block Diagram

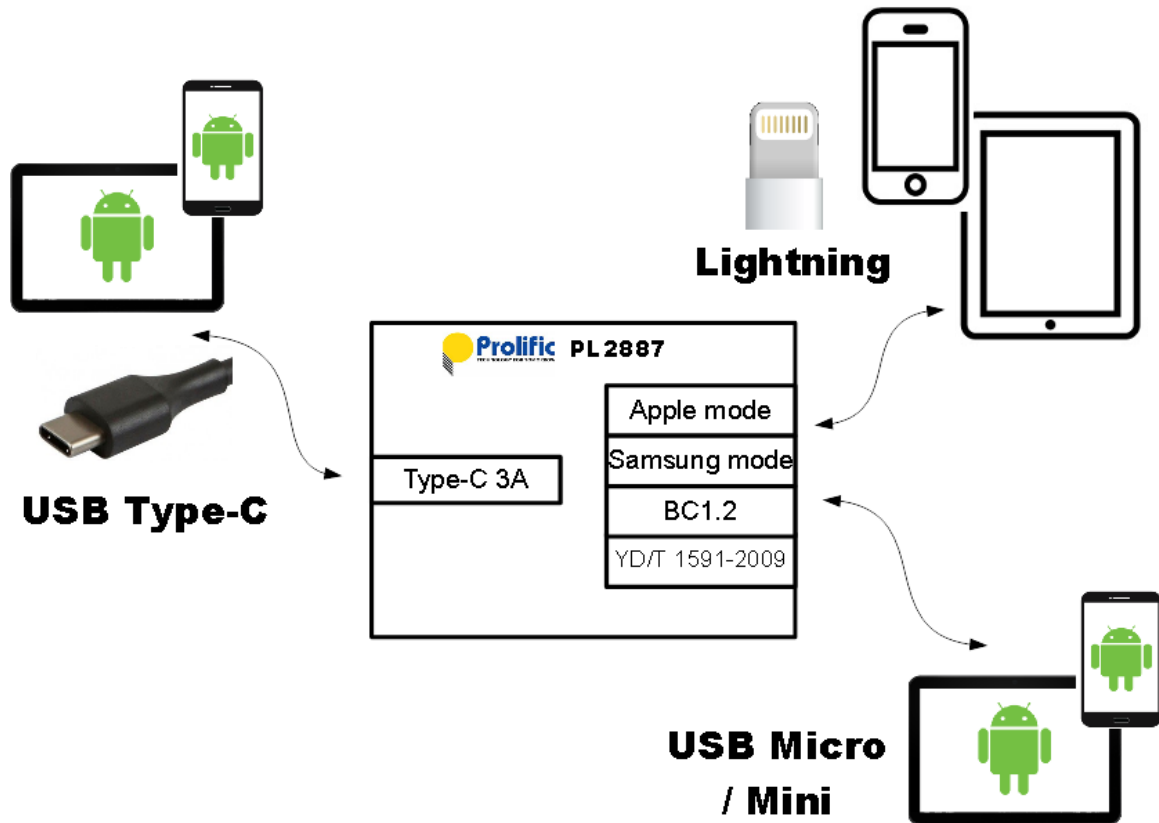


Figure 4-1: PL2887 Block Diagram & Application

5. Ordering Information

Table 5-1: Ordering Information

Product Name	Package Type	Ordering Number
PL2887	SOT-23 8pin	Please contact Prolific

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6. Pin Assignment & Description

6.1 PL2887 Pin Assignment

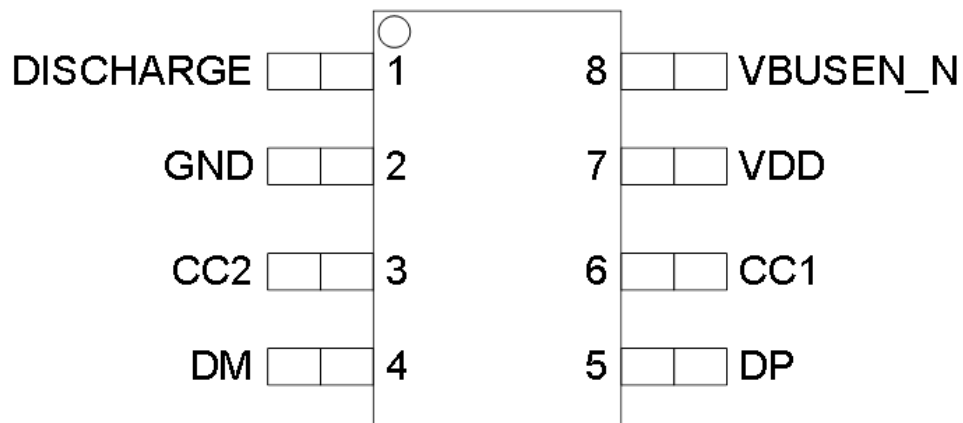


Figure 6-1: PL2887 Pin Diagram (Top View)

6.2 PL2887 Pin Description Table

Table 6-1: PL2887 Pin Assignment

Pin #	Pin Name	Pin Type	Pin Description
1	DISCHARGE	AIO	Discharge VBUS when detached
2	GND	P	Ground
3	CC2	AIO	USB type-C CC pin
4	DM	AIO	USB DM pin
5	DP	AIO	USB DP pin
6	CC1	AIO	USB type-C CC pin
7	VDD	P	5V power supply
8	VBUSEN_N	AIO	Gate driver to control power MOS

Pin Type:

- AIO – Analog Bi-directional
- P – Power / Ground

7. AC & DC Characteristics

7.1 Absolute Maximum Ratings

Table 7-1: Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{VDD}	Power supply of VDD	-0.3 to 5.5	V
T_{STG}	Storage temperature	-40 to 150	°C

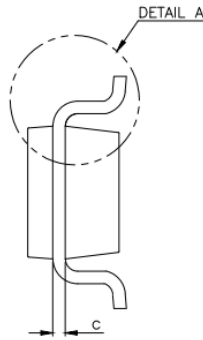
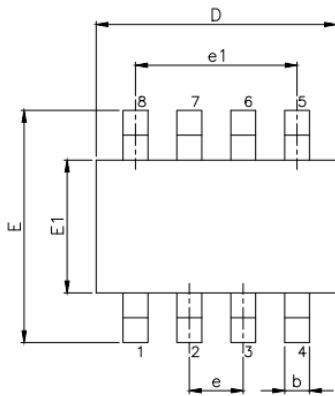
7.2 Recommended Operating Conditions

Table 7-2: Recommended Operating Conditions

Symbol	Parameter	Min	Typ	Max	Units
V_{VDD}	Power supply of VDD	4.5		5.5	V
V_{DPDM}	Operating voltage of DP/DM	3.0	3.3	3.6	V
V_{CC}	Operating voltage of CC1/CC2	0		5.5	V
V_{VBUSEN_N}	Operating voltage of VBUSEN_N	0		5.5	V
$V_{DISCHARGE}$	Operating voltage of DISCHARGE	0		5.5	V

8. Package Outline Diagram

8.1 Outline Diagram



VARIATION(ALL DIMENSIONS SHOWN IN MM)

SYMBOL	MIN.	NOM.	MAX.
A	-	-	1.45
A1	0.00	-	0.15
A2	0.90	1.15	1.30
b	0.22	-	0.38
c	0.08	-	0.22
D	2.90 BSC.		
E	2.80 BSC.		
E1	1.60 BSC.		
e	0.65 BSC.		
e1	1.95 BSC.		
L	0.30	0.45	0.60
L1	0.60 REF.		
L2	0.25 BSC.		
R	0.10	-	-
R1	0.10	-	0.25
θ	0°	4°	8°
$\theta 1$	5°	10°	15°

NOTE :

1. JEDEC OUTLINE : MO-178 BA.

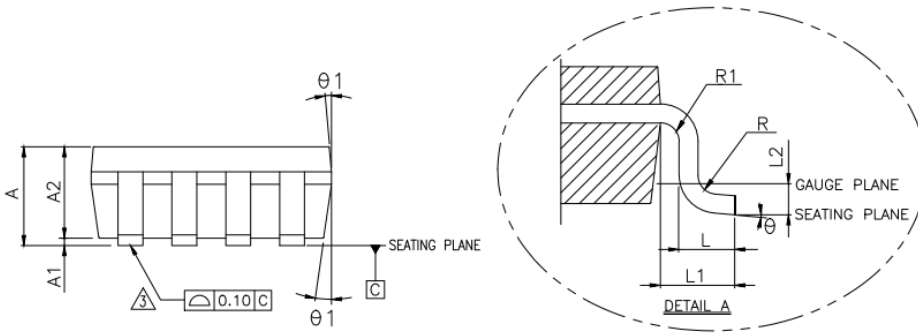


Figure 8-1: PL2887 Outline Diagram (SOT23-8 pin)

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