EMarker chip for USB Type-C PD3.2 100W cable

Product Features

- Compliant with PD 3.2: Supports SOP communication, integrated transceiver (BMC PHY), and also supports structured VDM version
- VIN wide operating voltage range: 2.9V~42V
- VIN operates at a minimum of 2.9V and supports direct power supply from VCONN
- VIN maximum 42V operation, supports VBUS direct power supply
- CC withstand voltage up to 36V
- Perfectly compatible with 100W 20V/5A wire applications
- Package: SOT23 (Small 23 Package)

Product Overview

FS611 is an eMarker with USB Type-C interface. It complies with the USB PD 3.2 protocol.

FS611 can be directly powered by VBUS and applied to 5-core solutions.

FS611 can be powered by VCONN and applied to dual core solutions.

Use SOT23 and small 23 minimalist packaging.

FS611 is suitable for wires with a fixed power of 100W 20V/5A.

Application field

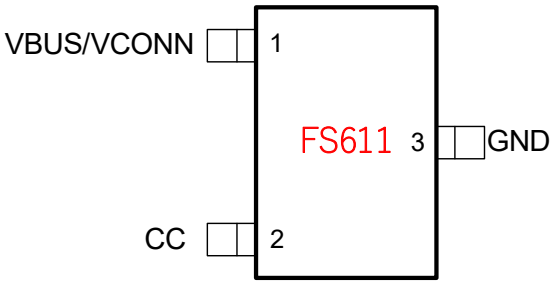
- USB Type-C cable

Order information

Part No	Package	Pcs/Reel
FS611	SOT23	3000

V1.0(202509)

Chip packaging and pin definition



Pic 1. Pin definition

Table 1. FS611 Pin function description

FS611	Name of the pin	Description
1	VBUS/VCONN	Power supply, can be connected to VBUS or VCONN
2	CC	Connect to USB Type-C CC
3	GND	Chip ground

Extreme operating range

Table 2. Maximum operating range

Parameter	Value
VBUS/VCONN	-0.5V~42V
CC	-0.5V~36V
Storage temperature	-65℃~150℃
Working temperature (connector)	-40℃~125℃
Anti static ability	±2000 V

The maximum operating range listed in the table above, if the limit is exceeded, the chip may be permanently damaged. Users should try to avoid it.

Normal operating range

Table 3. Normal operating range

Parameter	Value
VBUS/VCONN/CC	2.9V~30V
Power consumption - working state (VBUS=5V)	<5mW
Working temperature (connector)	-40℃~125℃
Ambient temperature	-40℃~85℃

Function Description

FS611 is an Emarker chip. Used for low-cost TYPE-C cables. FS611 supports a wide range of input voltages, so it can be directly powered by VBUS or VCONN. FS611 supports the latest USB PD 3.2 protocol. The ultra-high CC withstand voltage ensures that the chip will not be damaged.

FS611 has adaptive function and is used for cables powered by VBUS or VCONN with a maximum voltage of 20V and a maximum current of 5A.

VBUS/VCONN

Can work at 2.9~42V

0.1uF capacitor is optional to improve power supply stability.

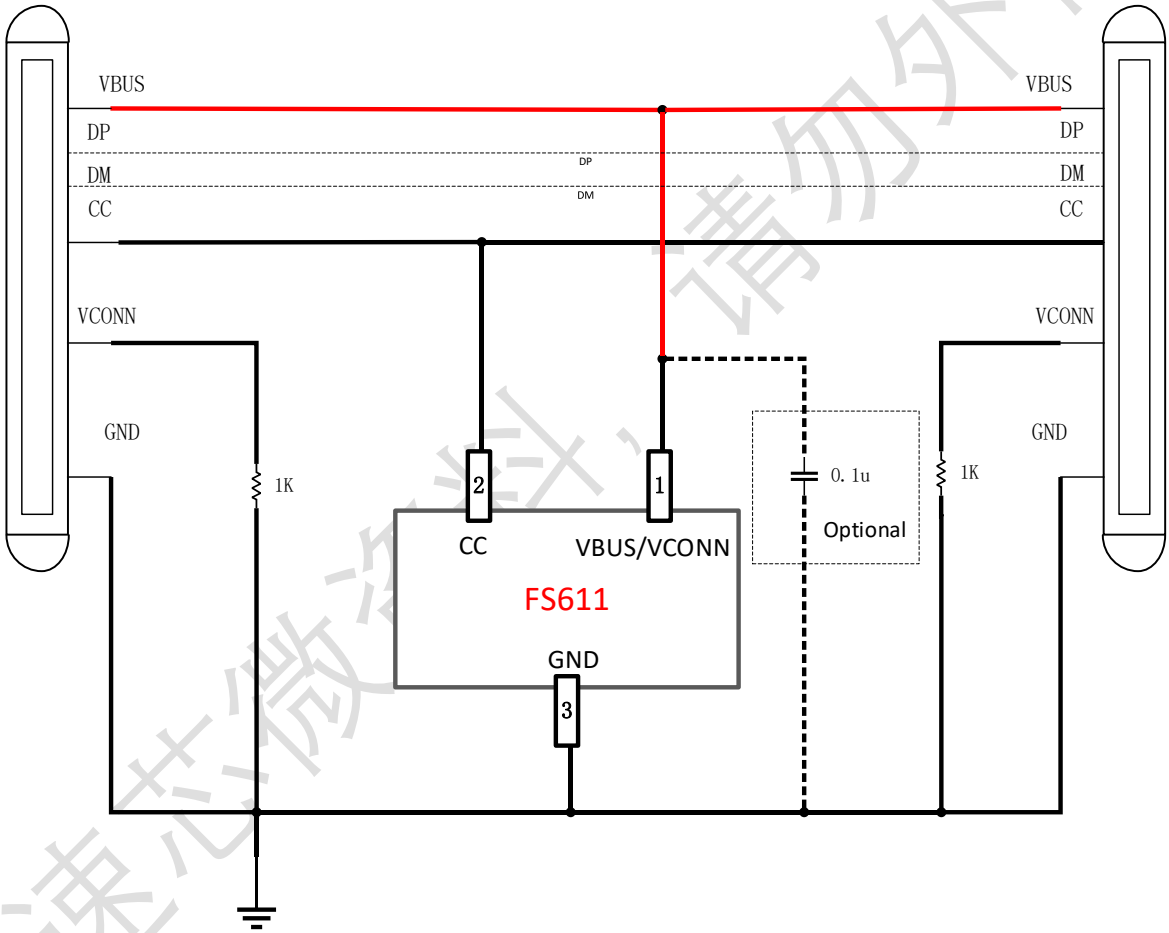
Can be connected to VBUS or VCONN

CC

Can support 36V withstand voltage.

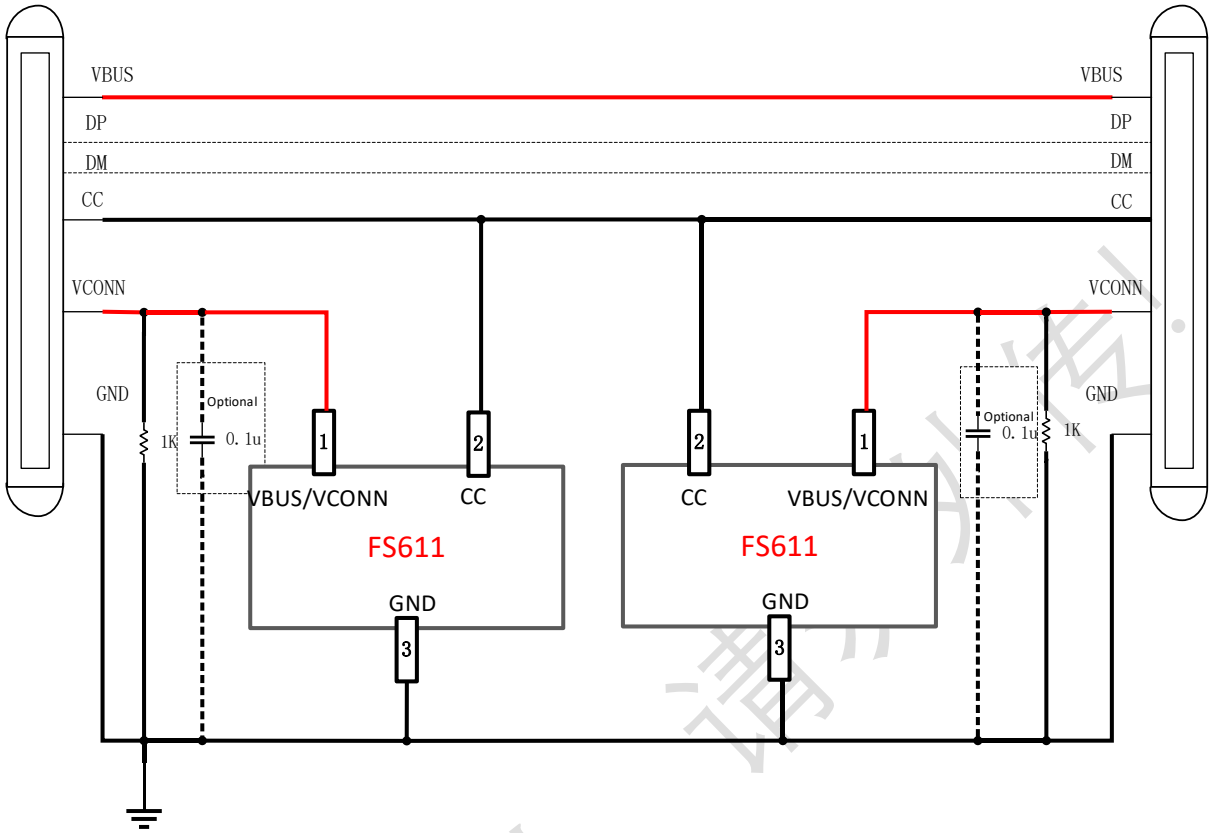
Application example

5-Core Single Chip Application (FS611)



FS611 Application diagram

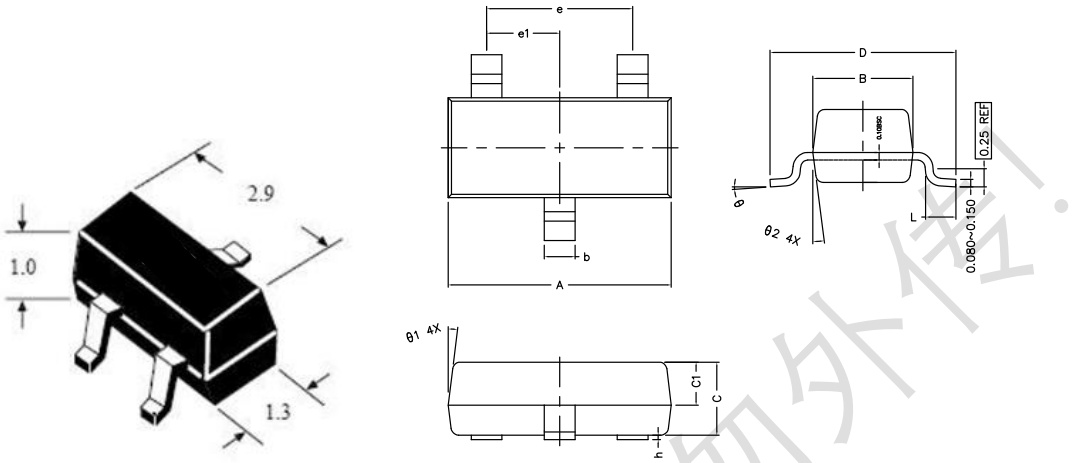
5-core dual chip application (FS611)



FS611 Application diagram

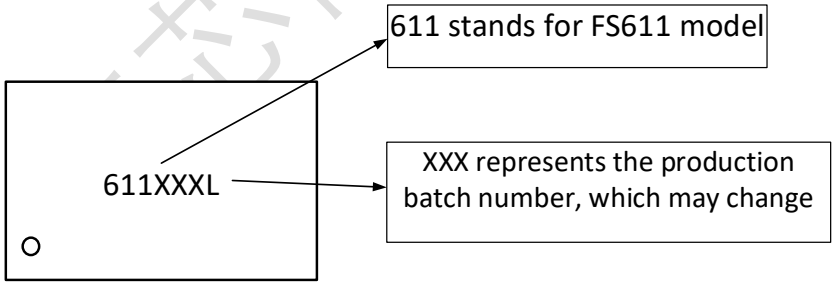
Package outline drawing

SOT23



Symbol	MIN	NORM	MAX
A	2.800	2.900	3.000
B	1.200	1.300	1.400
C	0.900	1.000	1.1 00
C1	0.500	0.550	0.600
D	2.250	2.400	2.550
L	0.300	0.400	0.500
h	0.010	0.050	0.100
b	0.300	0.400	0.500
e	1.90 TYP		
e1	0.95 TYP		
θ1	7° TYP		
θ2	7° TYP		
θ	0°~7°		

Chip silk screen information



1. FS611 model information: 611, fixed and unchanged

2. The production batch number code is used to distinguish the batch number information each time, based on changes in the production batch

Company information and statement

HQ

E2-503, China Internet of Things International Innovation Park, No. 200, Linghu Avenue, Xinwu District, Wuxi City

Website：www.fastsoc.com

Wechat public Account.：fastsoc

Sales and technical support

Contact：Ms. Ge

Mobilephone：1895-248-8621

E-mail：gejing@fastsoc.com

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