EMarker chip for USB Type-C PD3.2 240W cable

Product Features

- Compliant with PD 3.2: Supports SOP communication, integrated transceiver (BMC PHY), and also supports structured VDM version
- VIN has a wide operating voltage range of 2.9V to 42V
- VIN operates at a minimum of 2.9V and supports direct power supply from VCONN
- After connecting a 1K resistor and a 0.1uF capacitor in series with VIN, it supports up to 50V VBUS
- After connecting a 2K resistor and a 0.1uF capacitor in series with VIN, it supports up to 60V VBUS
- CC withstand voltage up to 36V
- Package: DFN1.6x1.6-4L

Product Overview

FS332GH is an eMarker with USB Type-C interface. It complies with the USB PD 3.2 protocol.

FS332GH can be directly powered by a 1K resistor connected in series with VBUS, supporting 60V VBUS, and is applied to 5-core single core solutions.

FS332GH can be powered by VCONN and applied to a 5-core dual core solution.

Using DFN1.6x1.6-4L mini package.

FS332GH is suitable for wires with a power of 240W 48V/5A.

Application field

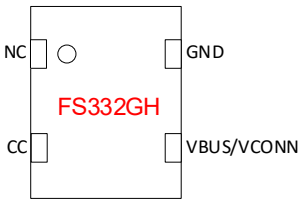
- USB Type-C cable

Order information

Part No	Package	Pcs/Reel
FS332GH	DFN1.6x1.6-4L	3000

V1.3(202507)

Chip packaging and pin definition



DFN1.6X1.6-4L

Pic 1. Pin definition

Table 1. FS332GH Pin function description

FS332GH	Name of the pin	Description
1	NC	NC
2	CC	Connect to USB Type-C CC
3	VBUS/VCONN	Power supply, can be connected to VBUS or VCONN
4	GND	Chip ground

Extreme operating range

Table 2. Maximum operating range

Parameter	Value
VBUS/VCONN	-0.5V~42V <55V(Connect 1K resistors in series) <65V (Connected in series with 2K resistor)
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	2.9V~30V <50V(connected in series with 1K resistor and 0.1uF capacitor) <60V (connected in series with 2K resistor and 0.1uF capacitor)
CC	0~5V
Power consumption - working status（VBUS=5 V）	<5mW
Working temperature (connector)	-40℃~125℃
Environmental temperature	-40℃~85℃

Function Description

FS332GH is an Emarker chip. Used for low-cost TYPE-C cables. FS332GH supports a wide range of input voltages, so it can be directly powered by VBUS or VCONN. FS332GH supports the latest USB PD 3.2 protocol. The ultra-high CC withstand voltage ensures that the chip will not be damaged.

FS332GH is used for 240W cables powered by VBUS or VCONN with a maximum voltage of 48V and a maximum current of 5A.

VBUS/VCONN

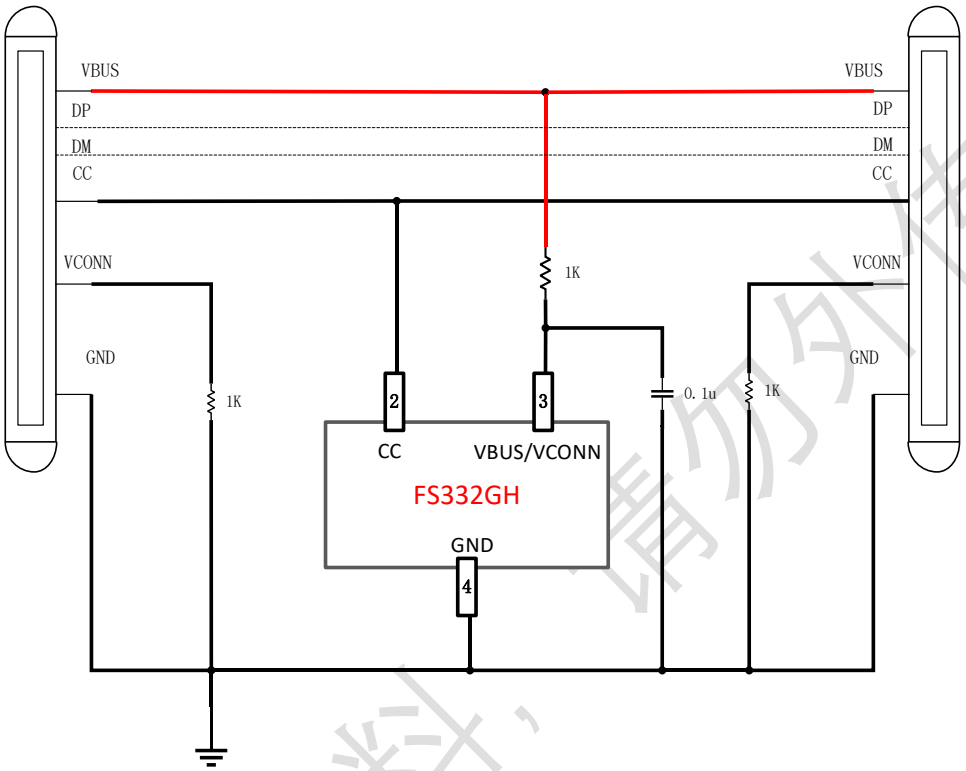
You can connect TYPEC VBUS through a 1K resistor, at which point a 0.1uF capacitor must be connected.
You can connect TYPEC VBUS through a 2K resistor, at which point a 0.1uF capacitor must be connected.
It can be directly connected to TYPEC VCONN, and the 0.1uF capacitor is optional.

CC

Can support 36V withstand voltage.

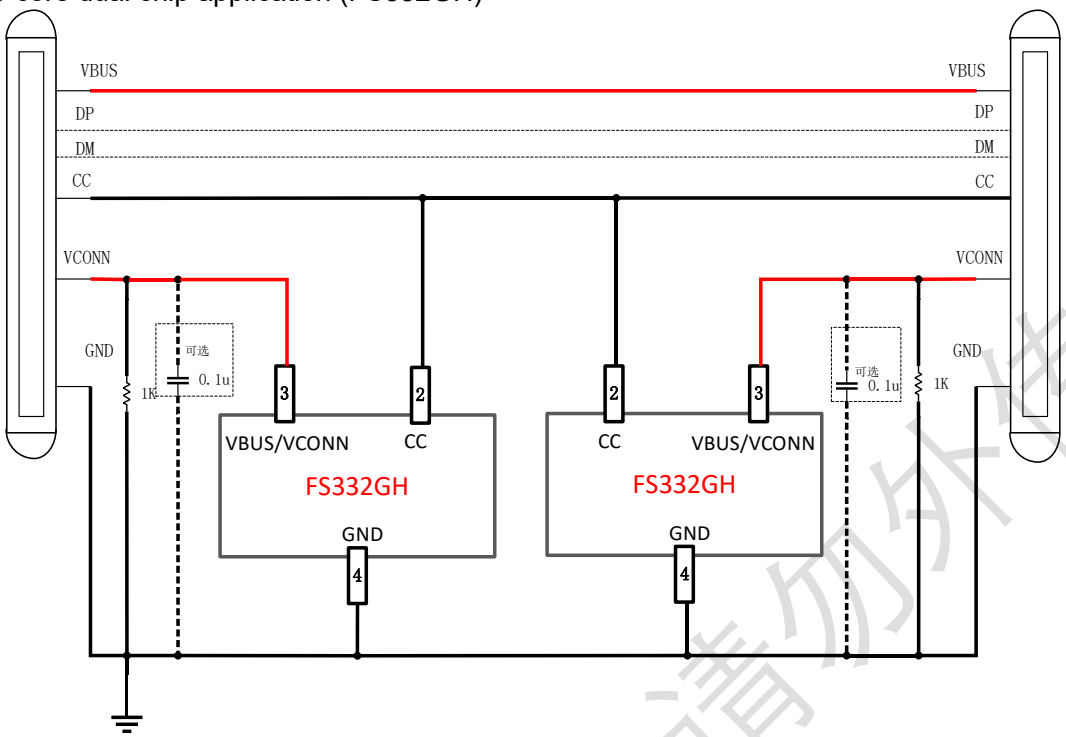
Application example

5-core wire application (FS332GH)



FS332GH 5-core wire single-chip application diagram

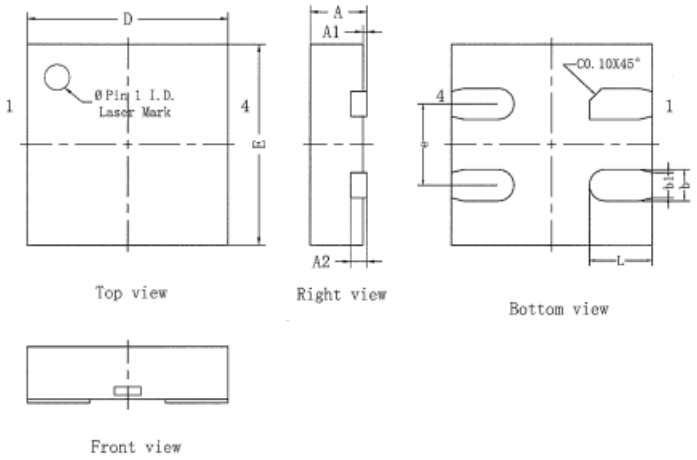
5-core dual chip application (FS332GH)



FS332GL 5-core dual chip application diagram

Package outline drawing

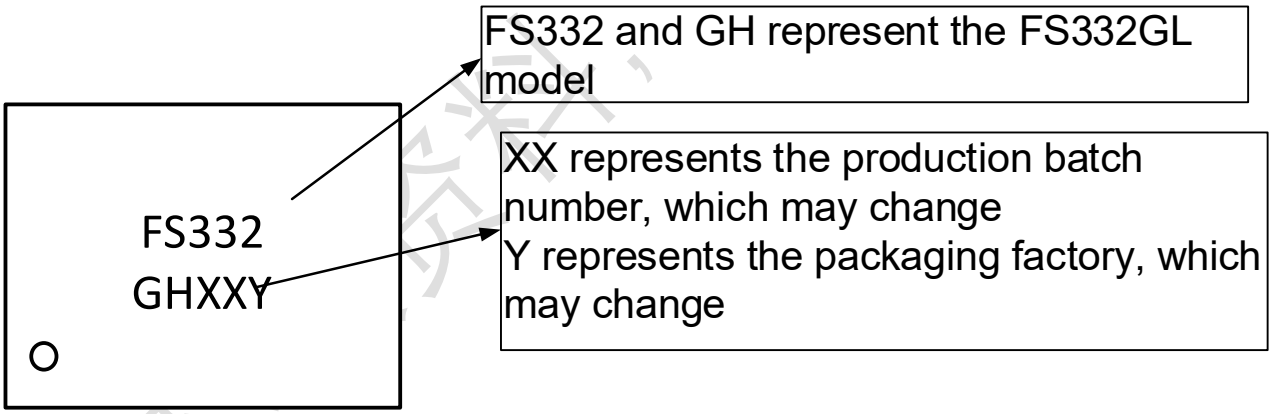
DFN1.6x1.6-4L



COMMON DIMENSIONS
(UNITS OF MEASURE=MILLIMETER)

SYMBOL	MIN	NOM	MAX
A	0.40	0.45	0.50
A1	0.00	/	0.05
A2		0.127 REF	
b	0.20	0.25	0.30
b1		0.20 REF	
D	1.50	1.60	1.70
E	1.50	1.60	1.70
e		0.65 BSC	
L	0.40	0.50	0.60

Chip silk screen information



1. FS332GH model information: FS332 and GH， constant
2. The production batch number code is used to distinguish the batch number information each time, based on changes in the production batch
3. The packaging factory code is used to distinguish packaging factory information and varies according to the packaging factory's changes

Company information and statement

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