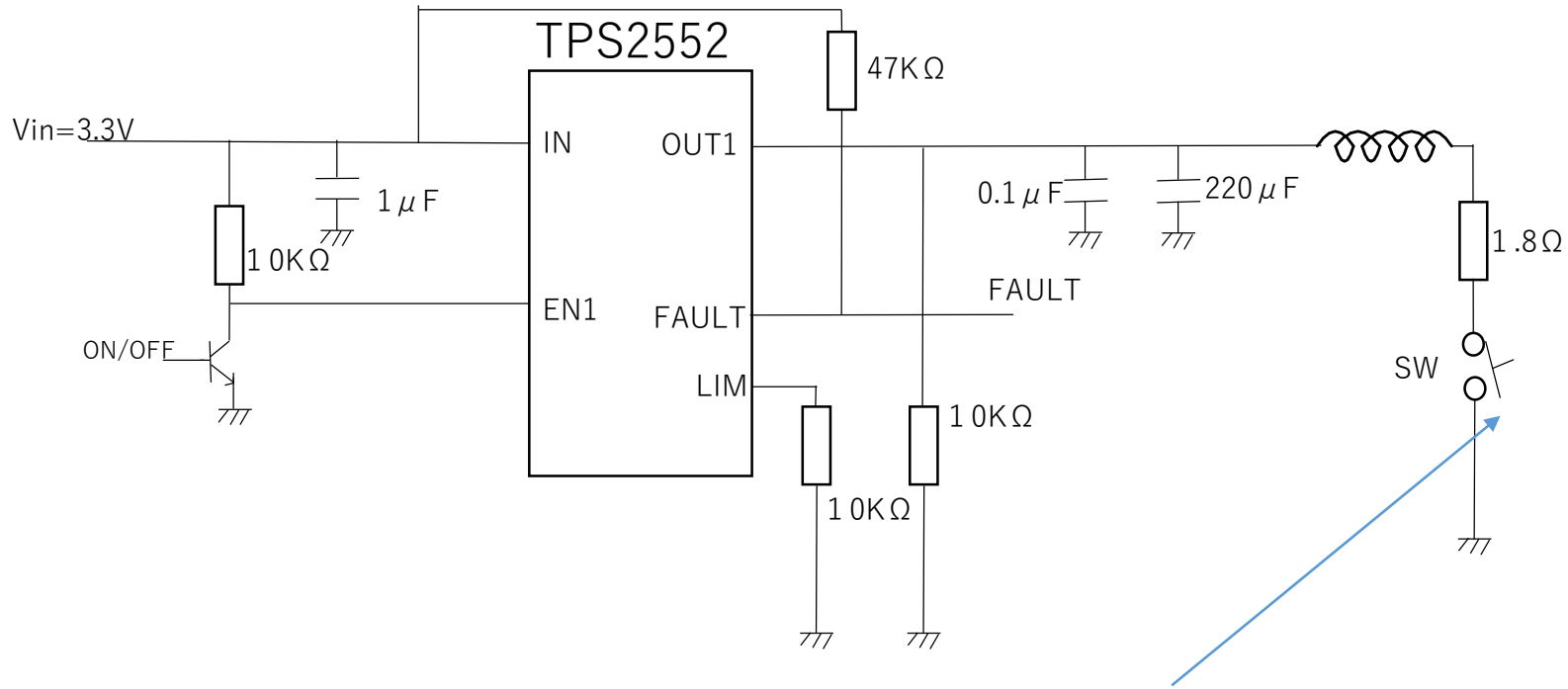
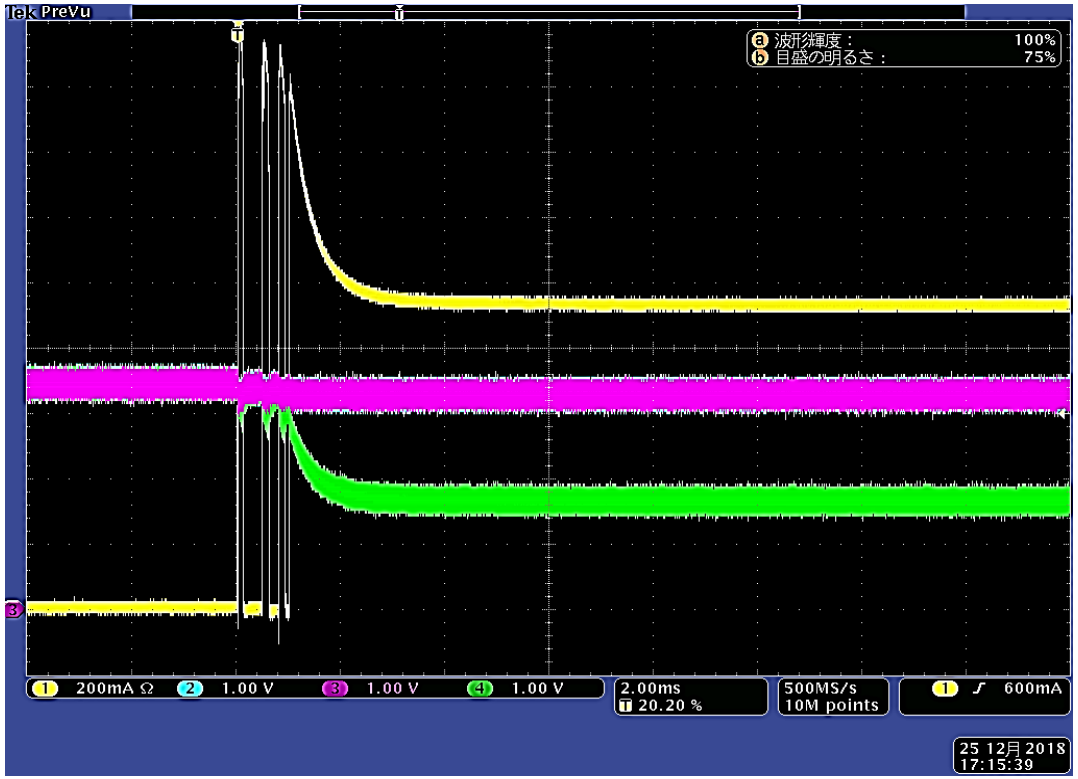
Measuring circuit



Turn this switch ON / OFF to allow overcurrent to flow and confirm operation.

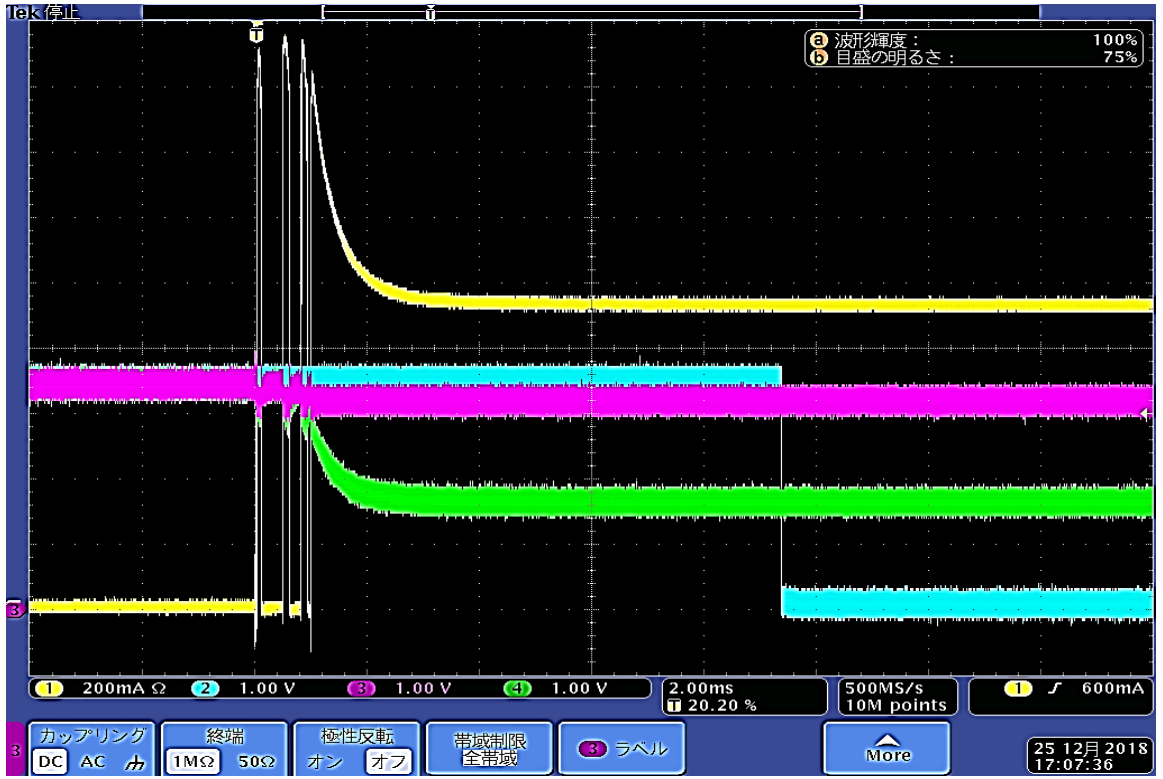
TPS2552 OUTPUT current＆FAULT PIN Waveform

Vin: Supplied from DC-DC IC on board



Ch1 : Current
CH2 : FAULT
CH3 : Vin
CH4 : Vout

Vin: Supplied from regulated power supply

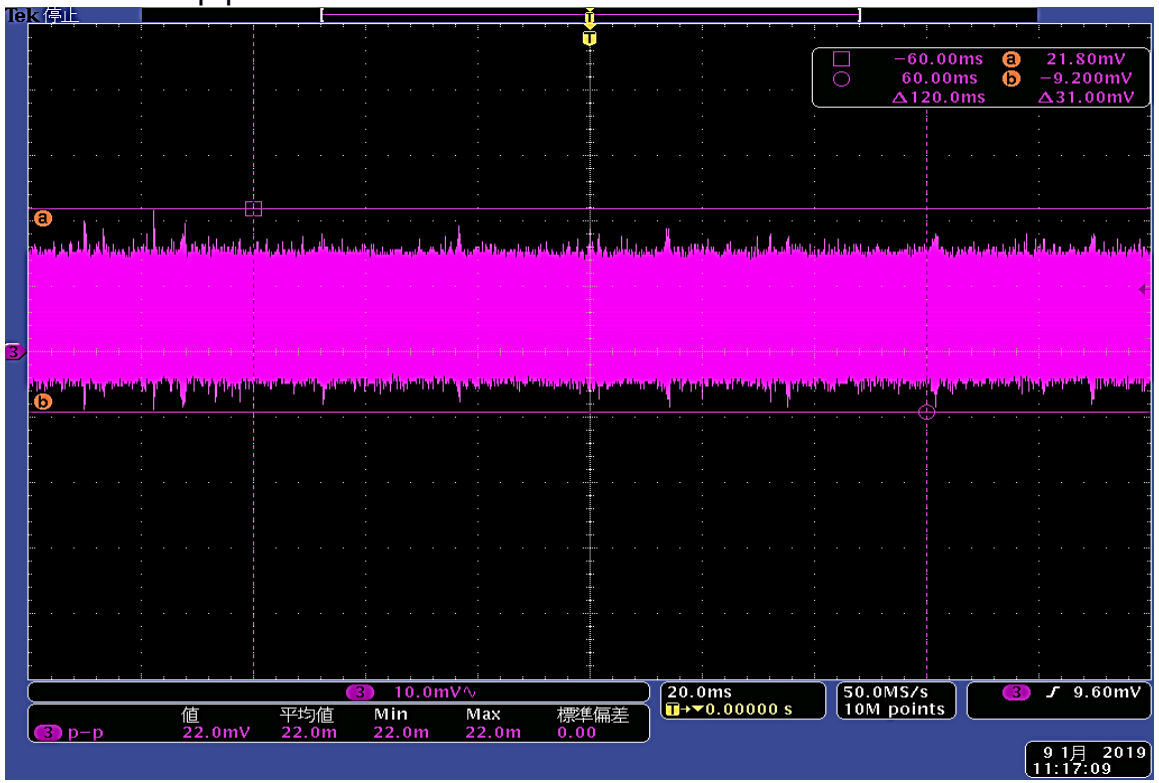


Since Vout is reduced from 3.3 V to 1.7 V, it is considered that the current limitation by TPS 2552 is in operation.
However, the FAULT signal is active at L only when the regulated power supply is used.

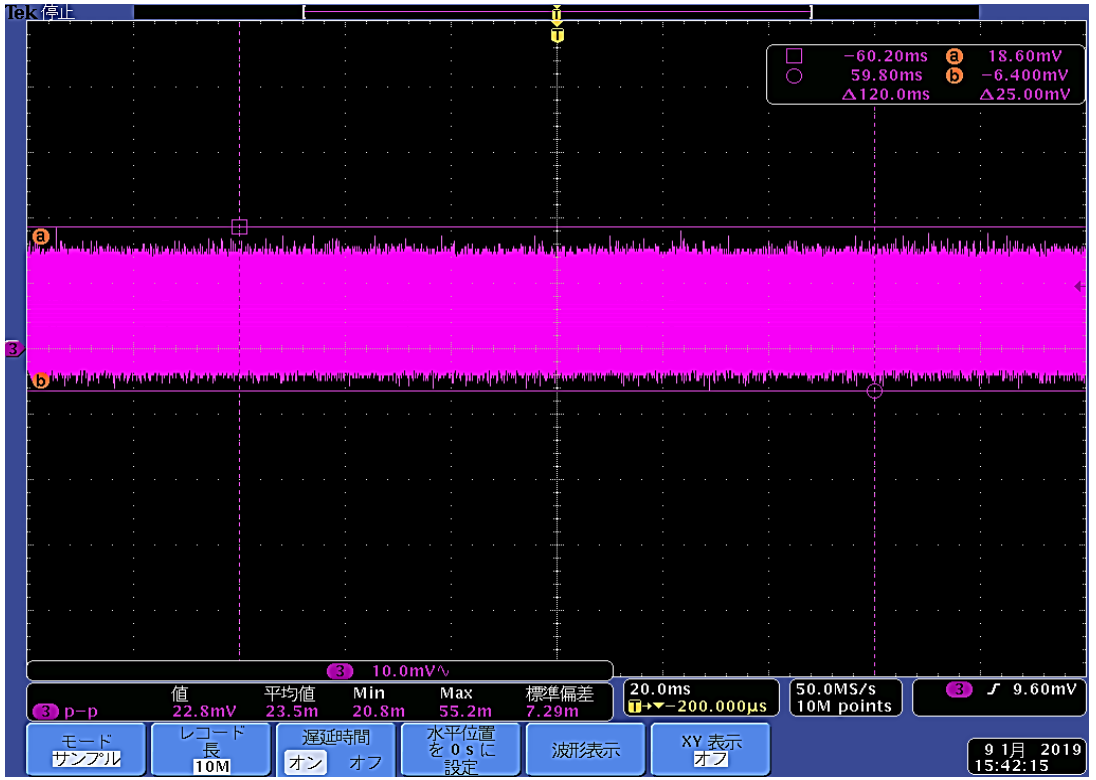
Measure the difference of Vin

Vin ripple voltage comparison (OUTSW: OFF)

Vin: Supplied from DC-DC IC on board



Vin: Supplied from regulated power supply

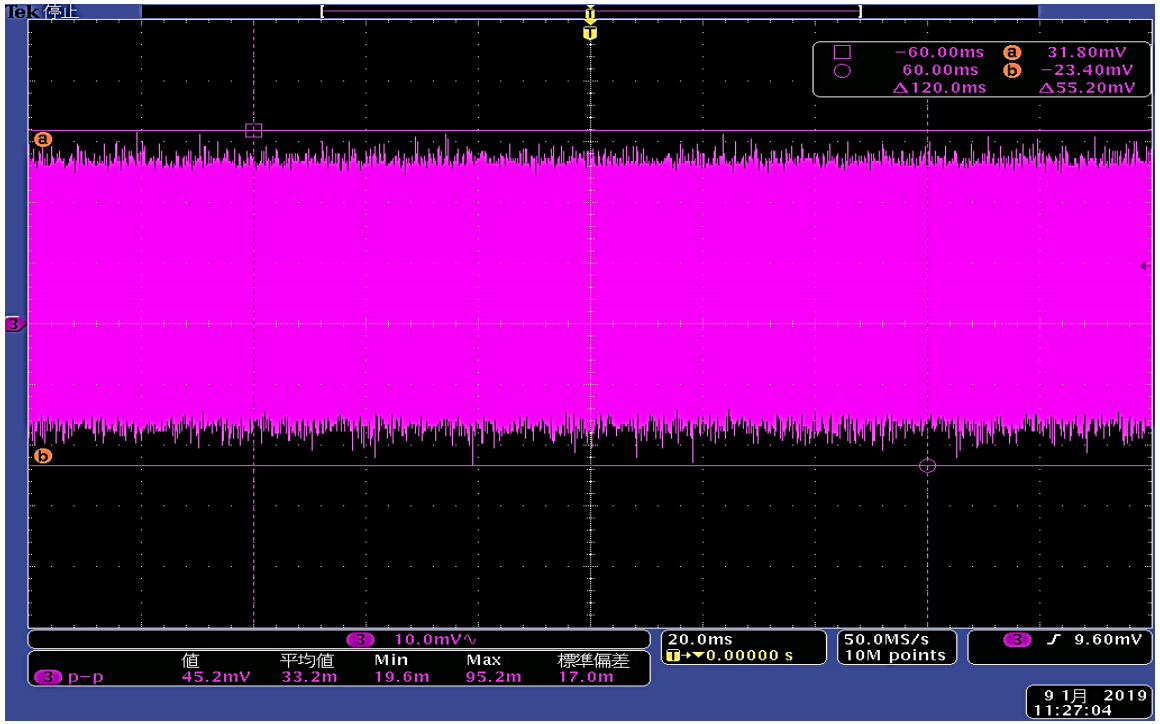


I think not to make a big difference

Measure the difference of Vin

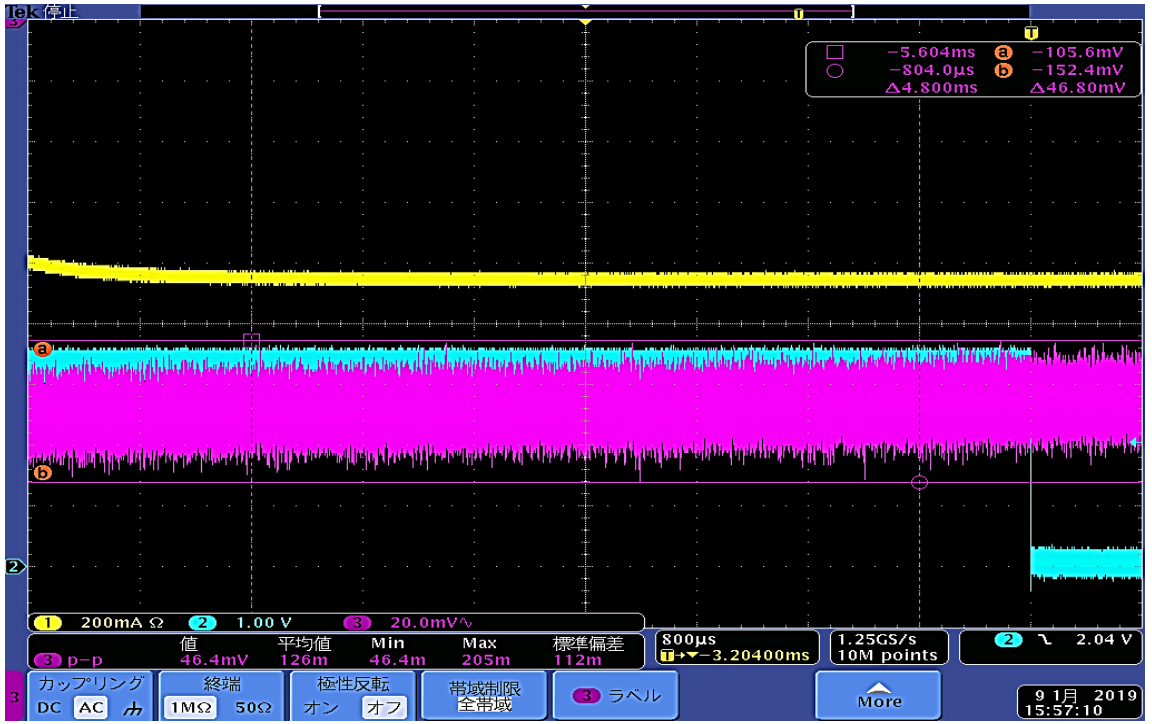
Vin ripple voltage comparison (OUTSW: ON)

Vin: Supplied from DC-DC IC on board



CH1 : Vin ripple

Vin: Supplied from regulated power supply



Ch1 : Current
CH2 : FAULT
CH3 : Vin ripple

I think that there is no big difference between both in the overcurrent condition.

Question

Why is FAULT running low for stabilized power supply and Supplied from DC - DC IC on board keep FAULT at H?