

Timer Reset Delay Function Of Li-ion 2nd Protection IC



Reported
FAE Dept.

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The low duty of the general switching charger is over 6ms, the timer reset delay function is mainly to monitor the low duty as red line in next page.

When low duty is less than 6ms (t_{VTR}), it means that's not caused by charger.

In this case, COUT pin will output H signal to turn on the MOSFET to melt the SCP after over charging voltage occurs with a delay time (t_{VDET1}).

Timer of over charging detector will **keep counting** if the V_{Cn} drops lower than V_{REL} and then rises higher than V_{DET1} within t_{VTR} as blue line in next page.

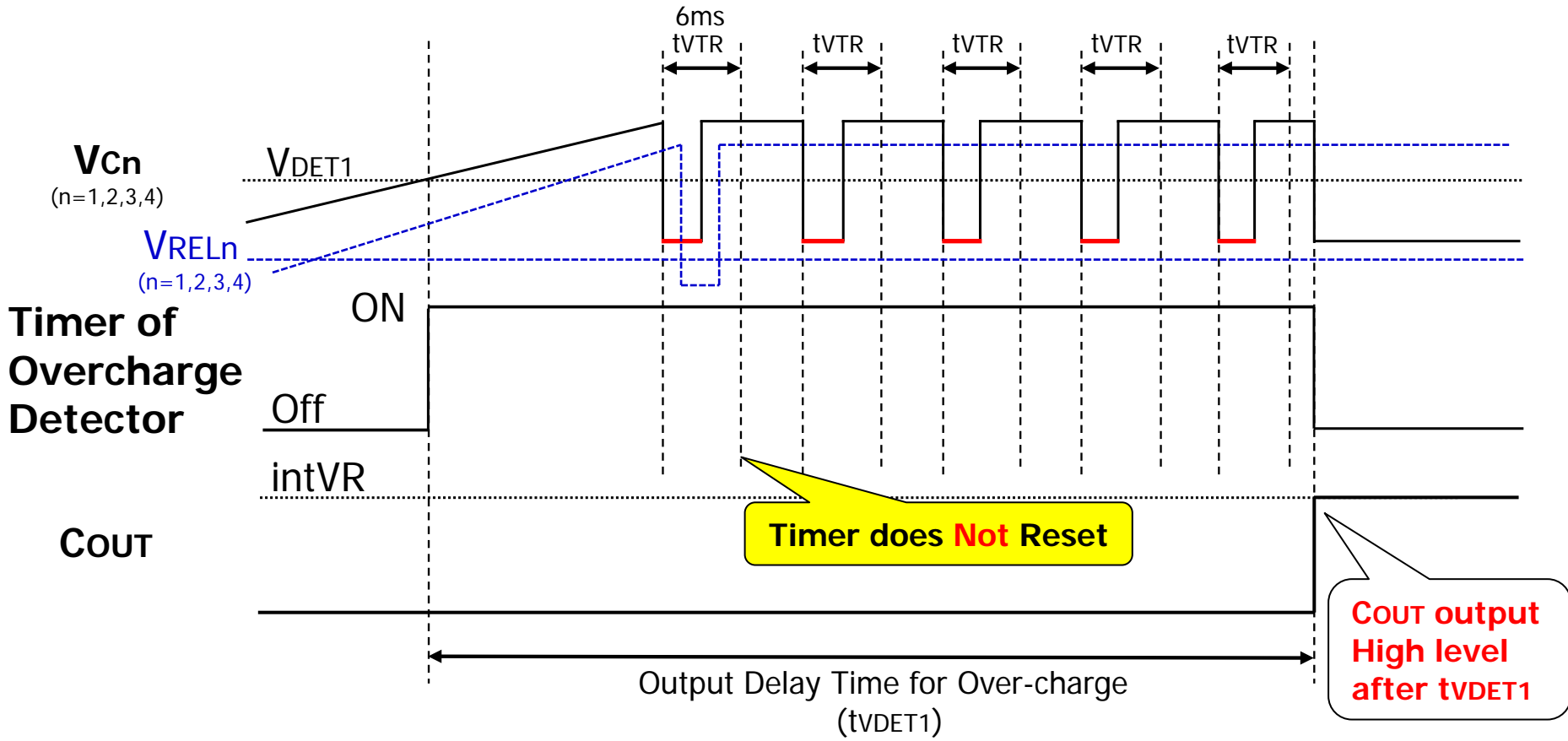


Timer Reset Delay Function

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When timer reset delay function is enabled.

Timing Chart 1 (In case of Low duty is shorter)



V_{DET1} Timer Reset Delay Time (t_{VTR}): $6\text{ms} \pm 4\text{ms}$ (25°C)
 0.04ms to 13.5ms (-40° to 85°C)



When low duty is longer than 6ms, it would be judged to normal charging, the timer will automatically reset.

The delay time will automatically re-counting, due to COUT will not output H to turn on MOSFET.

So this function can avoid malfunction, and making charging process normal.

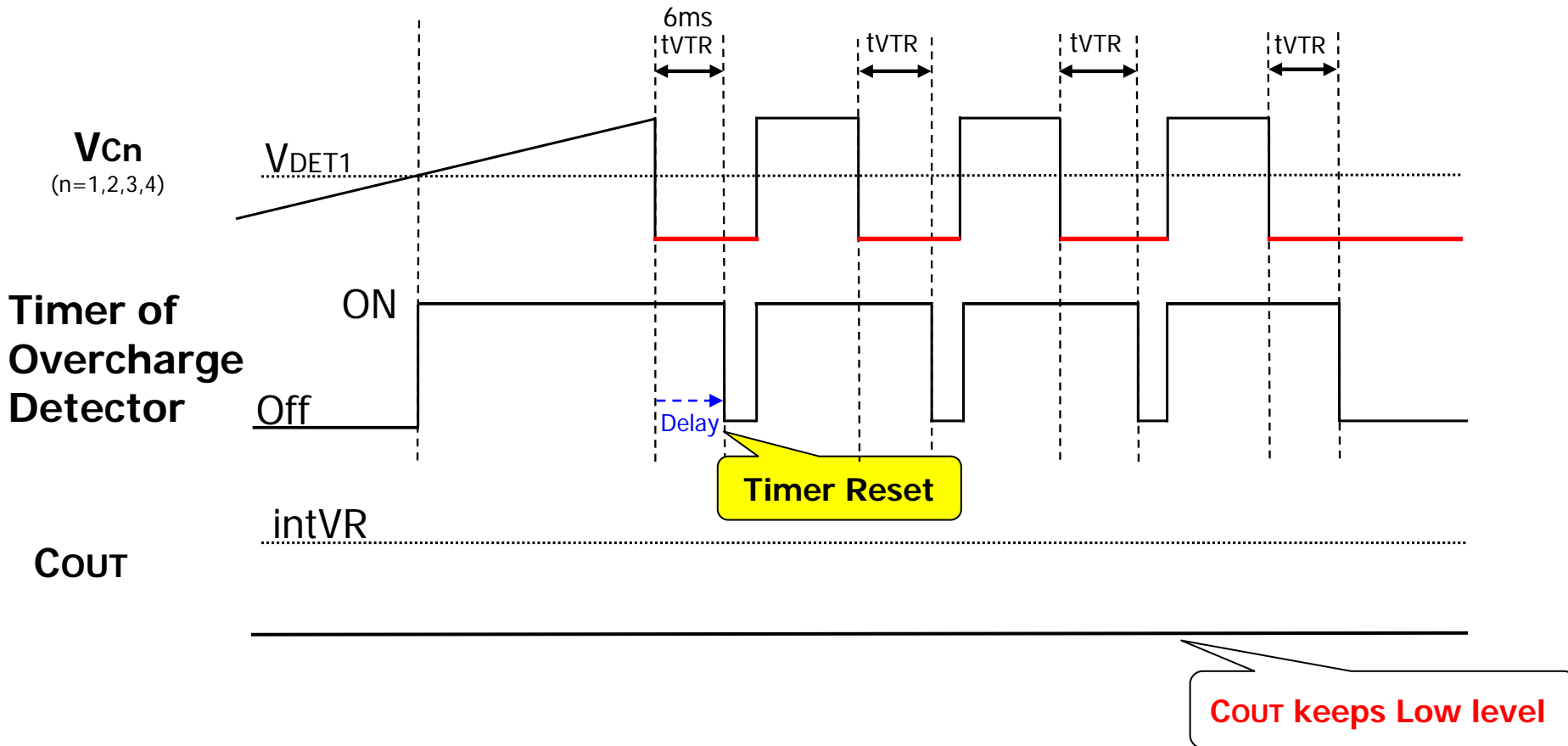


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When timer reset delay function is enabled.

Timing Chart 2 (In case of Low duty is long enough)



V_{DET1} Timer Reset Delay Time (t_{VTR}): 6ms \pm 4ms (25°C)
0.04ms to 13.5ms (-40° to 85°C)

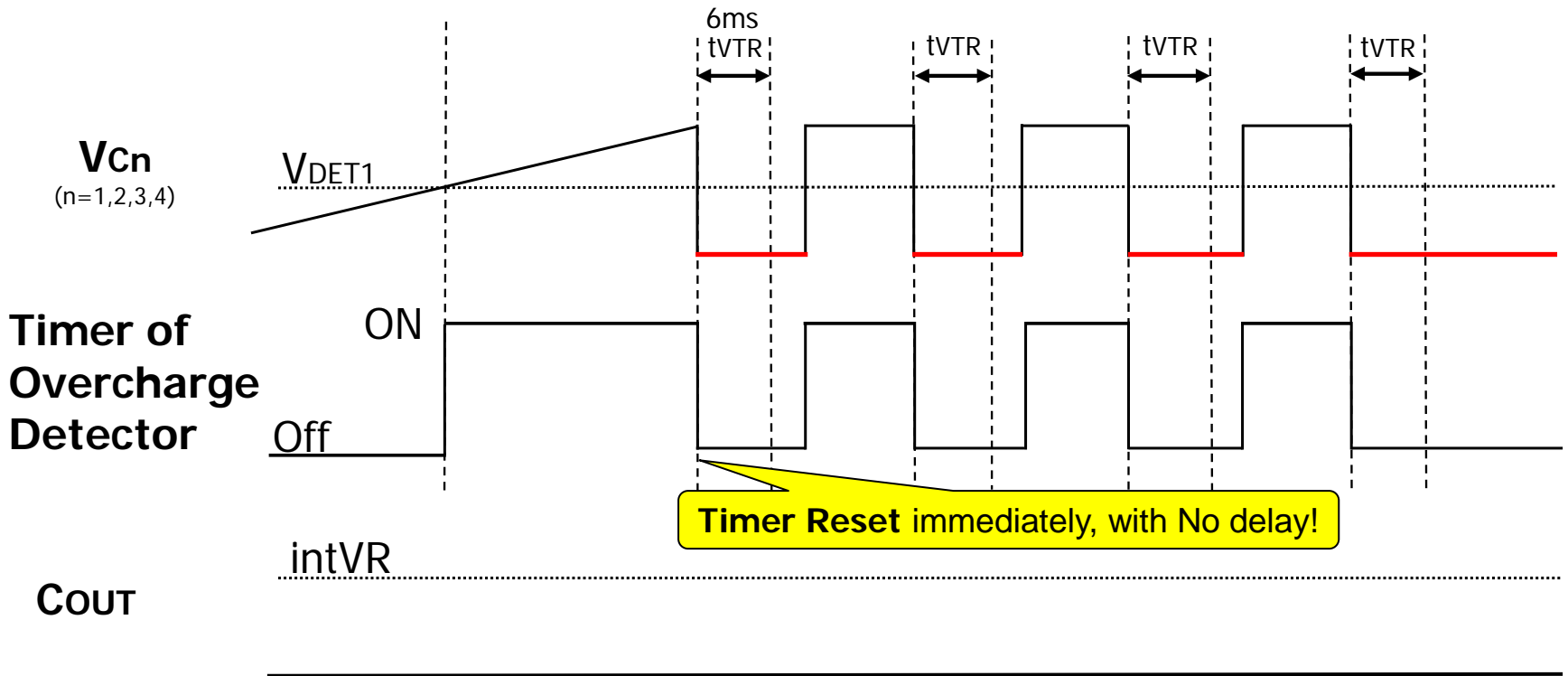


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When timer reset delay function is *disabled*.

Timing Chart 3



If the charging noise which higher than over charging detector is too short, we recommend to use **Timer reset delay time Disable version** to avoid unexpected behavior!

Cout keeps Low level



For details please contact...

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Thank You!

