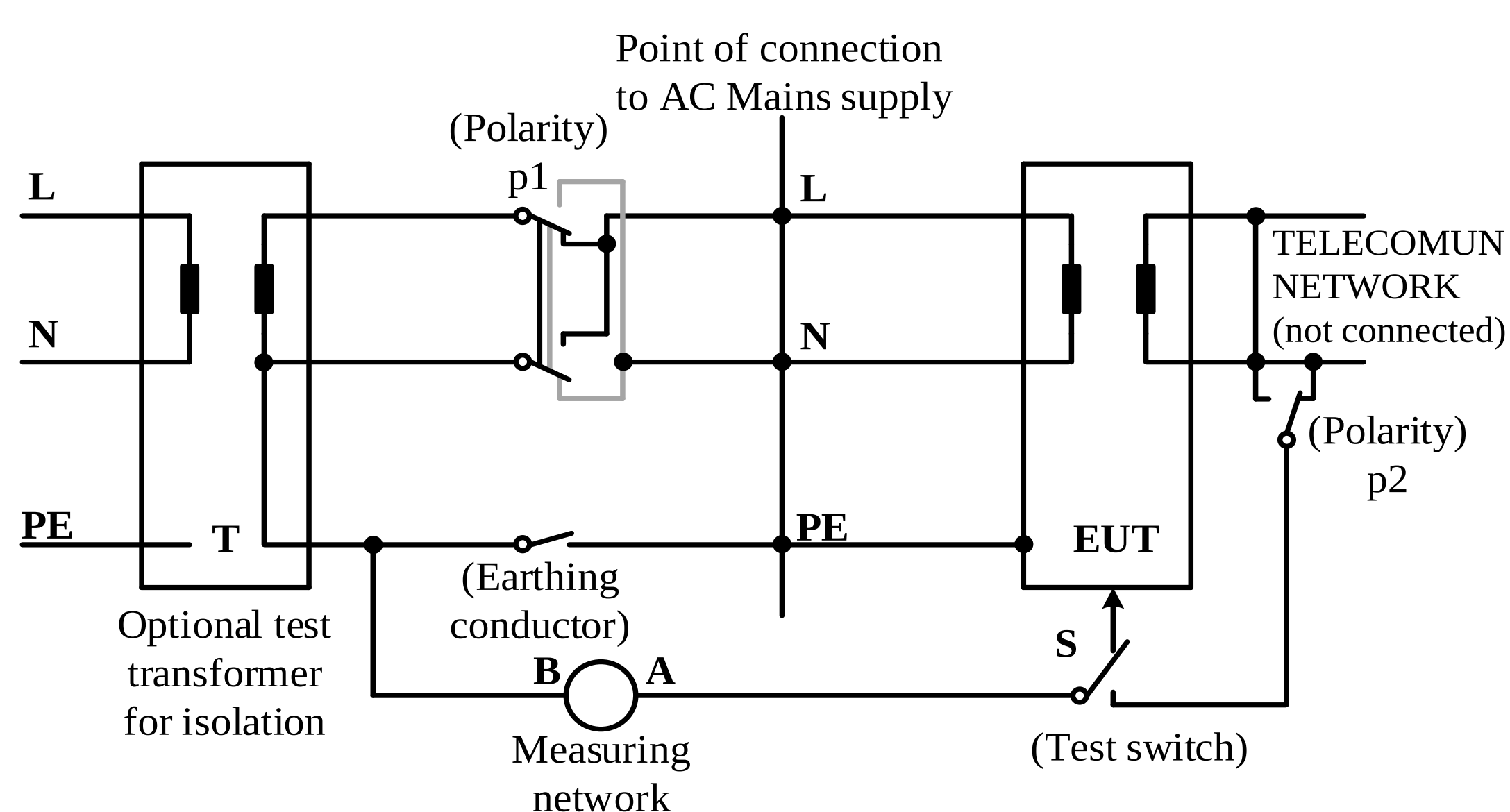


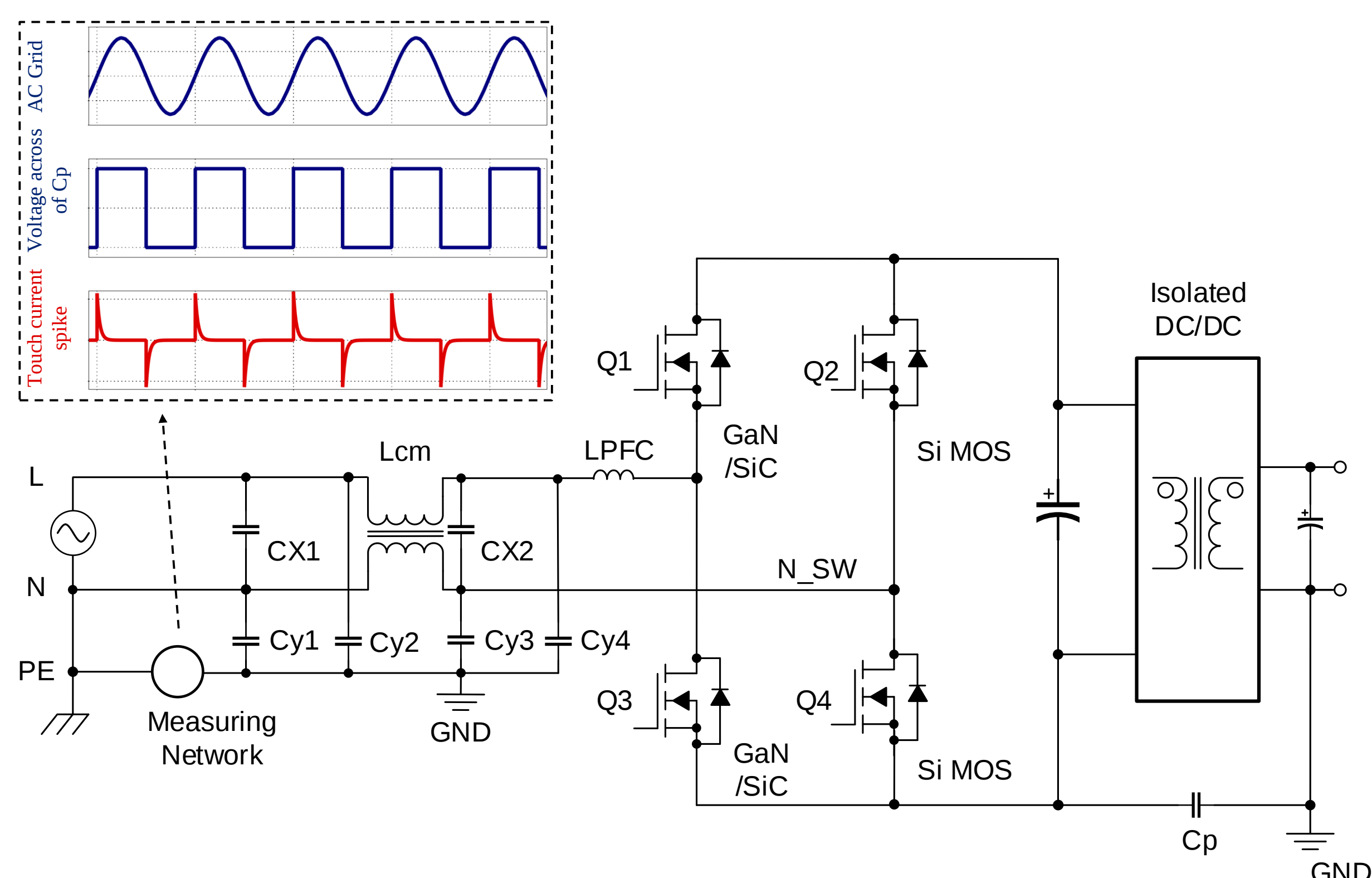
An active method to solve the touch current issue of totem-pole bridgeless PFC rectifier

Desheng Guo, Xingqi Chen, Sean Yu
Texas Instruments

➤ Problem statement

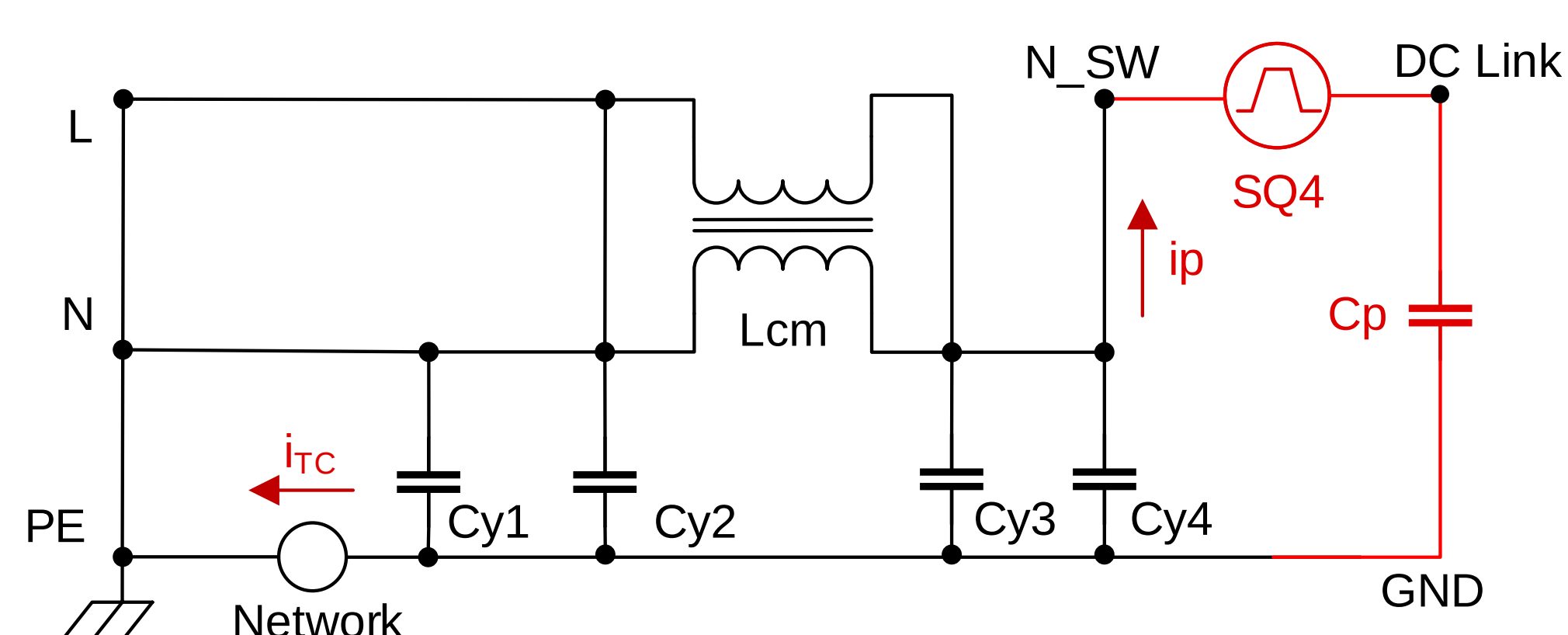


- Fig. Touch current (TC) is a mandatory test in the safety standard IEC-62368 and IEC61950.



- Fig. Tremendous TC spike appears in TC test, when using totem pole PFC

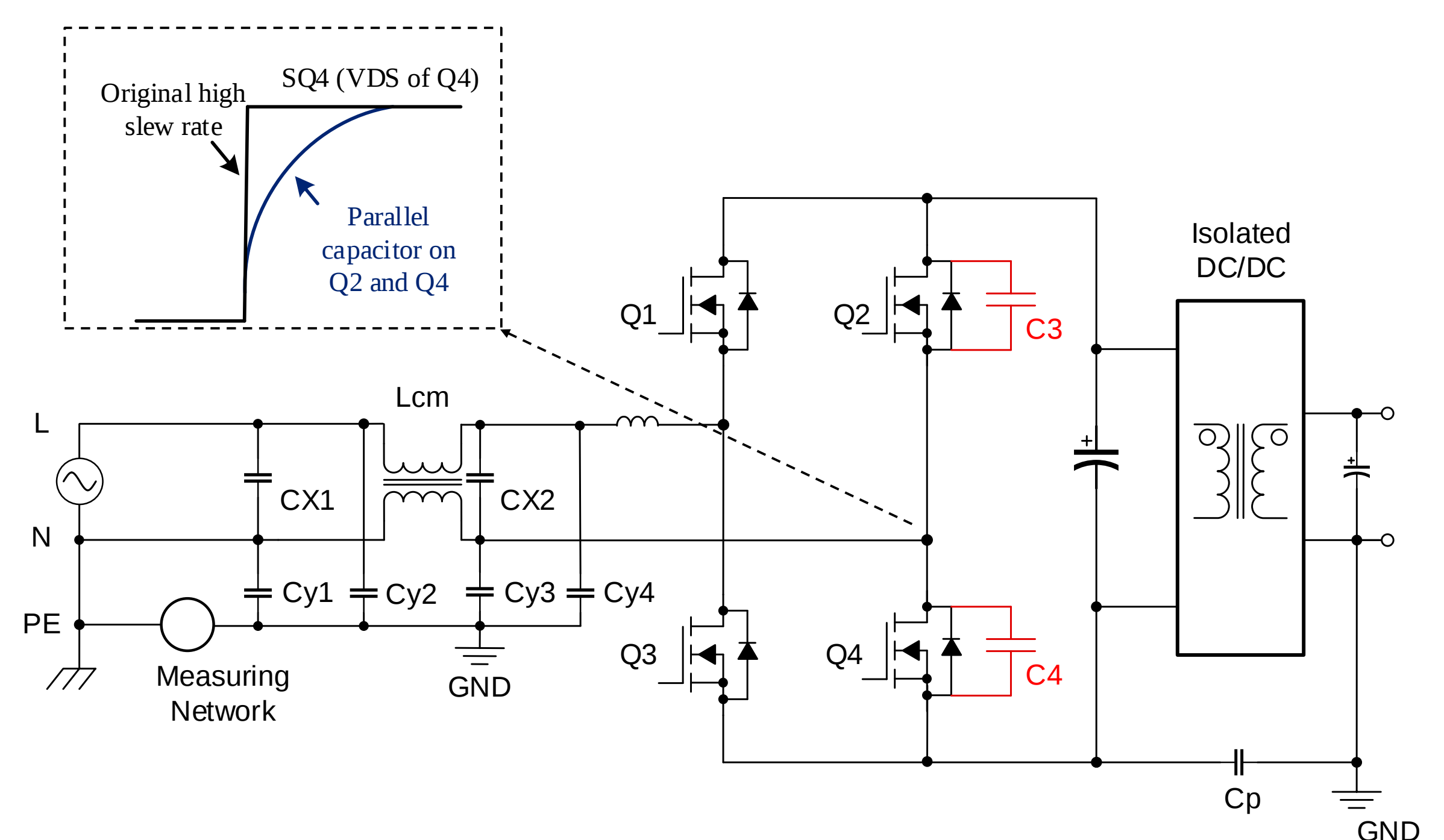
➤ Problem Analysis



- Fig Circuit model of the TC spike generation

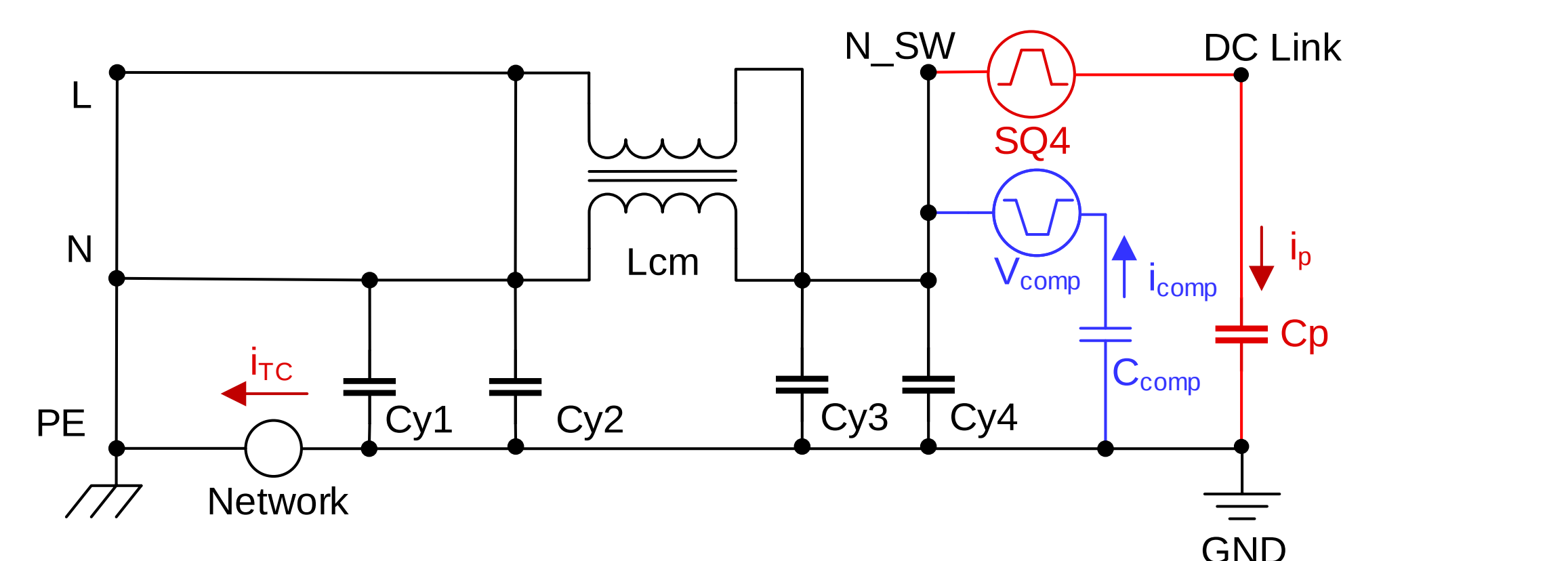
➤ Problem Solutions

❑ Passive method

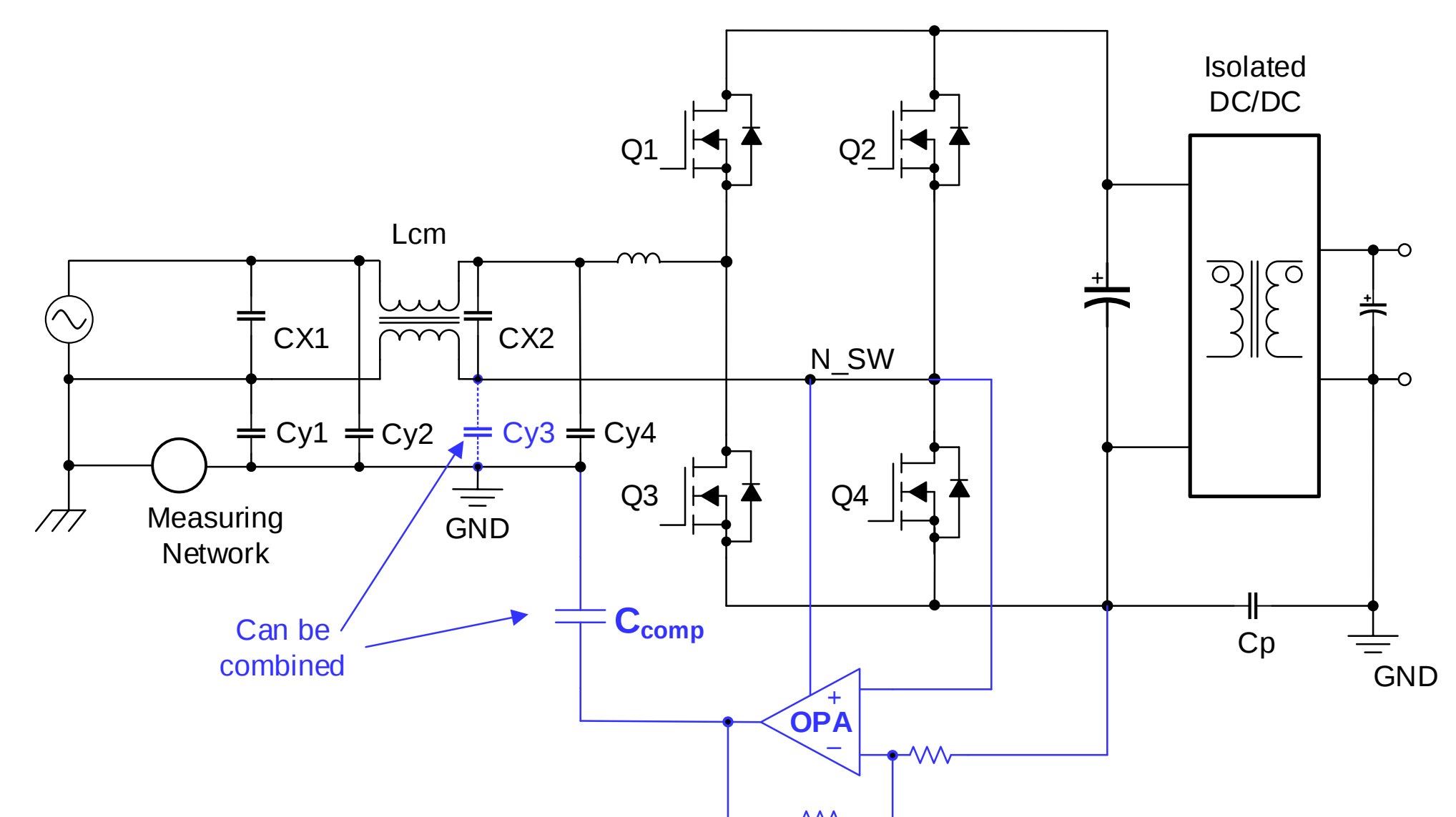


- Fig. Parallel capacitors to reduce SQ4 slew rate

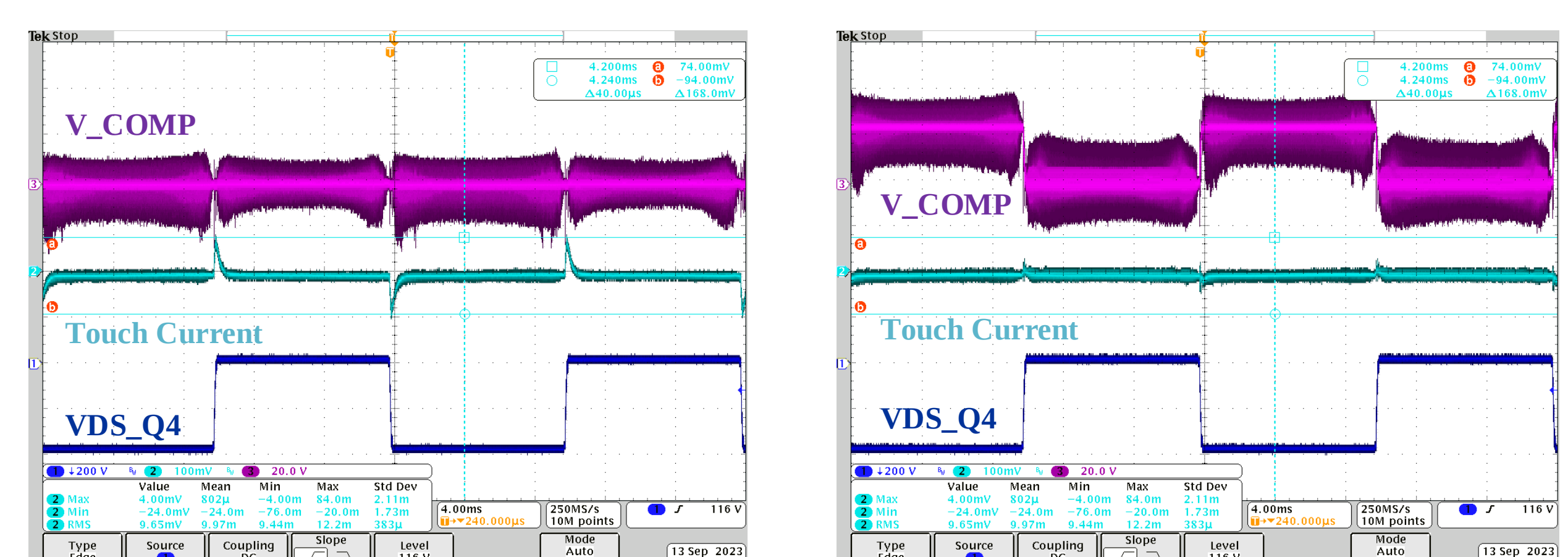
❑ Active method



- Fig. concept of active compensation



- Fig. Implementing circuits and test waveforms



× Before

✓ After