

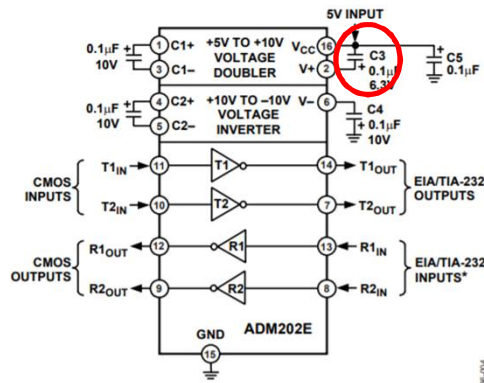
Charge-Pump DC-to-DC Voltage Converter

The charge-pump voltage converter consists of a 200 kHz oscillator and a switching matrix. The converter generates a ± 10 V supply from the input 5 V level. This is done in two stages, using a switched capacitor technique, as illustrated in Figure 6 and Figure 7. First, the 5 V input supply is doubled to 10 V, using Capacitor C1 as the charge storage element. The 10 V level is then inverted to generate -10 V, using C2 as the storage element.

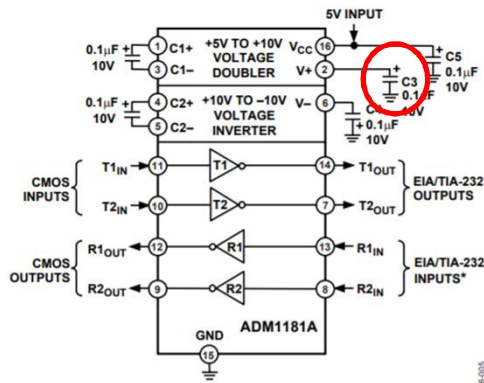
Capacitor C3 and Capacitor C4 are used to reduce the output ripple. Their values are not critical and can be increased if desired. On the ADM202E, Capacitor C3 is shown connected between V+ and V_{CC}, whereas it is connected between V+ and GND on the ADM1181A. It is acceptable to use either configuration with both the ADM202E and ADM1181A. If



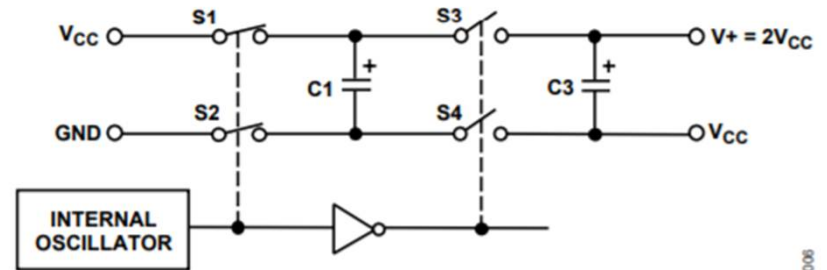
For ADM202E and ADM1181A, that means that C3 can be connected either between V+ and GND or between V+ and V_{CC}?



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NOTE: C3 CONNECTS BETWEEN V+ AND GND ON THE ADM1181A

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Is the following correct for Doubler charge pump operation?

First, S1 and S2 are close (S3 and S4 are open), next, S4 and S3 are close (S1 and S2 are open), after that, V+ can output 2V_{CC}.