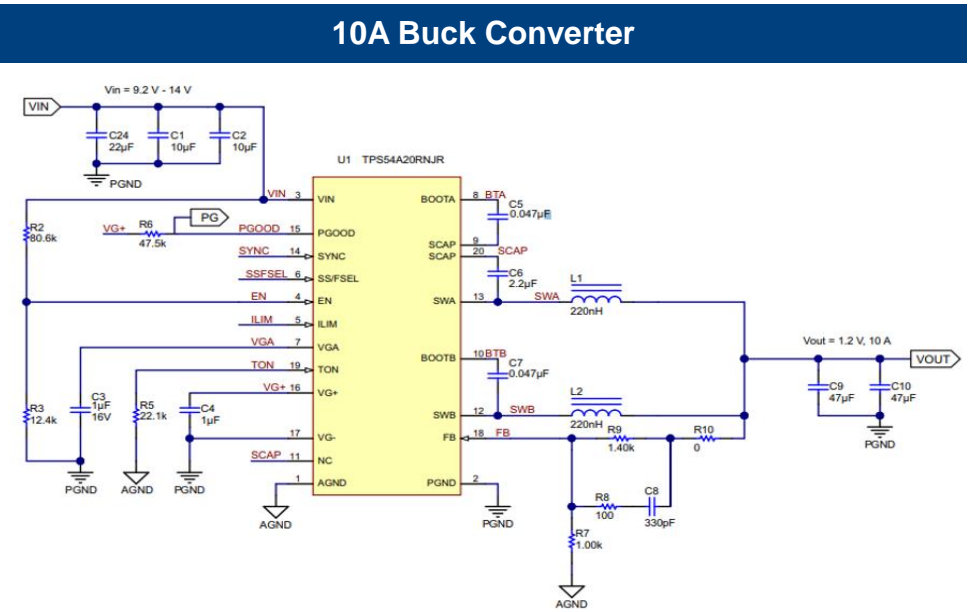
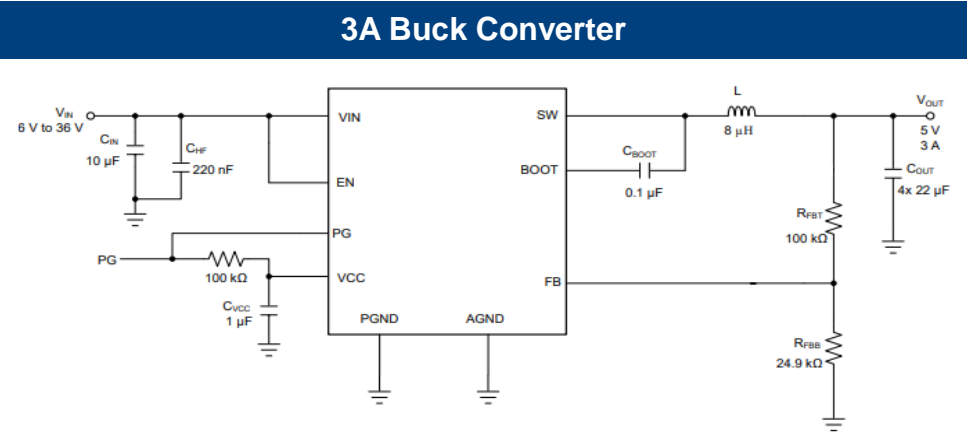


Buck Converter

The buck converter is used in switch mode power supply (SMPS) circuits where the DC output voltage needs to be lower than the DC input voltage. The DC input can be derived from rectified AC or from any DC supply. The switching transistor between the input and output of the buck converter continually switches on and off at high frequency. To maintain a continuous output, the circuit uses the energy stored in the inductor, during the on periods of the switching transistor, to continue supplying the load of the off periods. The capacitors used in a buck converter filters ripple current of inductor so it can minimize ripple presence at the output of the converter. The output capacitor is required to minimize the voltage overshoot because voltage can overshoot above regulated value when a full load is suddenly removed. A buck converter is a form of DC to DC converter that can take an input directly from a DC source, such as a battery. The input could also be DC derived from an AC source via a rectifier circuit.



Reference	KEMET Part Number
C_{IN}	<ul style="list-style-type: none">C1210C106K5RACTUMMC16.5106K50C31TR24
C_{HF}	<ul style="list-style-type: none">C1812C224K5GACTUMMC7.3224K50K33TR12
C_{VCC}	<ul style="list-style-type: none">C0805C105K5RACTUESH105M050AC3LA
C_{BOOT}	<ul style="list-style-type: none">C1210C104K5GACTUMMK5104M50J01L16.5TR18
C_{OUT}	<ul style="list-style-type: none">C1210C226K3RACTUJSNDK5220MB6M0
L	<ul style="list-style-type: none">PLC-0745-8R2S

Reference	KEMET Part Number
C_1, C_2	<ul style="list-style-type: none">C1210C106K6PACTUMMC16.5106K50C31TR24
C_3, C_4	<ul style="list-style-type: none">C0805C105K6RACTUESH105M050AC3LA
C_5, C_7	<ul style="list-style-type: none">C0805C473K3GACTUMMC10.2473K50A31TR16
C_6	<ul style="list-style-type: none">C0805C225K3RACTUEDK225M035A9BAA
C_8	<ul style="list-style-type: none">C0402C331K3GACTUPFR5331J63J11L16.5TR18
C_9, C_{10}	<ul style="list-style-type: none">C1210C476M4PACTUJSNDJ5470MB6M0
C_{24}	<ul style="list-style-type: none">C1210C226M3RACTUJSNDK5220MB6M0
L1, L2	<ul style="list-style-type: none">MPCH1040LR22G