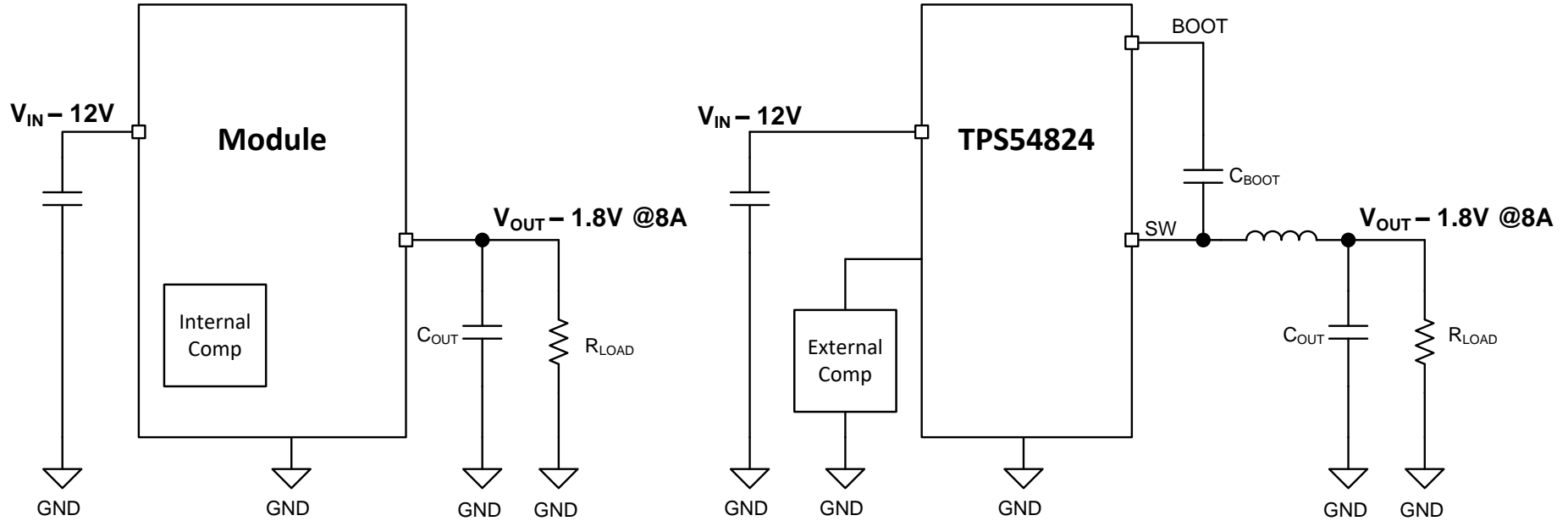
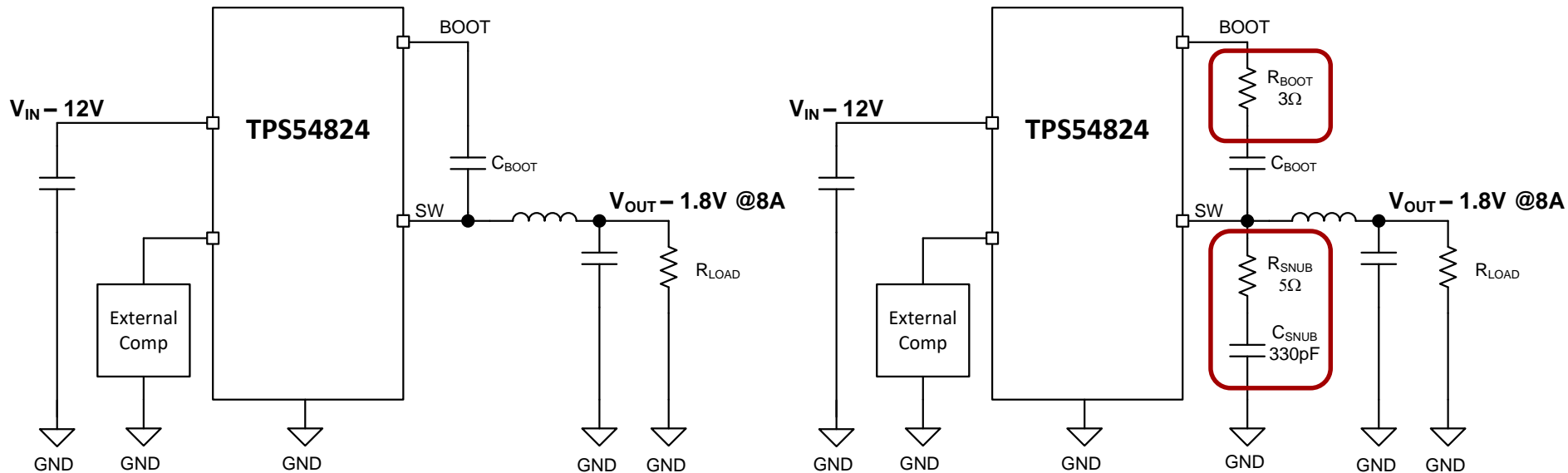


DC/DC Converter Flexibility Enables Adding Noise Reduction Circuitry

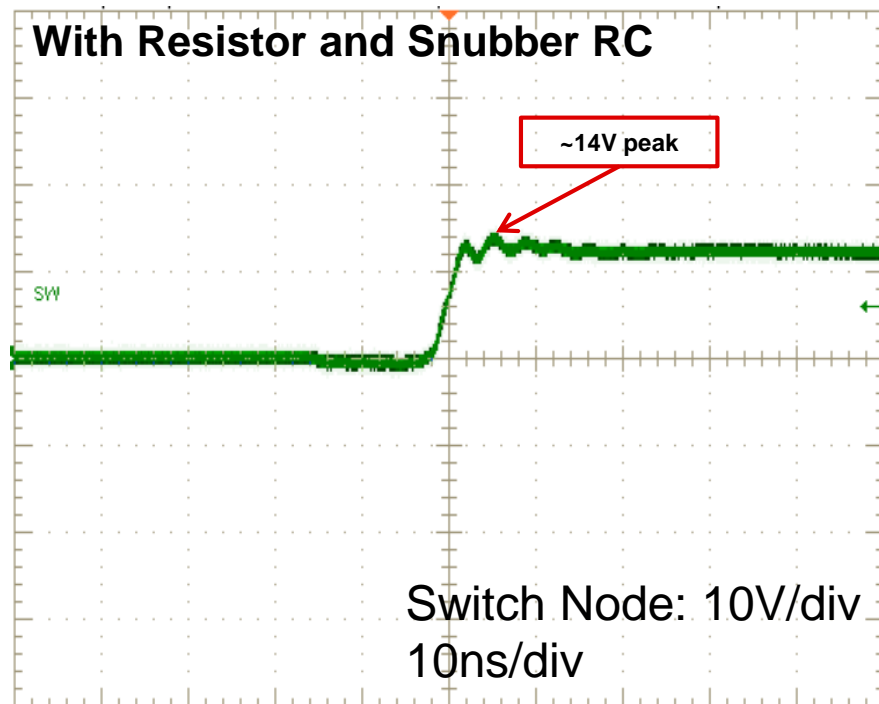
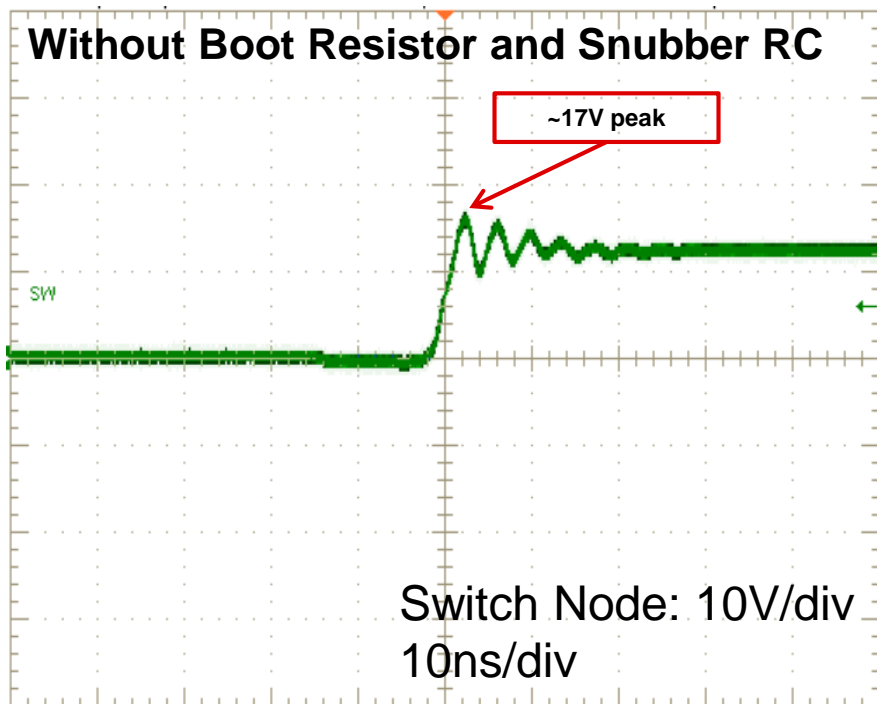
Integrated power module vs. discrete DC/DC converter



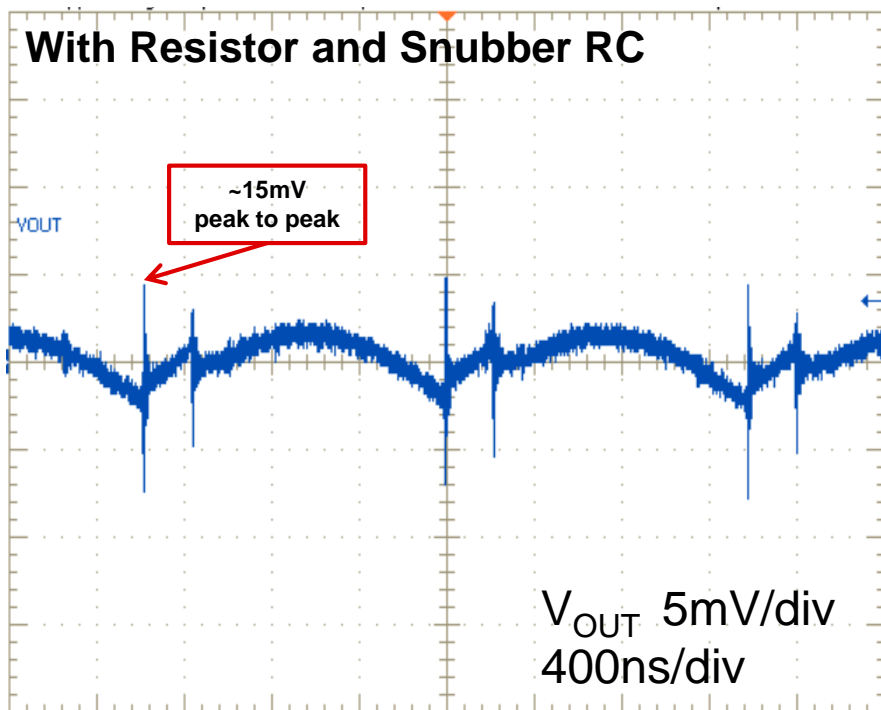
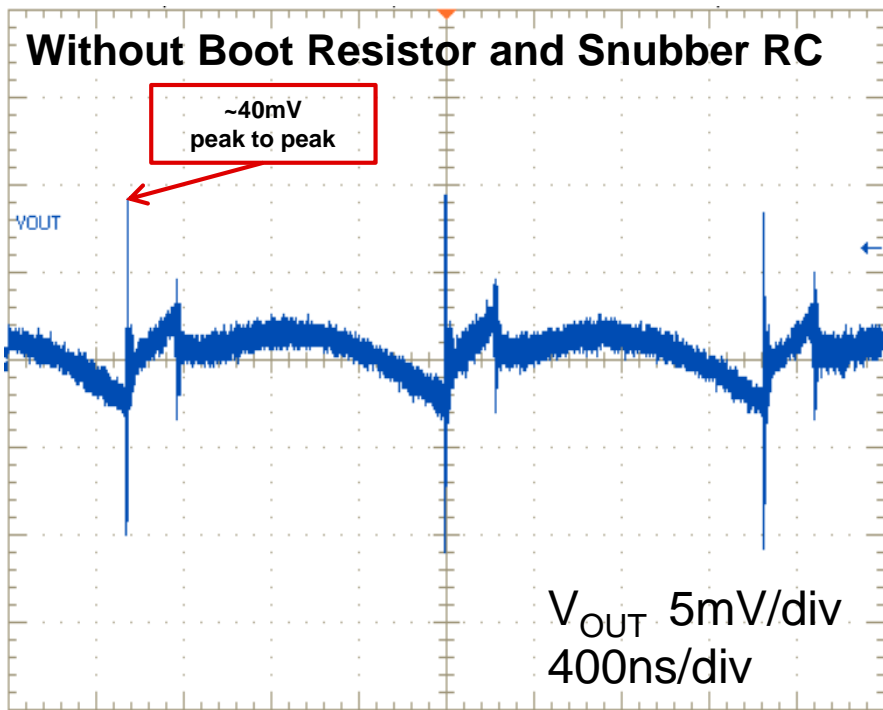
DC/DC converter comparison without & with noise reduction circuitry



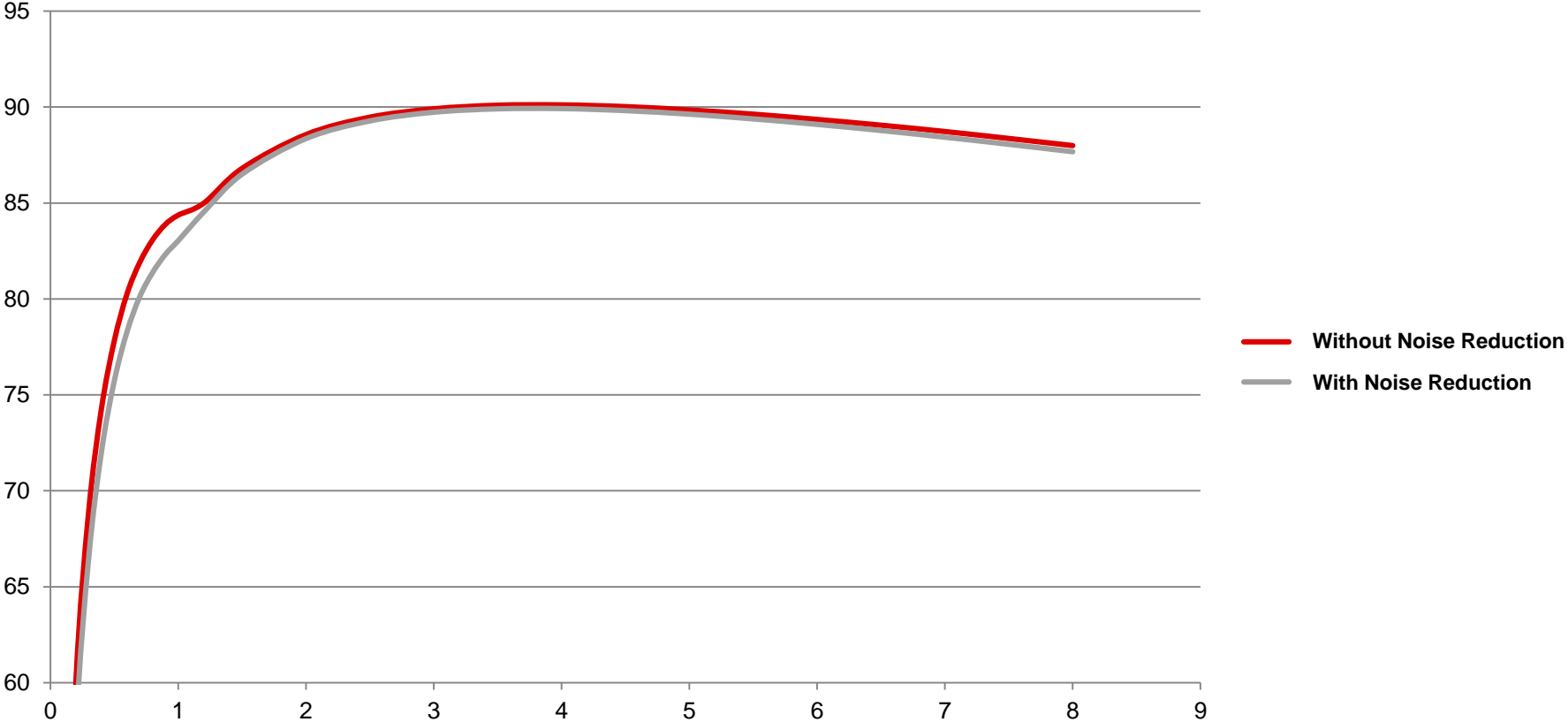
Switch node ringing



V_{OUT} ripple



Efficiency comparison



Summary

- **Modules are simple to design with but**
- **Discrete DC/DC converters enable the addition of simple circuits to help reduce noise in your system**
 - **Snubber Circuit 1 - 5Ω 0603 resistor and 1 - 330pF 0603 Capacitor**
 - **Boot Resistor 1 - 3Ω 0603 resistor**
 - **Small impact on overall solution size**
 - **Decreased the switch node ringing amplitude by 3 volts from $\sim 17V$ peak to $\sim 14V$ peak**
 - **Decreased the V_{OUT} ripple from $\sim 40mV$ peak to peak to $\sim 15mV$ peak to peak**
 - **Small impact on the overall circuit Efficiency**