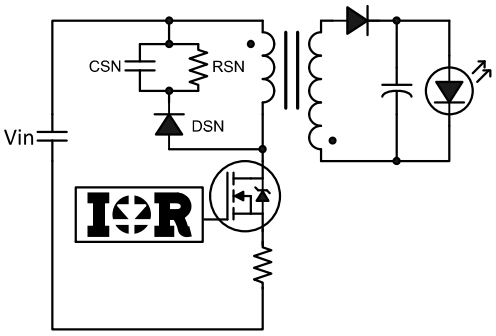

Figure 12: RCD Snubber

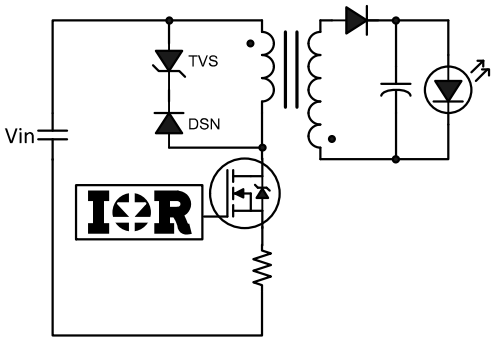

Figure 13: TVS Snubber

The results of the MOSFET Snubber circuits are shown in Figures 14-16. In this particular example, a high leakage inductance was present in the Flyback inductor due to poor construction. In Figure 14, without a snubber circuit the drain voltage of the MOSFET on turn-off reached a peak voltage of 775V! This is above the 700V rating of the MOSFET used in this example, a destructive level to the primary switch. In Figure 15, the RCD snubber is used which effectively clamped the peak voltage to 524V. Notice the large amount of ringing present due to the leaky inductor. The ringing may be damped by adding a resistor in series with CSN (be careful as this increases the peak voltage at turn-off), but a better solution is to construct the Flyback inductor as described in the previous section in order to achieve a low leakage design and avoid such excessive ringing caused by the leakage in the first place. Figure 16 shows the effectiveness of using a TVS, which clamped the peak voltage to 488V and also damped the ringing. The downside to this solution is the additional cost of the TVS.

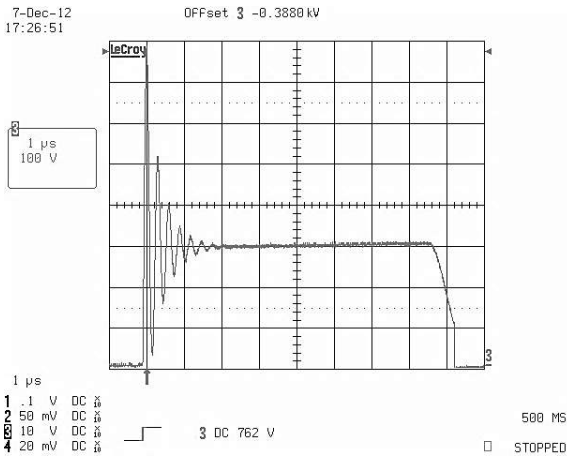

Figure 14: Drain Voltage No Snubber

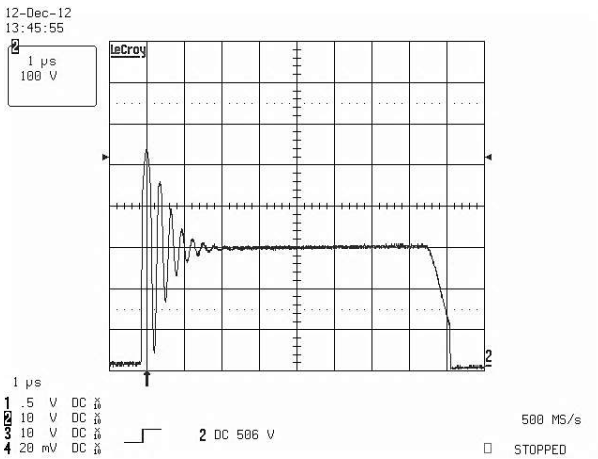

Figure 15: Drain Voltage RCD Snubber