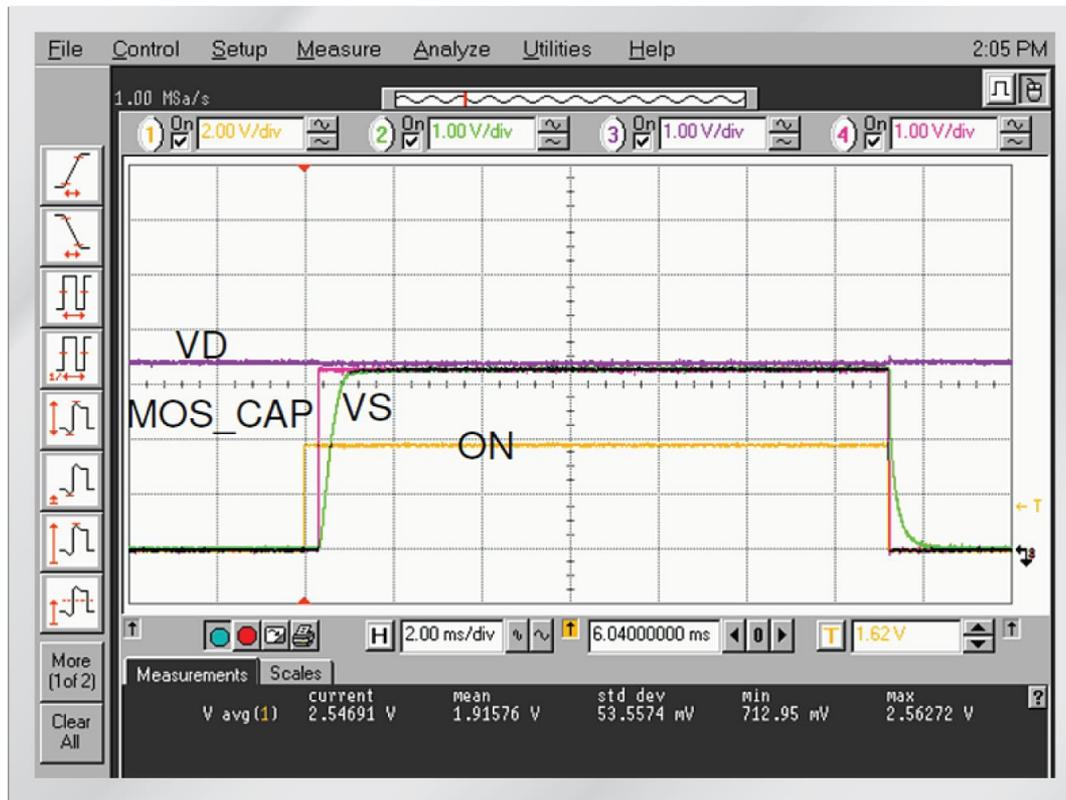# Green꘡FET3™

## Over-current and Short-circuit Protection

GreenFET3 Over-current Protection

If programmed current-limit threshold is not reached, then normal-mode operation continues. Internal thermal protection circuit is not activated.

GreenFET3 Over-current Protection

If current-limit threshold is reached, then thermal protection is activated when $V_S < 0.25V$.
When die temperature reaches thermal protection threshold, IPS operation is cycled between
125C and 100C indefinitely so long as V_S remains higher than 0.25V.
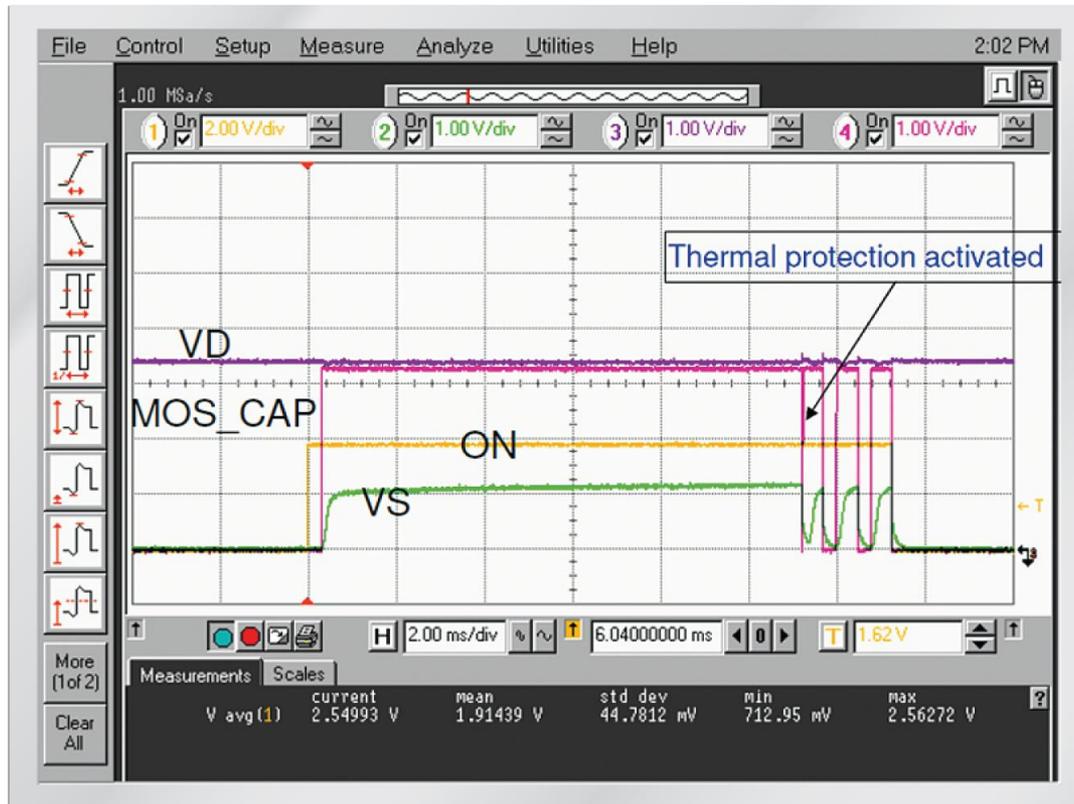
GreenFET3 Short-circuit Protection

Under short-circuit conditions at VOUT, internal thermal protection circuit is not triggered, output voltage $V_S = 0$, and MOSFET is protected from damage.
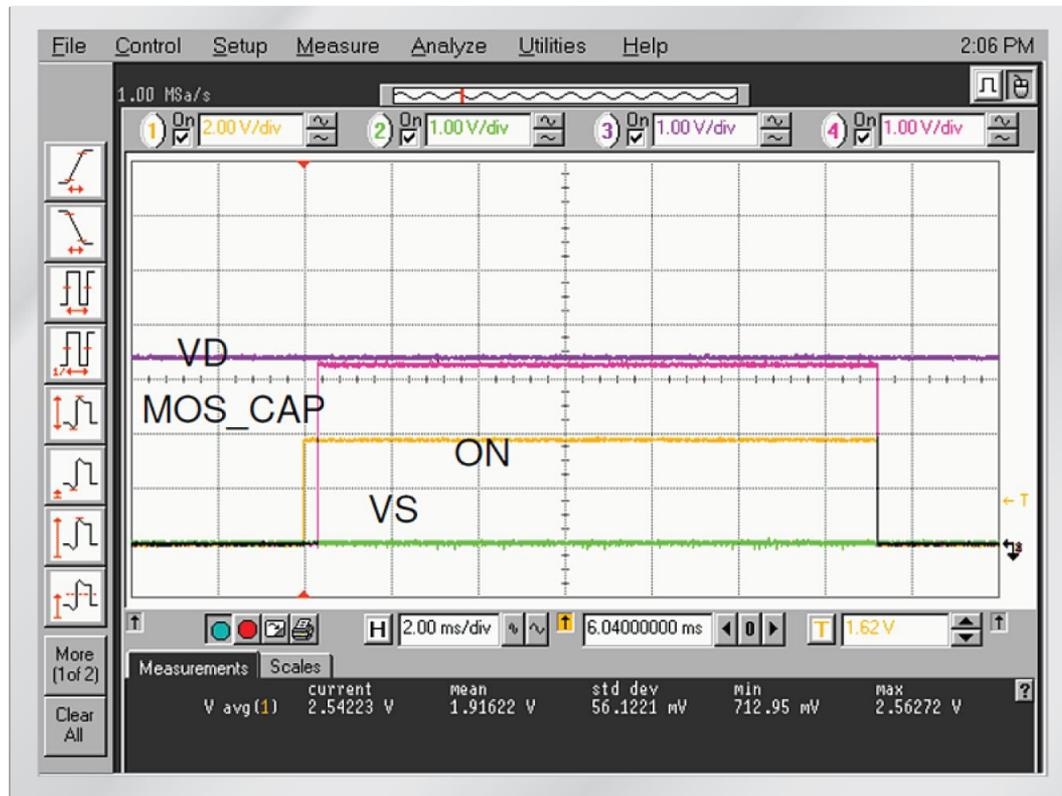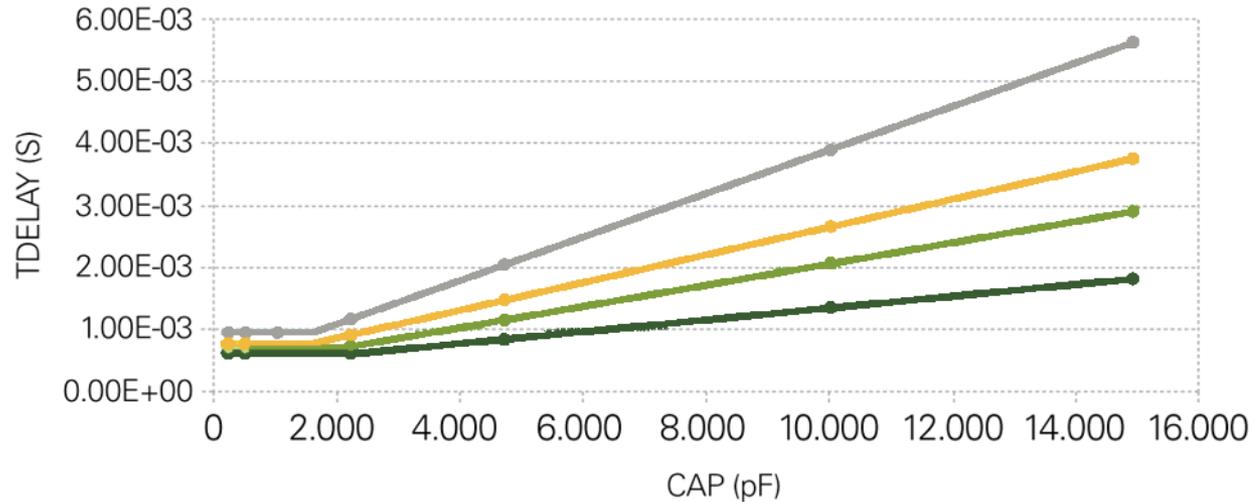
Green⟫FET3™

Turn-on Time and VOUT (VS) Ramp Rates

GreenFET3 Turn-ON Time

SLG59M301V - T_{DELAY}: ON(50%) – VD(90%)
VDD = 5.0 V, 25ºC, CL = 33 µF, I = 100 mA

VD	250pF	500pF	1030pF	2230pF	4730pF	10030pF	14930pF
1.5V	6.85E-04	6.85E-04	6.85E-04	6.90E-04	7.76E-04	1.30E-03	1.81E-03
2.5V	7.54E-04	7.52E-04	7.49E-04	7.51E-04	1.11E-03	2.02E-03	2.88E-03
3.3V	7.74E-04	7.80E-04	7.75E-04	8.15E-04	1.38E-03	2.59E-03	3.73E-03
5.0V	8.53E-04	8.50E-04	8.51E-04	1.08E-03	1.98E-03	3.82E-03	5.59E-03

GreenFET3 VOUT (VS) Ramp Rates

Conditions: $C_{CAP} = 10$ µF; VDD = 3.3 V; $V_D = 3.3$ V