

TEXAS INSTRUMENTS

Test Data For PMP7958 5/21/2013

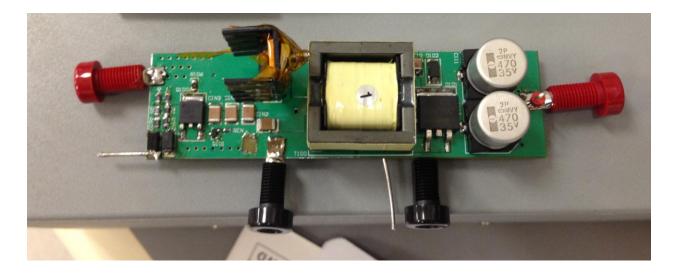


Vin	300VDC to 600VDC
Vout	20VDC
lout Max.	1.5A
Fsw	80 kHz

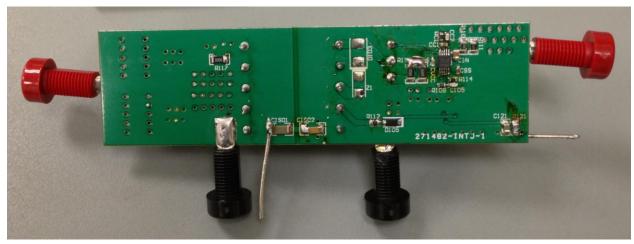
FABRICATION

Board Dimensions: 4 "x 1.1"

Top Side

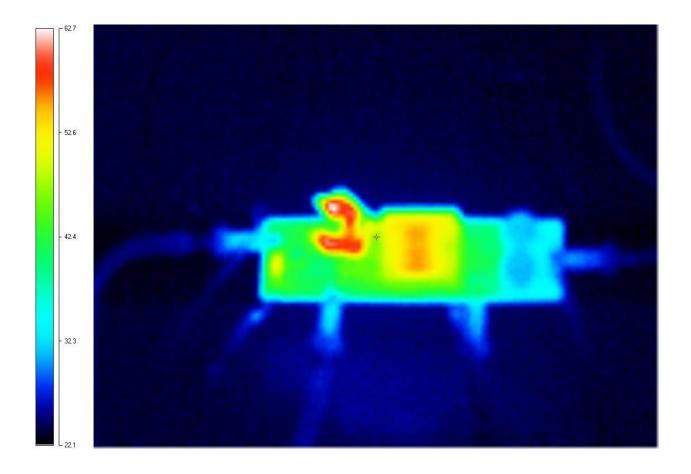


Bottom Side





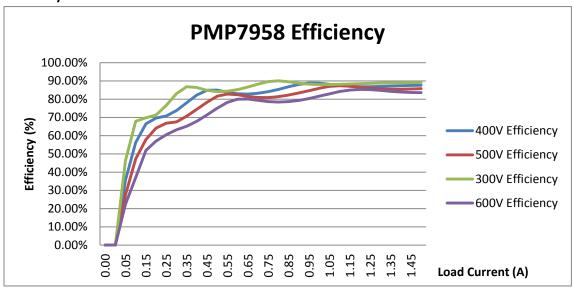
Thermal Image



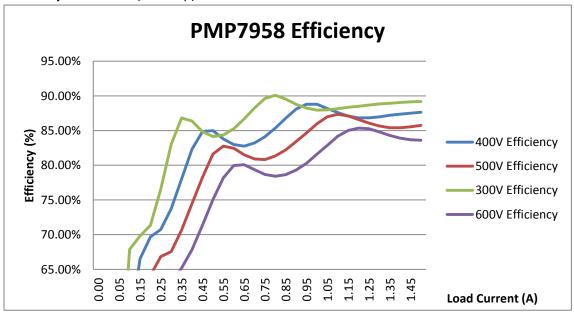
The thermal image was taken with the input voltage at 600V, and the load set to 1.5 Amps. The board was left running for twenty minutes. The PCB had a consistent temperature of 32°C to 42°C. The MOSFET operated close to 63°C.



Efficiency Curve Data

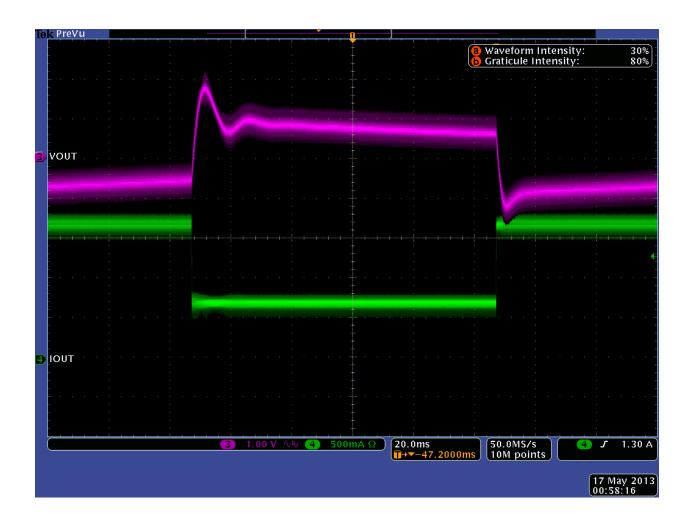


Efficiency Curve Data (Close up)



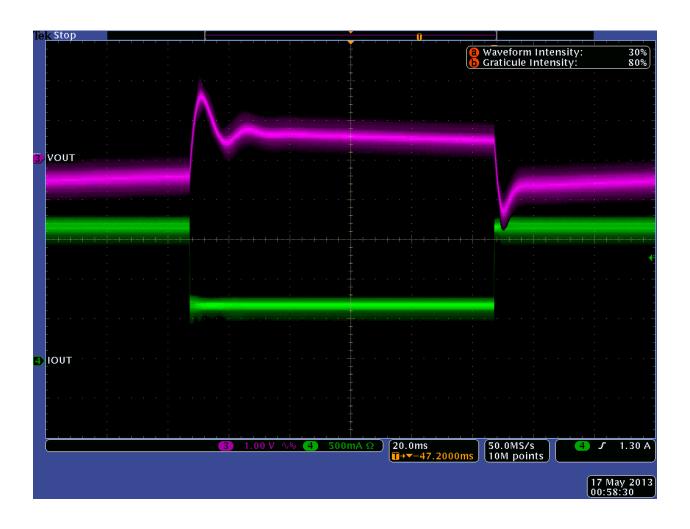


Load Transient at 300Vin; lout Transient from 0.5A -1.5A



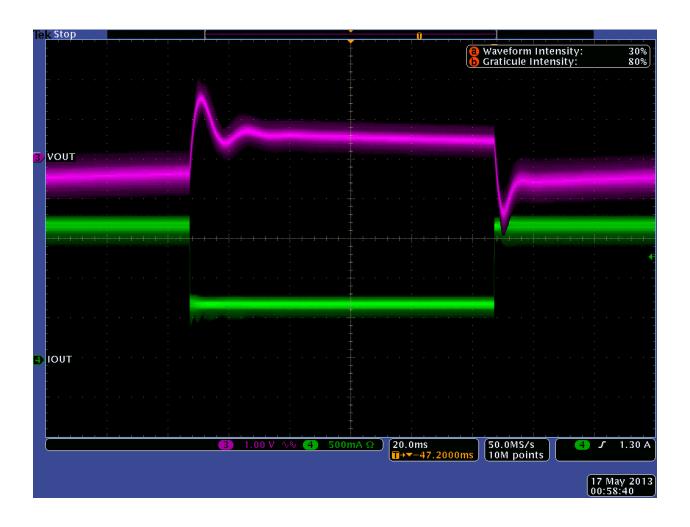


Load Transient at 400Vin; lout Transient from 0.5A -1.5A





Load Transient at 500Vin; lout Transient from 0.5A -1.5A



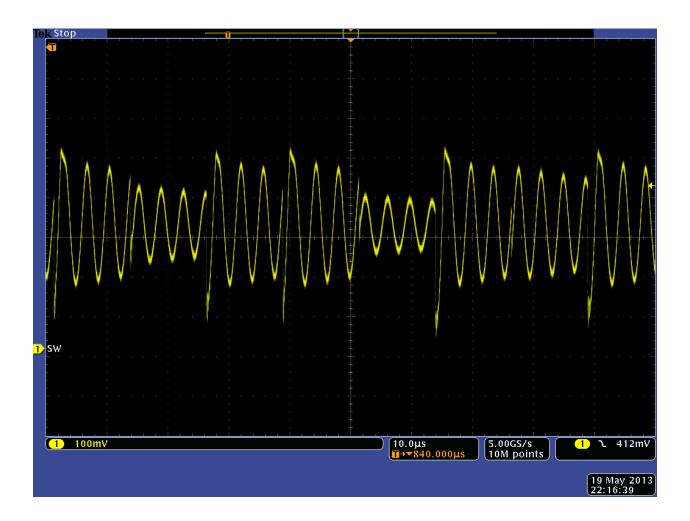


Load Transient at 600Vin; lout Transient from 0.5A -1.5A



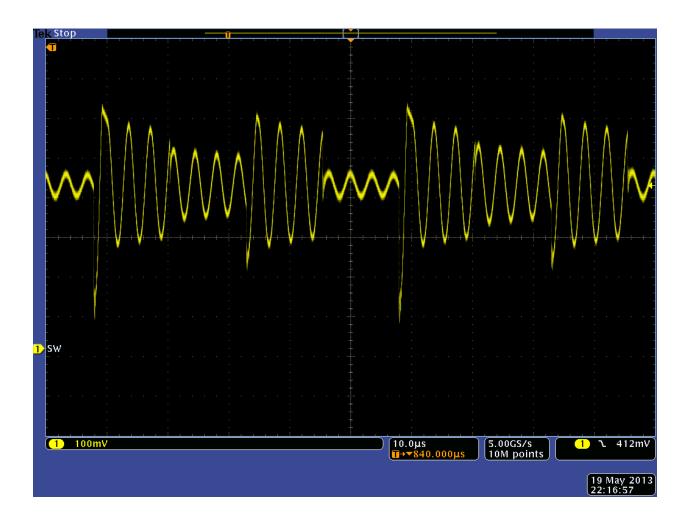


SW at 300Vin; 0A Load; (High Voltage probes used to attenuate signal; 1,000x Attenuation)





SW at 400Vin; 0A Load; (High Voltage probes used to attenuate signal; 1,000x Attenuation)



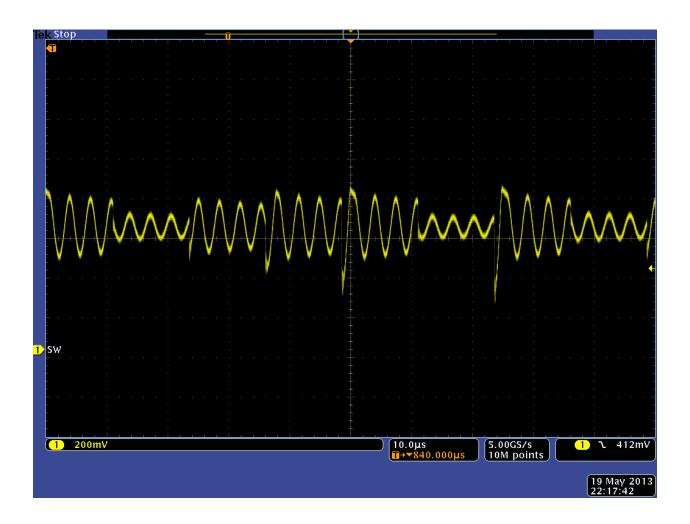


SW at 500Vin; 0A Load; (High Voltage probes used to attenuate signal; 1,000x Attenuation)





SW at 600Vin; 0A Load; (High Voltage probes used to attenuate signal; 1,000x Attenuation)





SW at 300Vin; 1.5A Load; (High Voltage probes used to attenuate signal; 1,000x Attenuation)





SW at 400Vin; 1.5A Load; (High Voltage probes used to attenuate signal; 1,000x Attenuation)



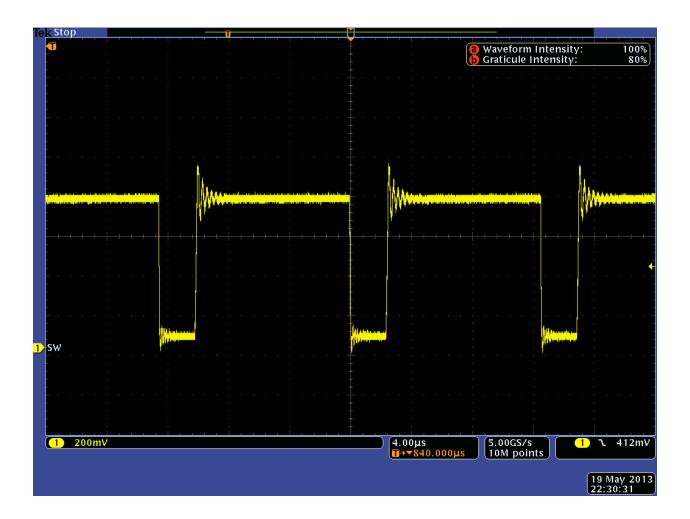


SW at 500Vin; 1.5A Load; (High Voltage probes used to attenuate signal; 1,000x Attenuation)



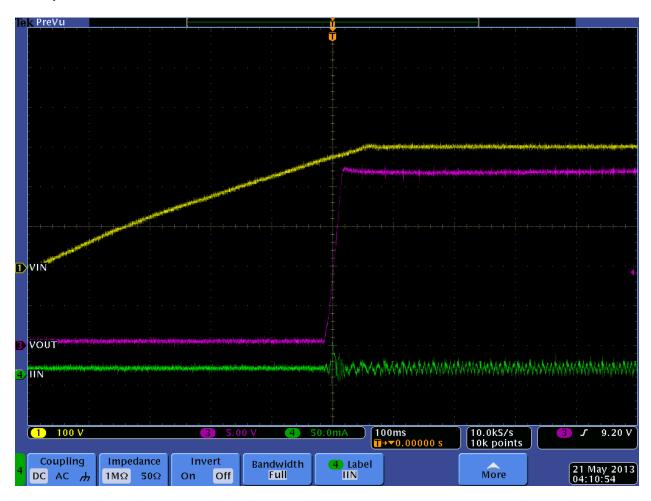


SW at 600Vin; 1.5A Load; (High Voltage probes used to attenuate signal; 1,000x Attenuation)



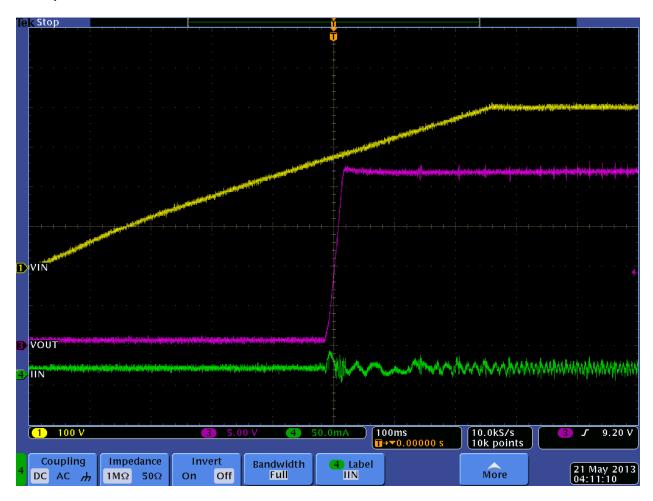


Startup at 300Vin and 0A Load



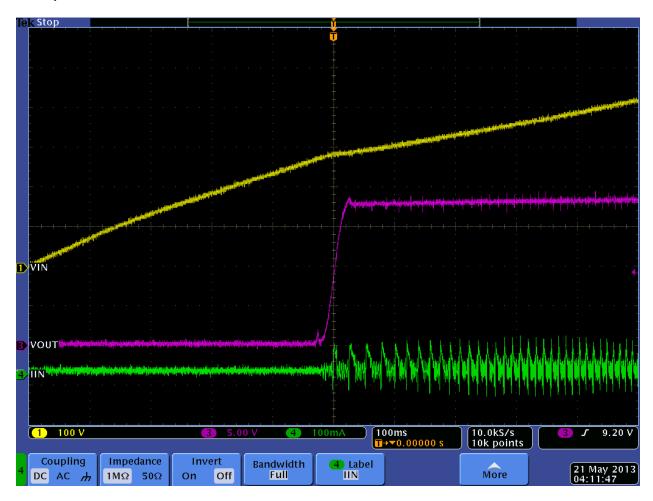


Startup at 400Vin and 0A Load



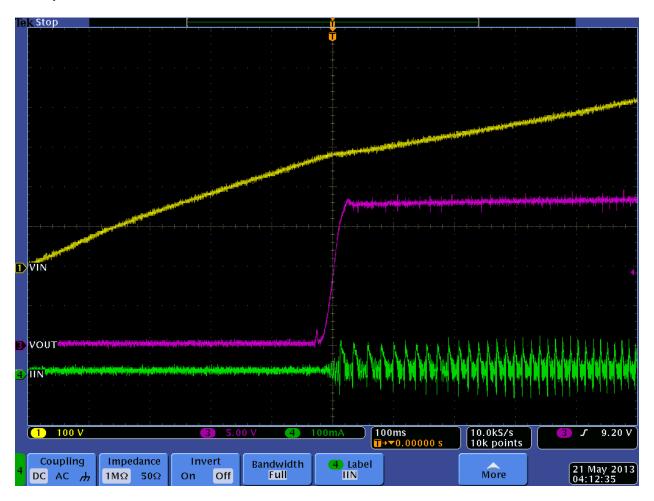


Startup at 500Vin and 0A Load



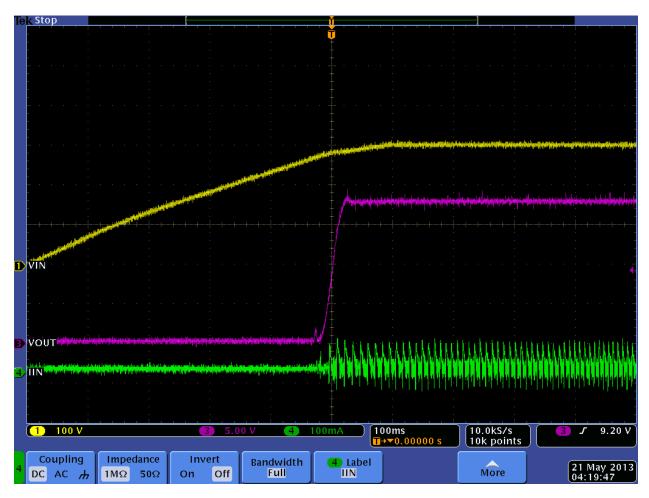


Startup at 600Vin and 0A Load



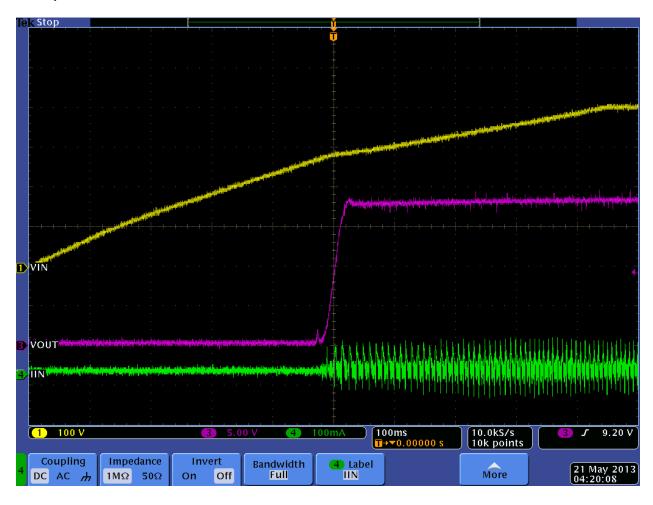


Startup at 300Vin and Full Load



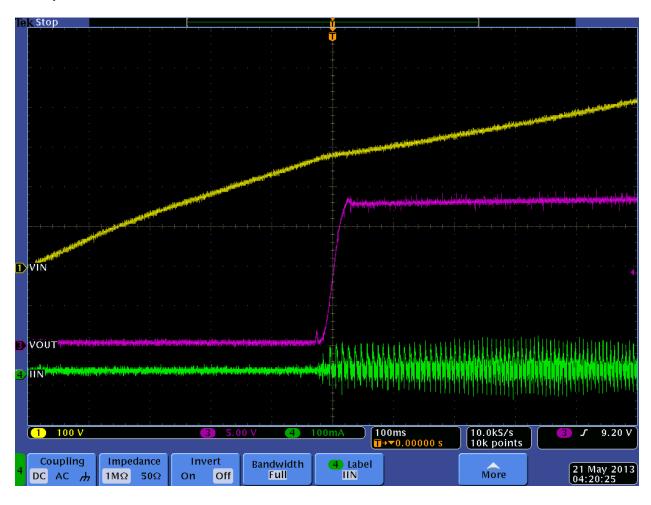


Startup at 400Vin and Full Load



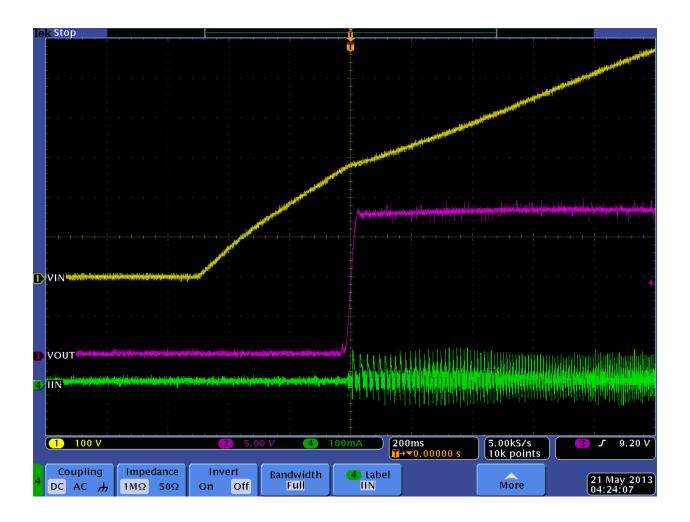


Startup at 500Vin and Full Load





Startup at 600Vin and Full Load



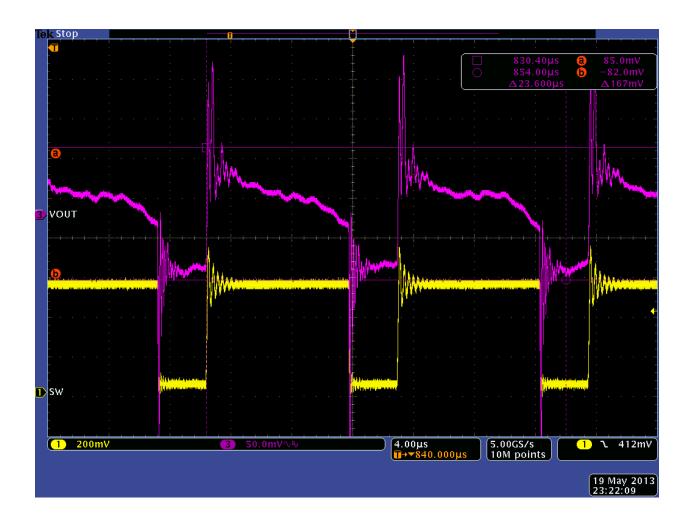


Ripple at 300Vin; 1.5A Load; (High Voltage probes used to attenuate signal; 1,000x Attenuation; Cursors used for reference)



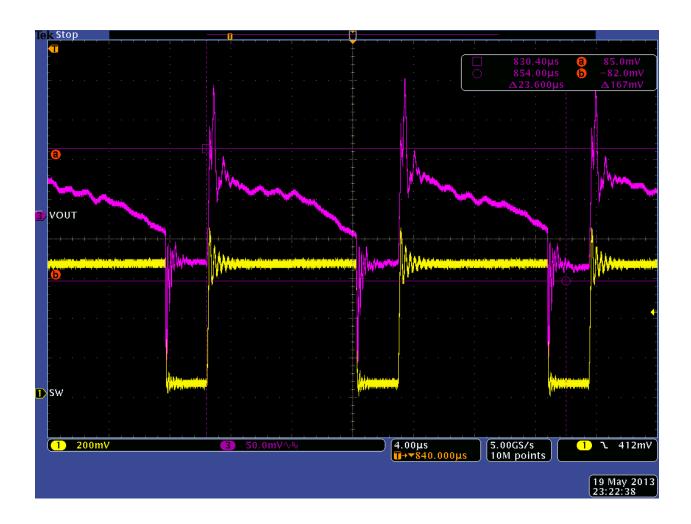


Ripple at 400Vin; 1.5A Load; (High Voltage probes used to attenuate signal; 1,000x Attenuation; Cursors used for reference)



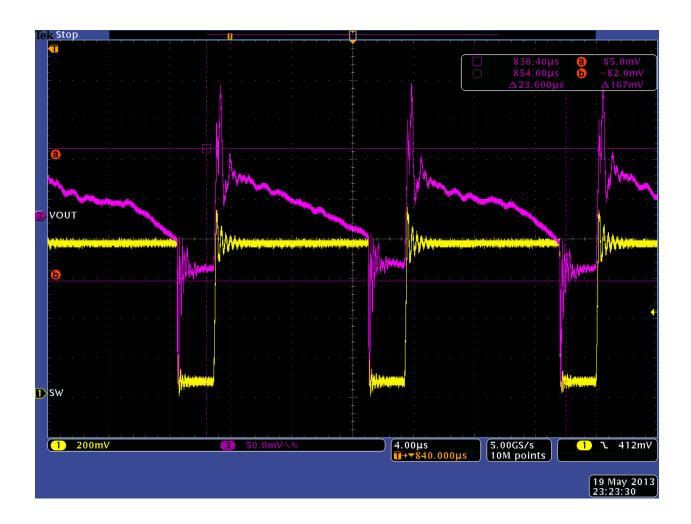


Ripple at 500Vin; 1.5A Load; (High Voltage probes used to attenuate signal; 1,000x Attenuation; Cursors used for reference)





Ripple at 600Vin; 1.5A Load; (High Voltage probes used to attenuate signal; 1,000x Attenuation; Cursors used for reference)



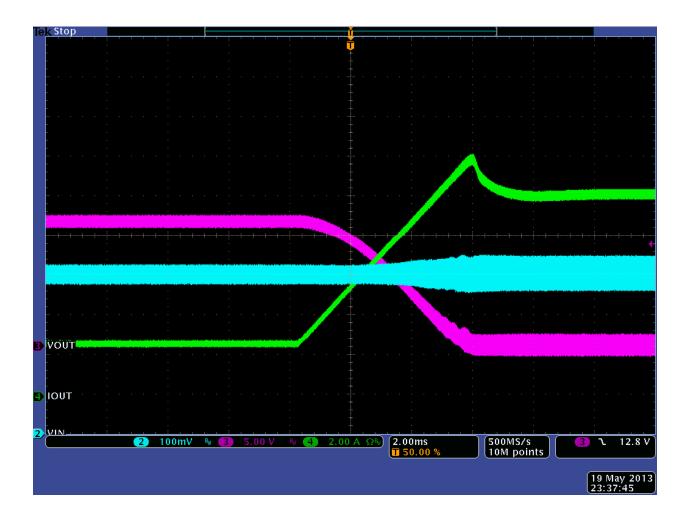


Short Circuit at 300Vin (High Voltage probes used to attenuate signal; 1,000x Attenuation)



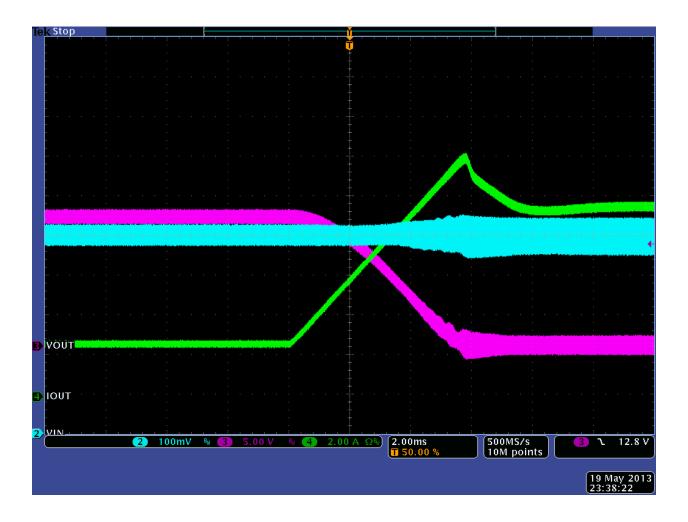


Short Circuit at 400Vin (High Voltage probes used to attenuate signal; 1,000x Attenuation)



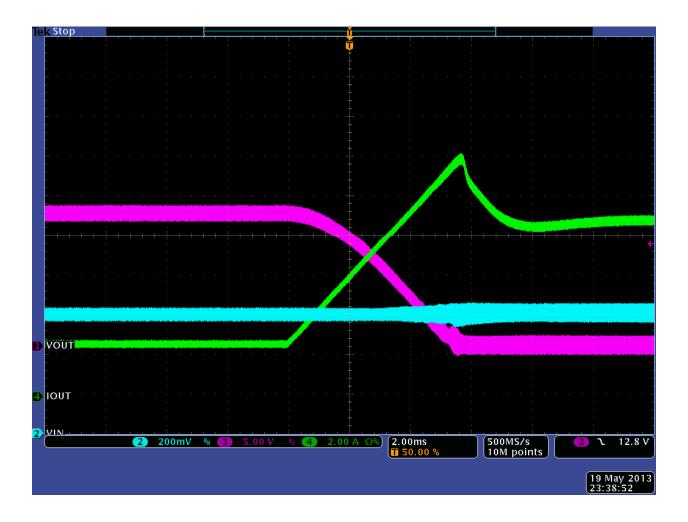


Short Circuit at 500Vin (High Voltage probes used to attenuate signal; 1,000x Attenuation)



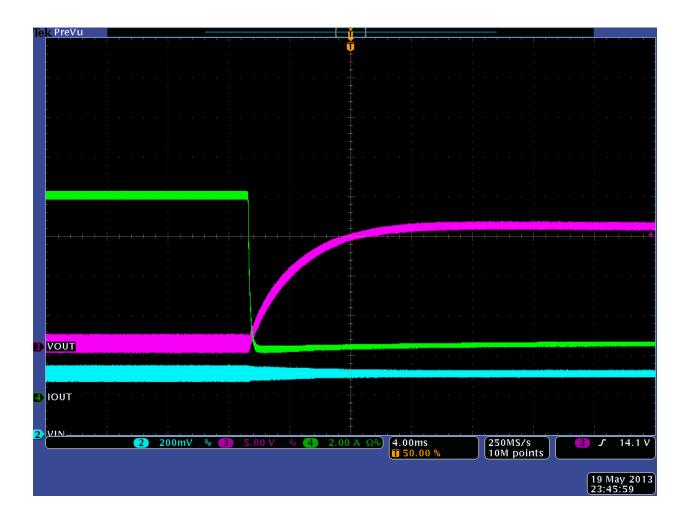


Short Circuit at 600Vin (High Voltage probes used to attenuate signal; 1,000x Attenuation)





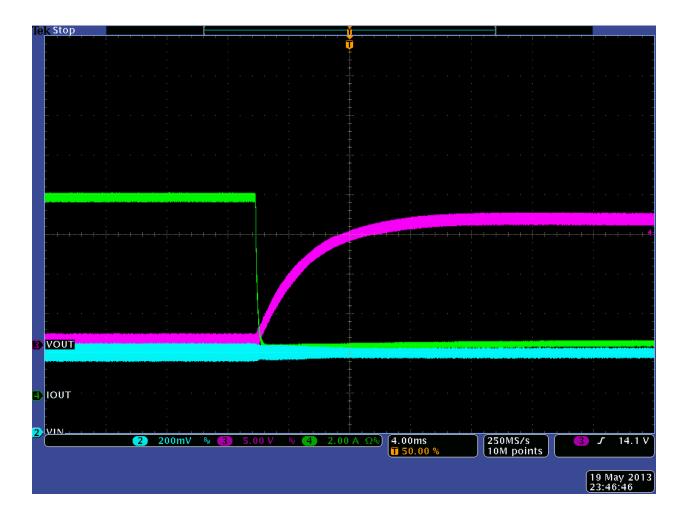
Short Circuit Recovery at 300Vin (High Voltage probes used to attenuate signal; 1,000x Attenuation)



5/6/13

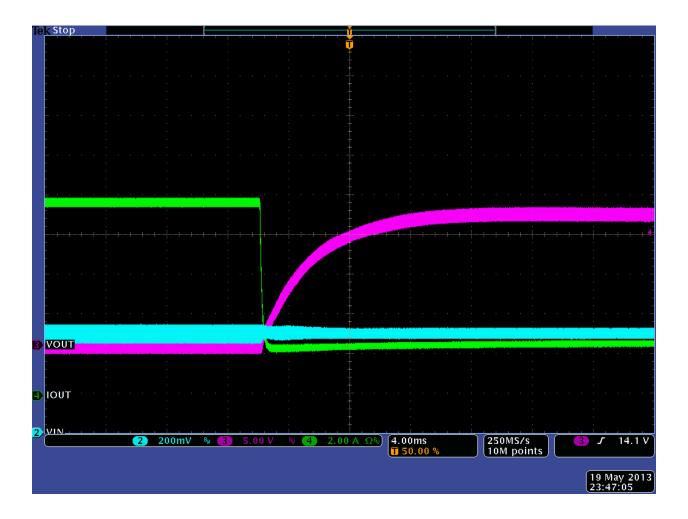


Short Circuit Recovery at 400Vin (High Voltage probes used to attenuate signal; 1,000x Attenuation)





Short Circuit Recovery at 500Vin (High Voltage probes used to attenuate signal; 1,000x Attenuation)





Short Circuit Recovery at 600Vin (High Voltage probes used to attenuate signal; 1,000x Attenuation)



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