Test Data
For PMP7858
8/9/2012

PMP7870 RevA Test Results

Application Design Requirements:

Design Goal

Use the LM5067 Hot-Swap controller to support a 72V, 30A application.

Application Requirements are as Follows:

UVLO turn on: 36V

OVLO turn off: 72V

Current Limit: >30A

Output Capacitance: 1000uF

Design Notes:

Two MOSFETs are used to support high power limiting levels and longer fault and start-up times due to larger output capacitance.

60V and 12V TVS are used in series to support the large inrush current during a circuit breaker event and the maximum operating voltage of 72V.

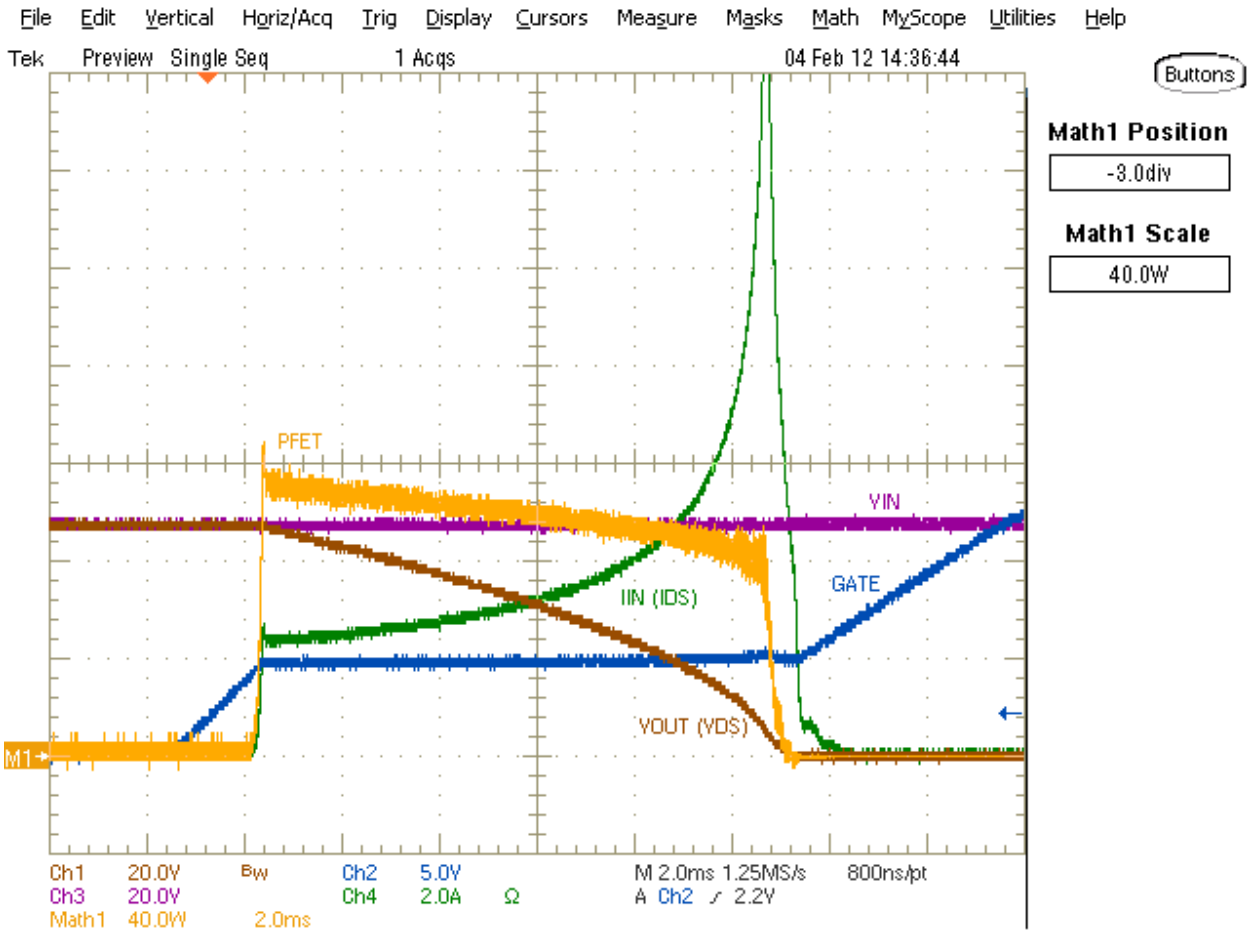
Bench Test Results of Evaluation Board:

- Resulting Power Limiting
  - 95W @ 48V VIN
  - 140W @ 72V VIN
- Current Limiting
  - DC current Limit: 33A
  - Circuit Breaker Level: 67A
- 2000V/µs Hot-Swap
  - Gate of the MOSFET is pulled down to prevent large amounts of current due to dv/dt induced turn-on.
- Reliability Testing @ 48V:
  - 2500+ output shorts using a mercury wetted relay – with no failures

PMP7870 RevA Test Results

- 2500+ start-ups into shorts – with no failures
- 2500+ Hot-swaps using a mercury wetted relay with 1400µF back plane capacitance – with no failures

Typical 48V Start-Up



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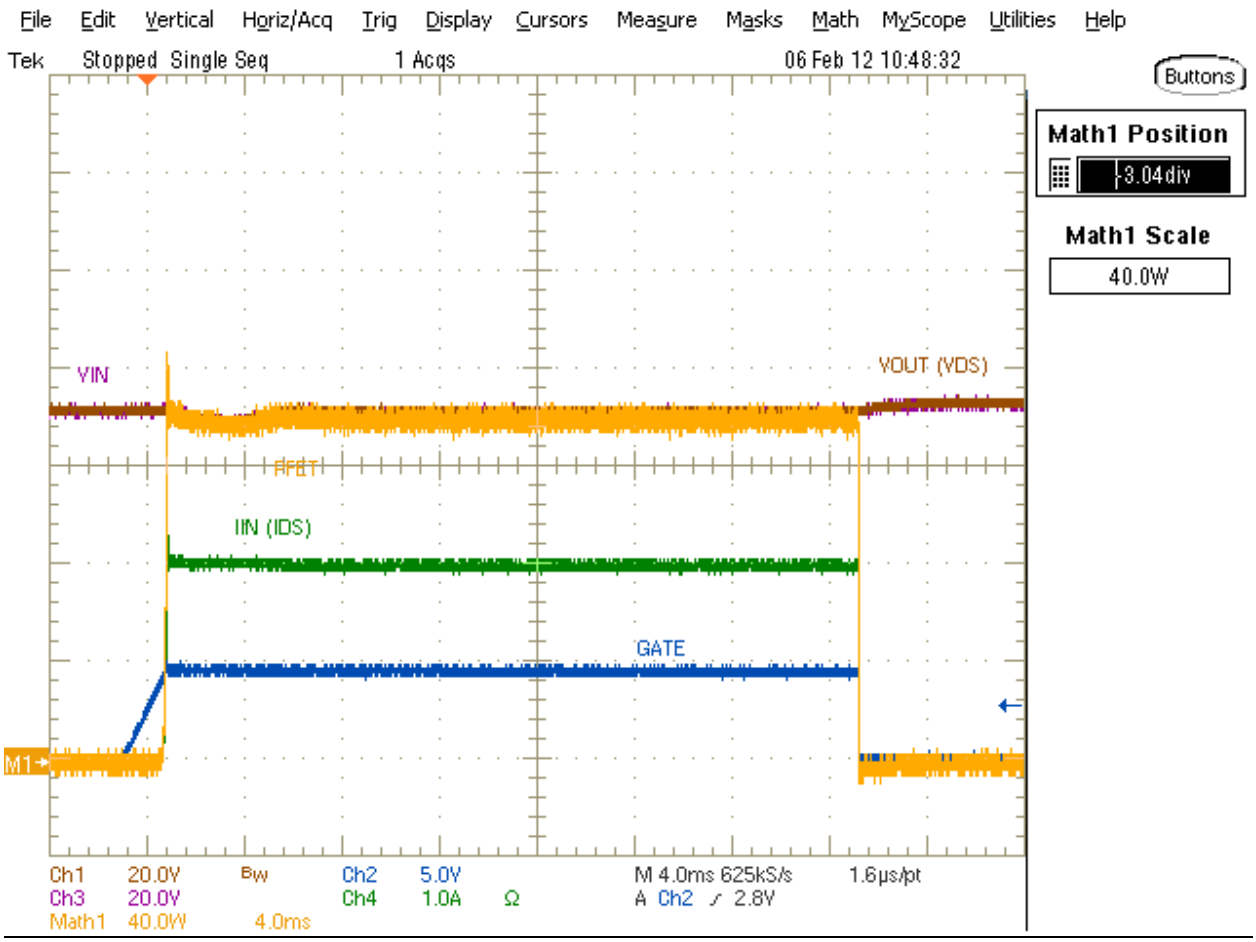
Typical 72V Start-Up into a Short



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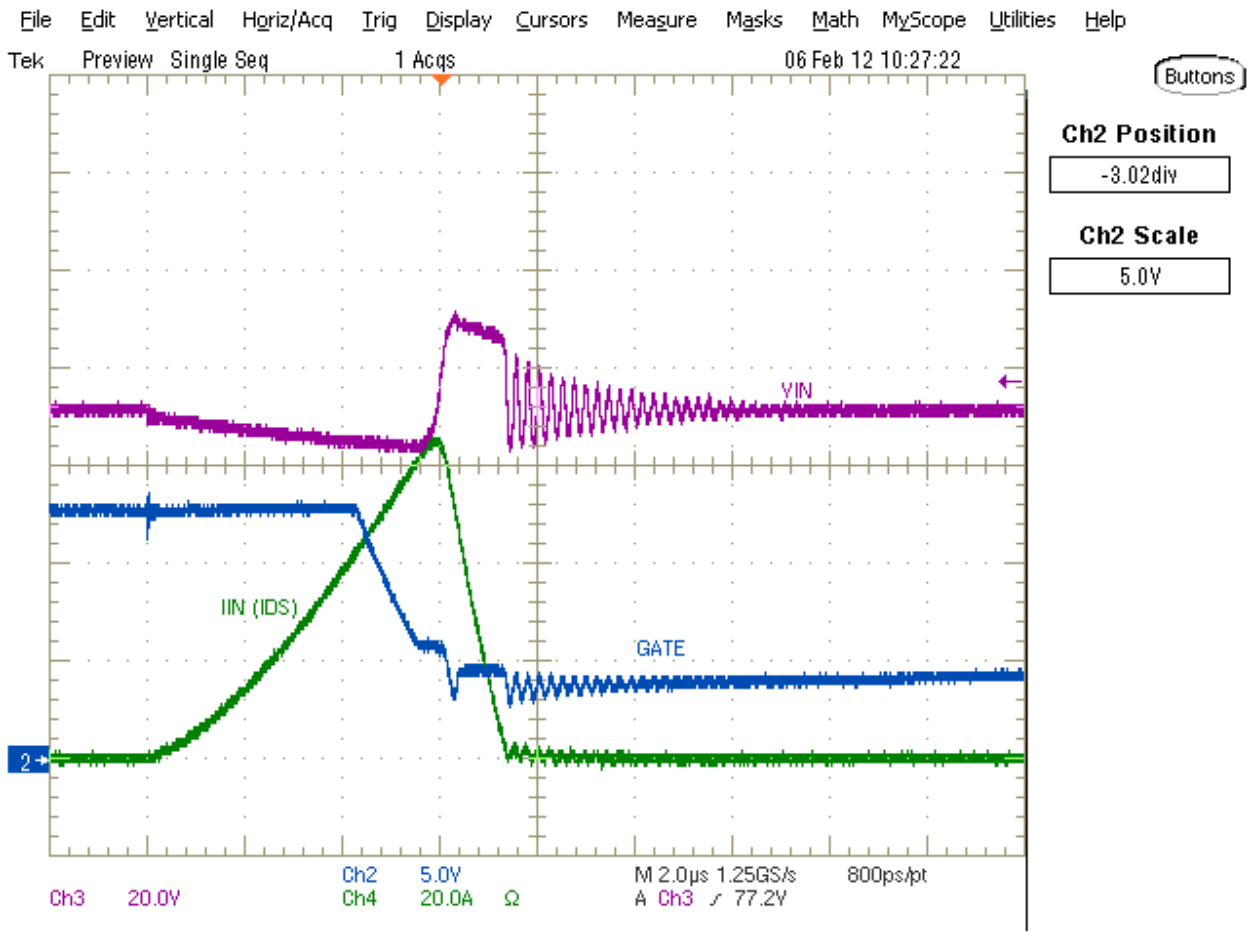
Typical Output Short from a 72V Input Voltage



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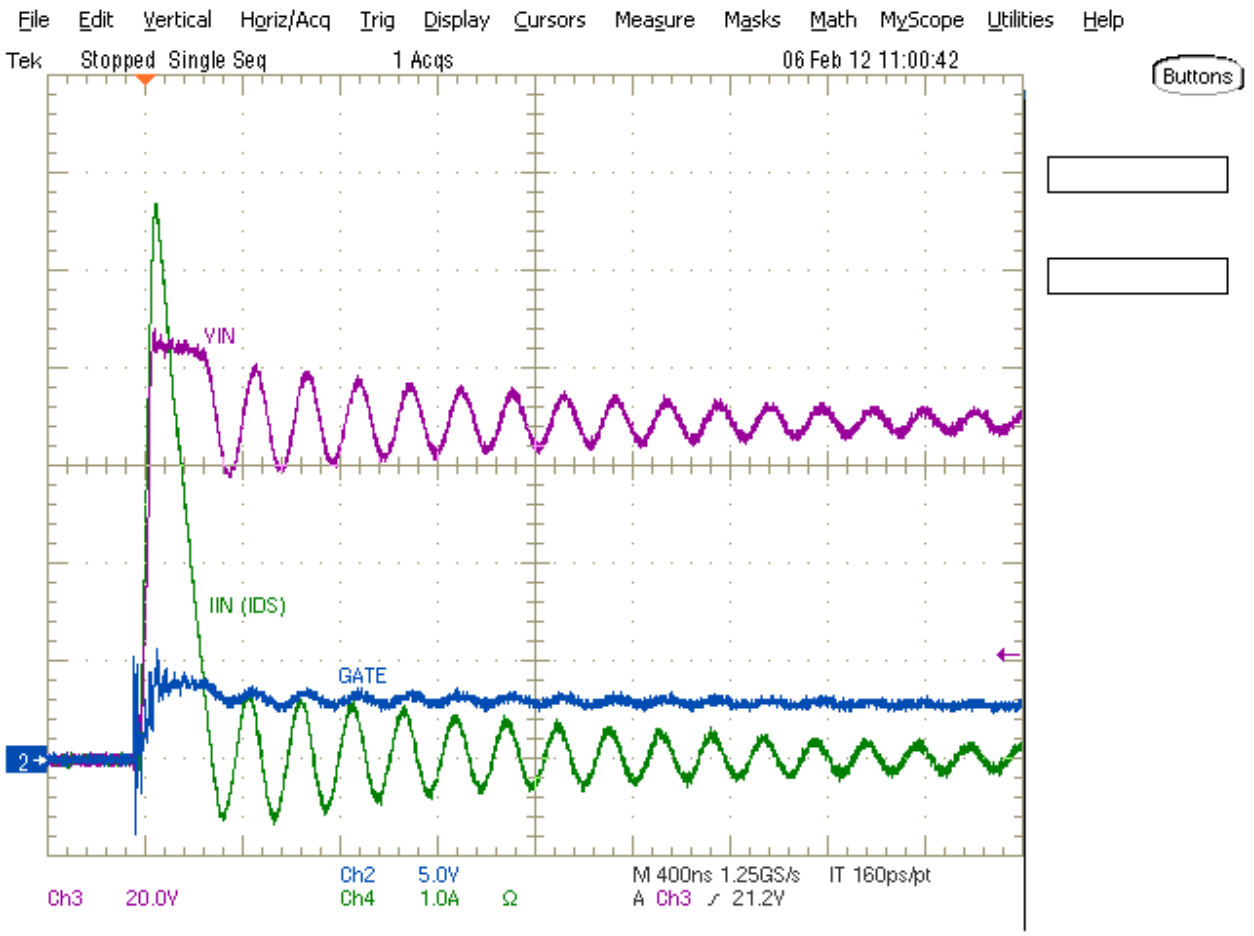
Typical 72V Hot-Swap



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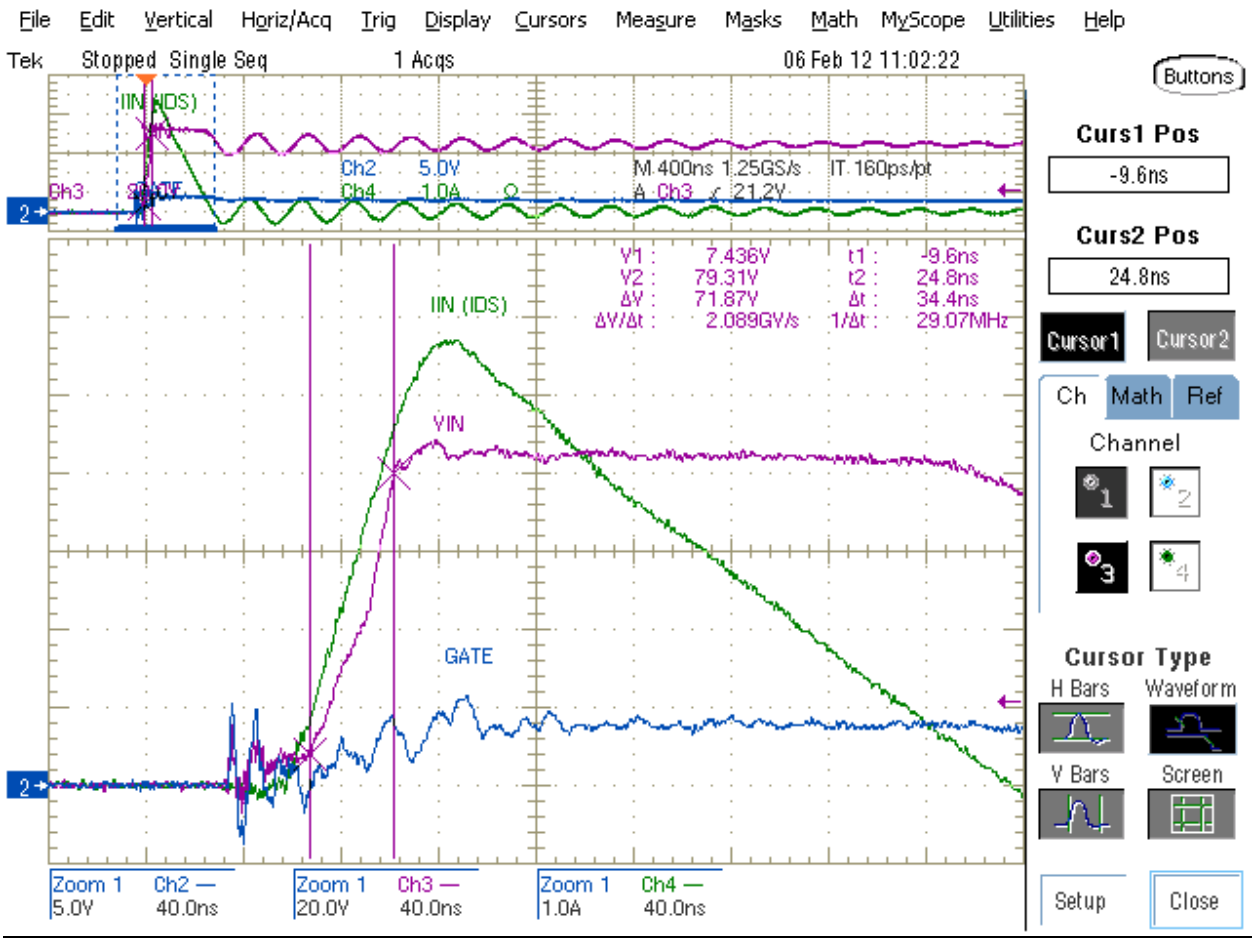
72V Hot-Swap Showing 2000V/µs Rise Time on VIN



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