

Q&A

1. Please kindly check through simulation on whether below condition may lead to shoot through.
If HS or LS is turn on fast which have high dv/dt that make the other FET wrong turn on due to coupling on gate cap.
→ Based on simulation, no such coupling issue is found during normal operation.
2. please kindly check on the test items on startup with different V_{in} slew-rate.
→ 10 μ s/V and 1ms/V as typical running, also we did some other tests with different slew rate by manual.
3. Do surge test on BST-GND and find BST and HS FET are damaged. But BST spec is far beyond 20V
→ This rating is based on VBST-SW rating <6V, if only add BST high voltage, SW floating or lower voltage, that will cause damage happen.
4. Please kindly check if there is any condition can reproduce such serious damage (board is damaged).
→ Below cases could cause IC damage, but hard to see burnt like customer's board, burnt may happen when the input current is with high current limitation, such as >10A
 - High V_{in} over ABS
 - VCC short to GND
 - BST pin to VIN pin short
 - BST pin open
 - BST pin short to SW
 - SW open
 - SW short to GND
 - SW short to Vout