



GSDN001

Double Pulse Test Results for the GS-065-0xx-1-L PDFNs

September 2020

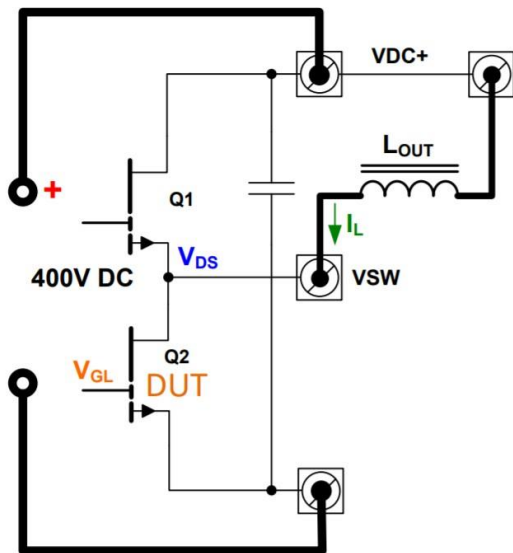
## PURPOSE

The Double Pulse Test (DPT) is used to characterize the *turn-on* and *turn-off* characteristics of switching power transistors.

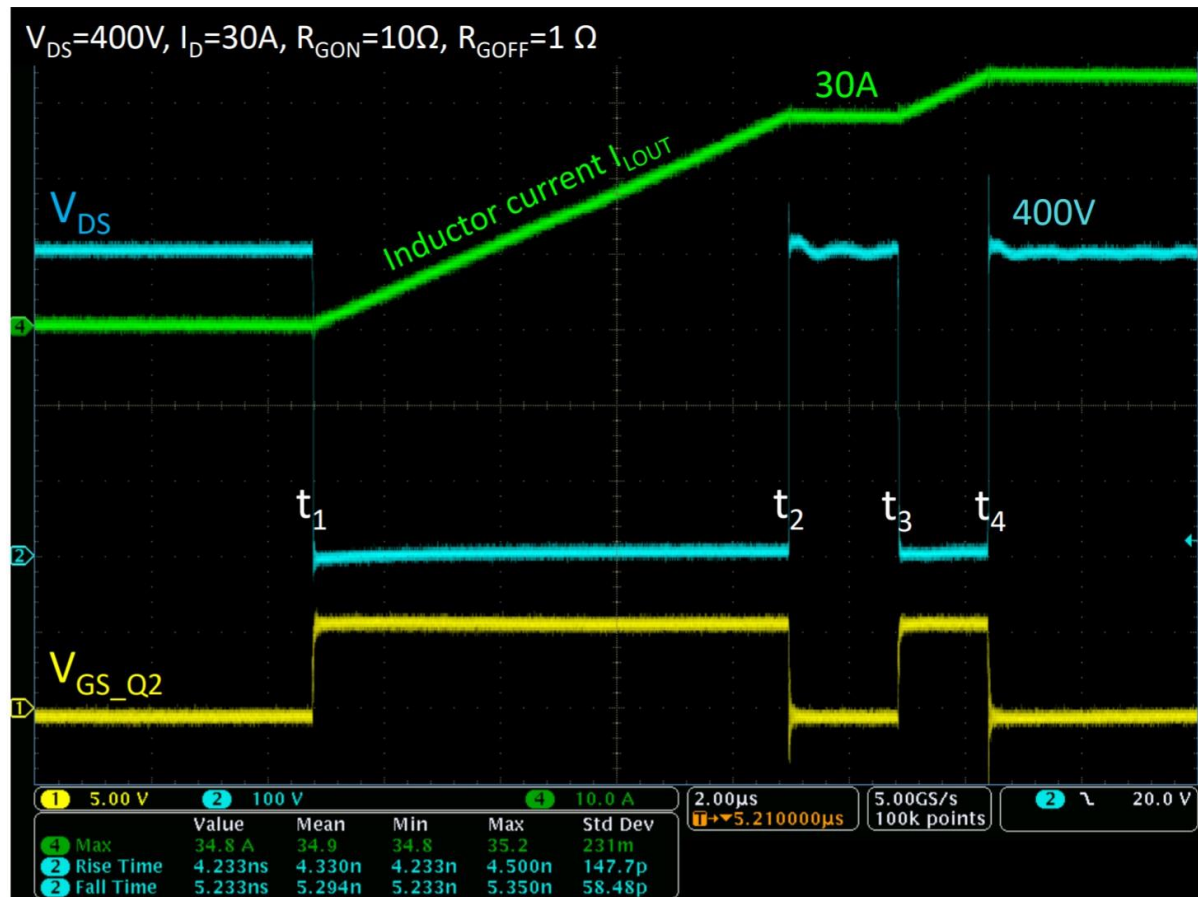
## CONTENT

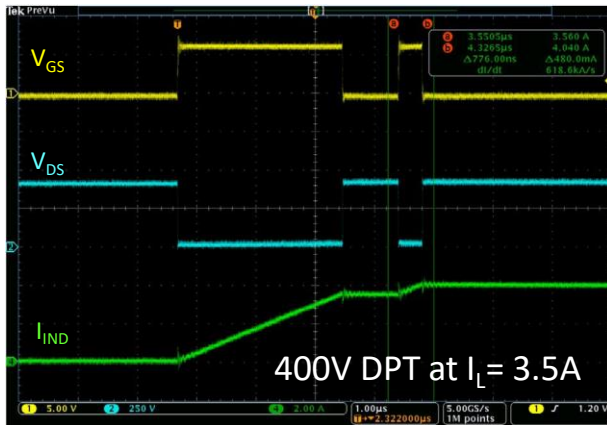
This document provides the following information

- An overview of the DPT set up
- DPT results for GaN Systems' PDFN E-HEMTS
  - GS-065-004-1-L
  - GS-065-008-1-L
  - GS-065-011-1-L



- $t_1$ : Device Under Test (DUT) turned on. Inductor charged to desired current (30A in this example)
- $t_2$ : DUT turned off. Inductor current freewheels in Q1.  
DUT turn-off  $\rightarrow$  Measure  $dV/dt$ ,  $t_{rise}$
- $t_3$ : DUT turn-on  $\rightarrow$  Measure,  $dV/dt$ ,  $t_{fall}$
- $t_4$ : DUT turned off

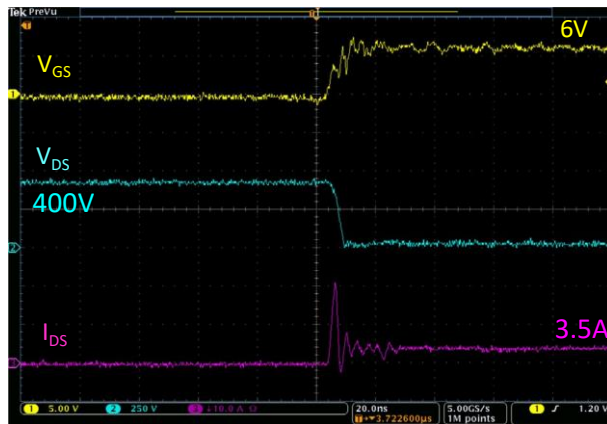




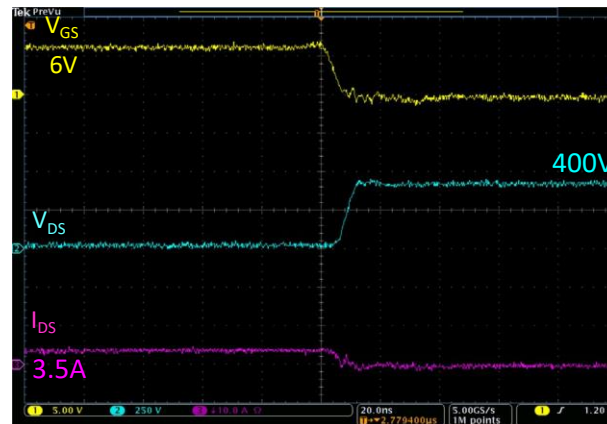
**GS-065-004-1-L**



Parameter	Value
$V_{DS}$	650 V
$I_D$	3.5 A
$R_{DS(on)}$	450 mΩ

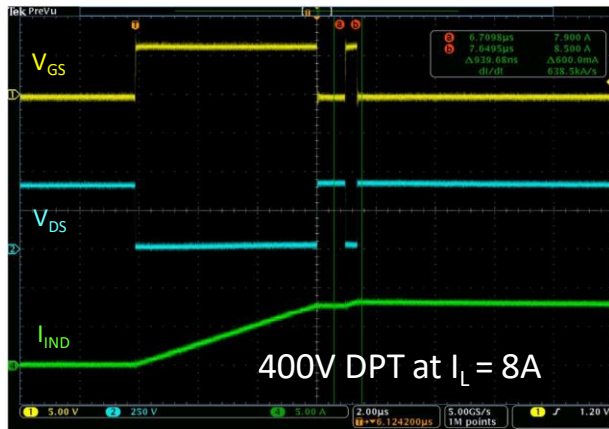


Turn-on



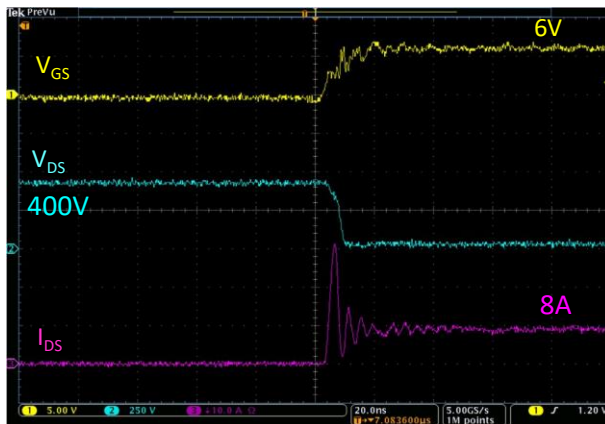
Turn-off



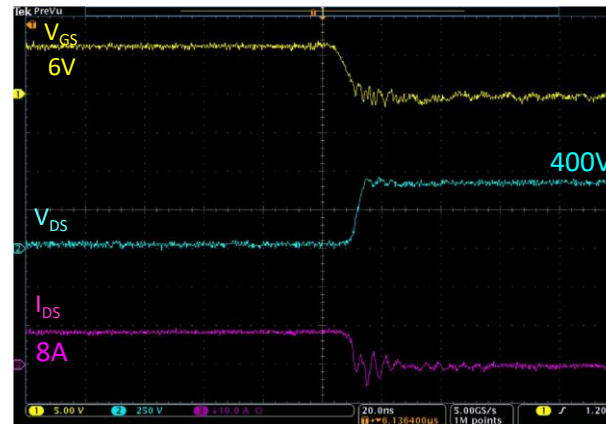


**GS-065-008-1-L**

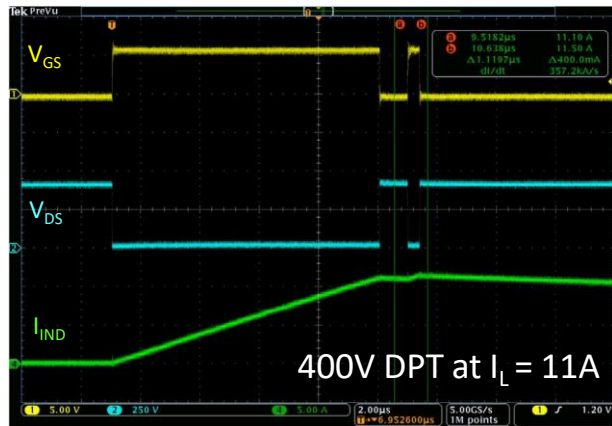
Parameter	Value
$V_{DS}$	650 V
$I_D$	8 A
$R_{DS(on)}$	225 mΩ



Turn-on

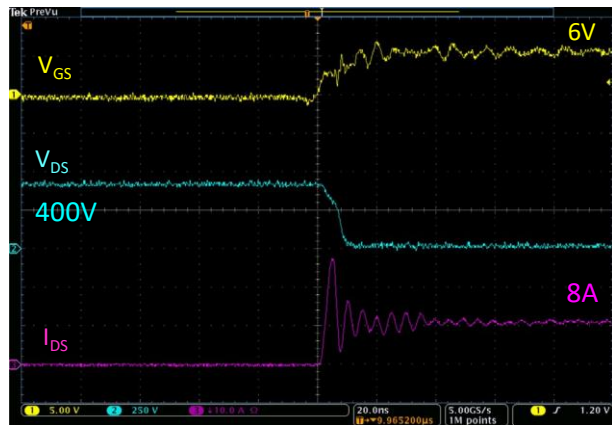


Turn-off

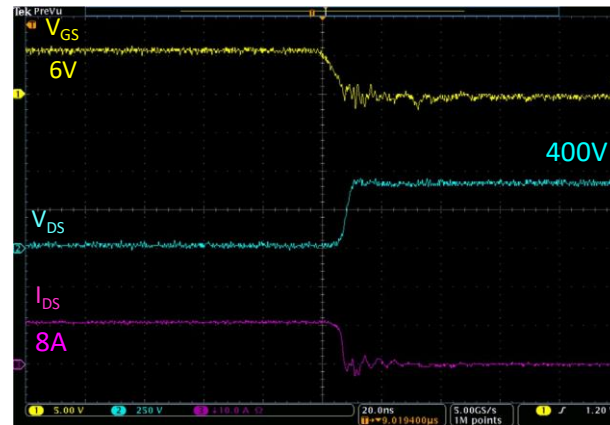


**GS-065-011-1-L**

Parameter	Value
$V_{DS}$	650 V
$I_D$	11 A
$R_{DS(on)}$	150 mΩ



Turn-on



Turn-off



# GaN Systems

The DPT results were provided for GaN Systems' GS-065-004-1-L, GS-065-008-1-L and GS-065-011-1-L E-HEMTs.

To contact GaN Systems for additional product and application support, please visit our website at <https://gansystems.com/contact/>.