GSDN001

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

December 2018

Introduction

PURPOSE

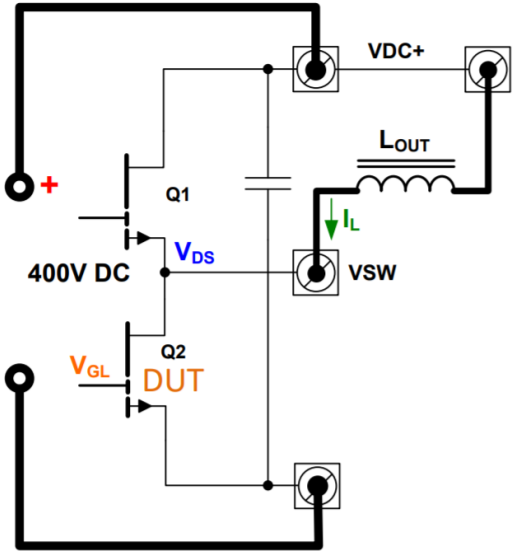
The Double Pulse Test (DPT) is used to characterize the *turn-on* and *turn-off* characteristics of switching power transistors.

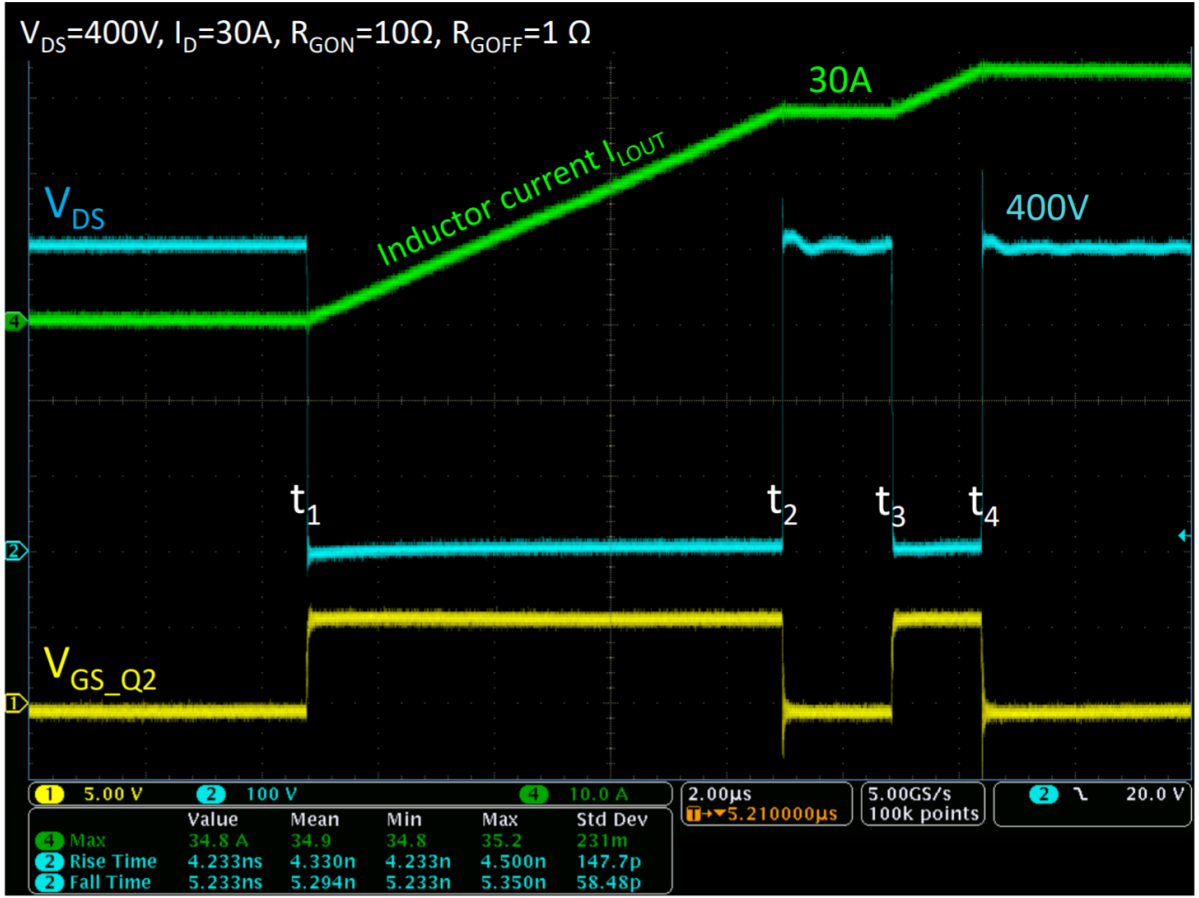
CONTENT

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

Double Pulse Test Overview





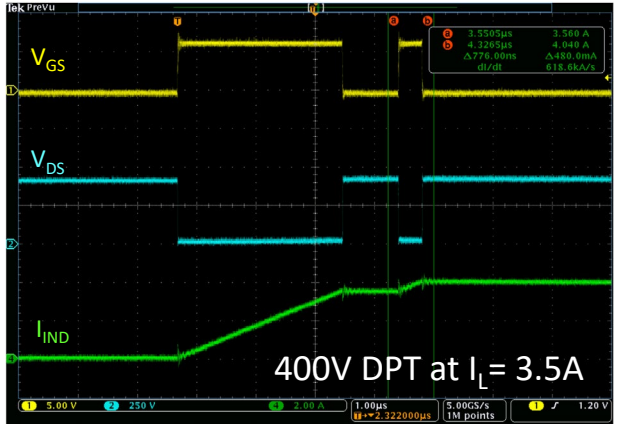
t_1: Device Under Test (DUT) turned on. Inductor charged to desired current (30A in this example)

t_2: DUT turned off. Inductor current freewheels in Q1. DUT turn-off → Measure dV/dt, t_{rise}

t_3: DUT turn-on → Measure, dV/dt, t_{fall}

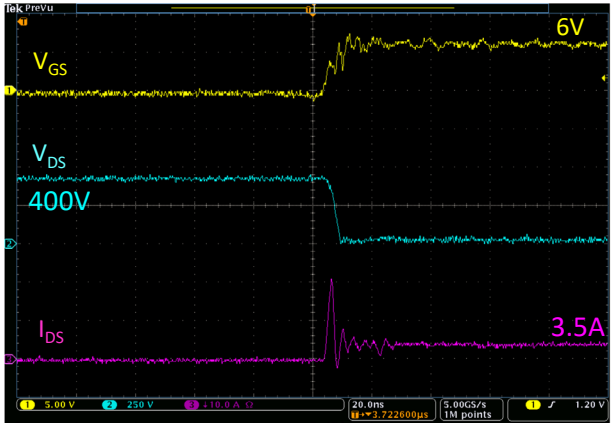
t_4: DUT turned off

GS-065-004-1-L: Double Pulse Test at 3.5A

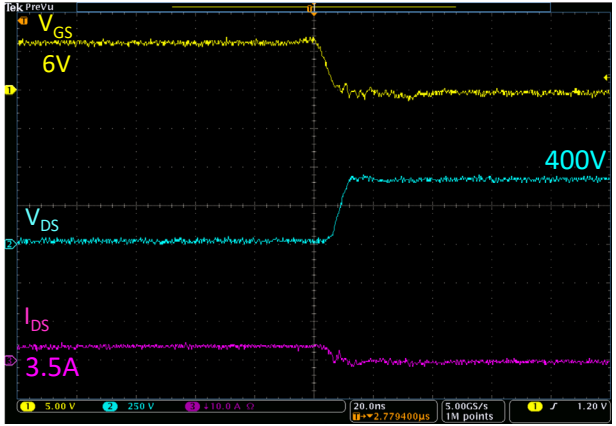


GS-065-004-1-L

Parameter	Value
V_{DS}	650 V
I_D	3.5 A
$R_{DS(on)}$	500 mΩ

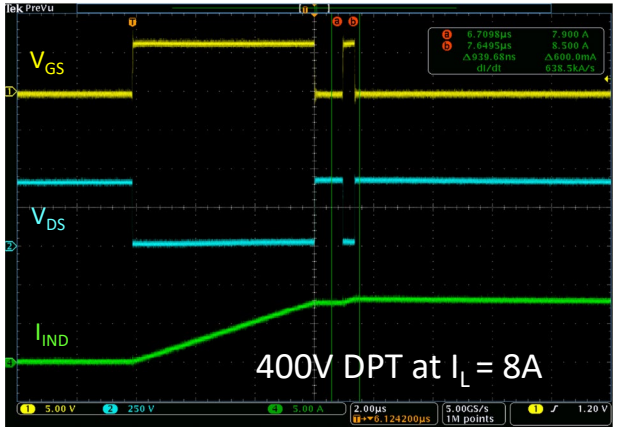


Turn-on



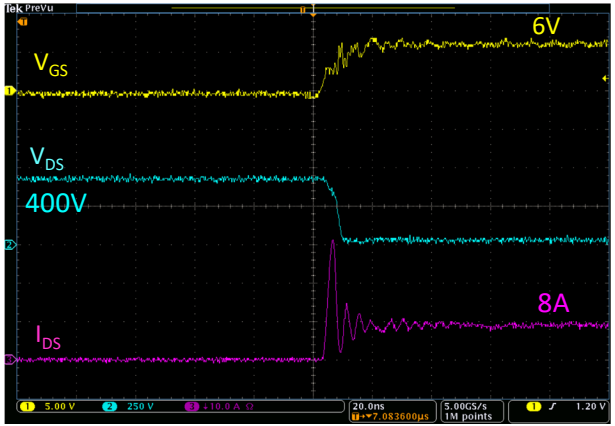
Turn-off

GS-065-008-1-L: Double Pulse Test at 8A

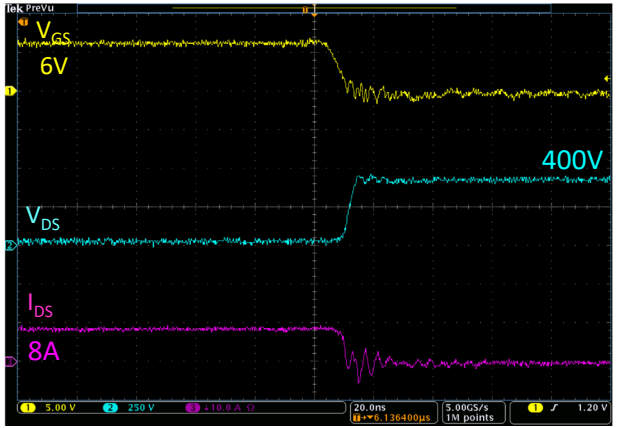


GS-065-008-1-L

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

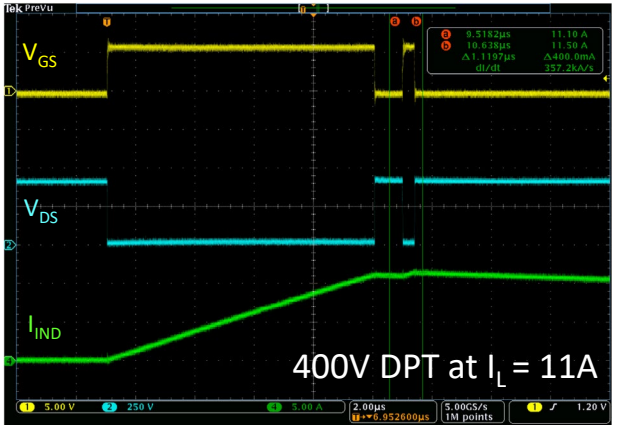


Turn-on



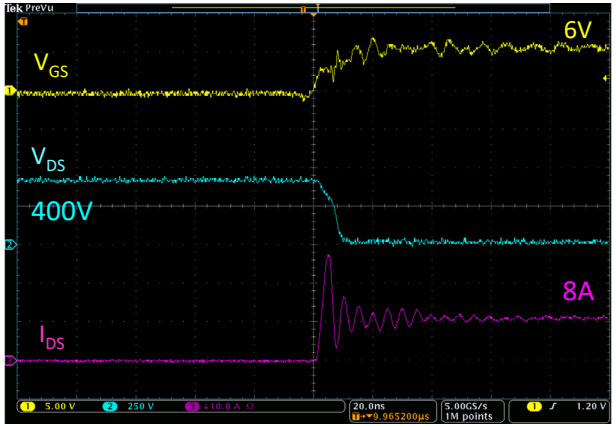
Turn-off

GS-065-011-1-L: Double Pulse Test at 11A

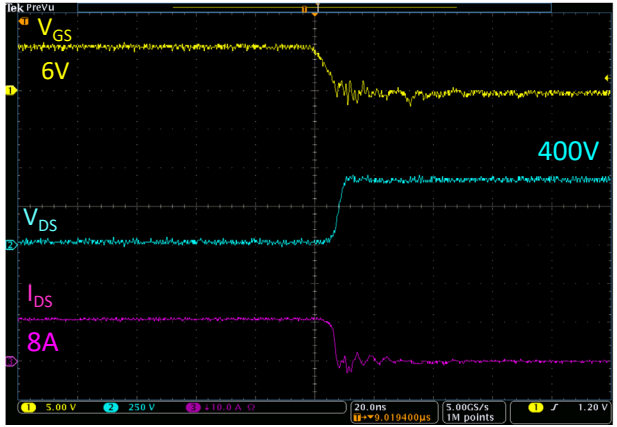


GS-065-011-1-L

Parameter	Value
V_{DS}	650 V
I_D	11 A
$R_{DS(on)}$	125 mΩ

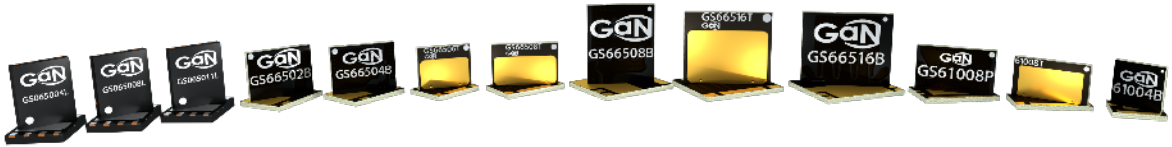


Turn-on



Turn-off

Summary



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/.