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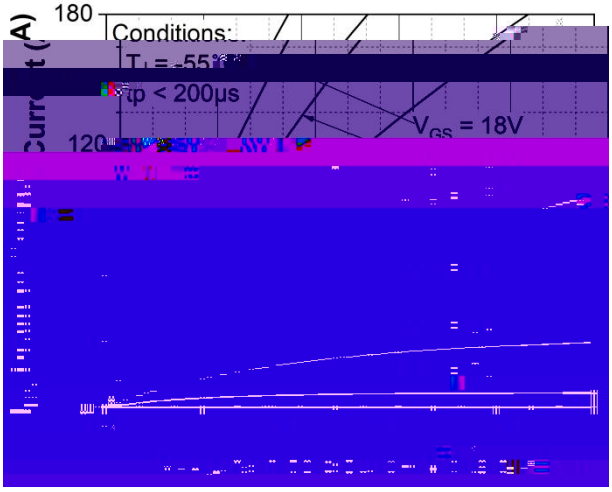
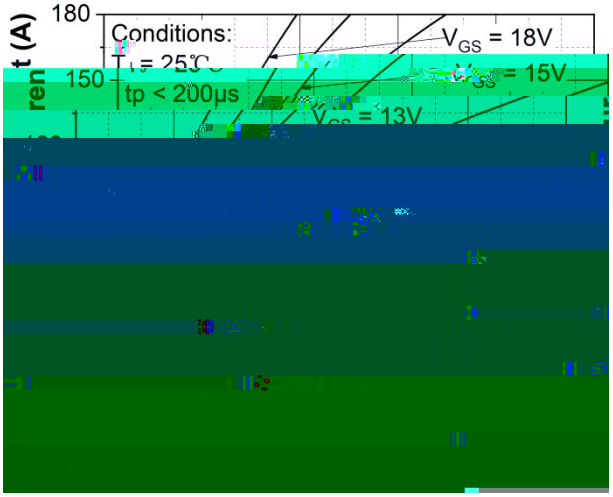
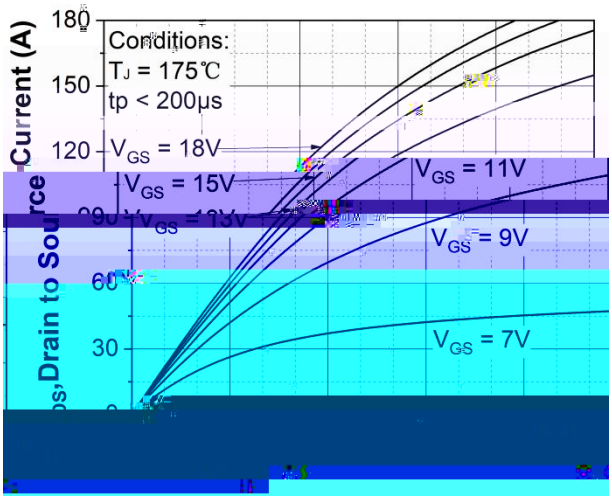
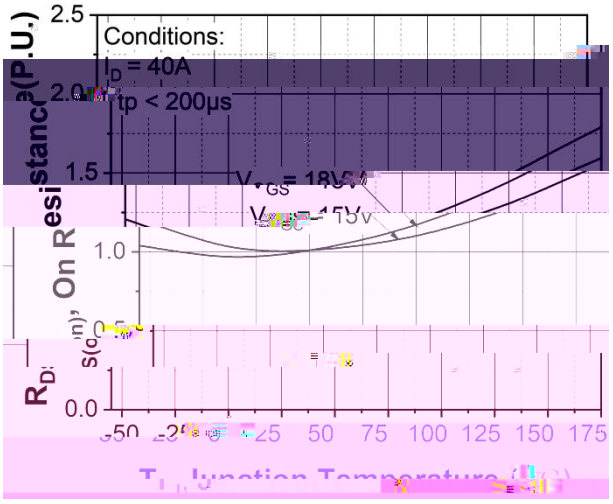
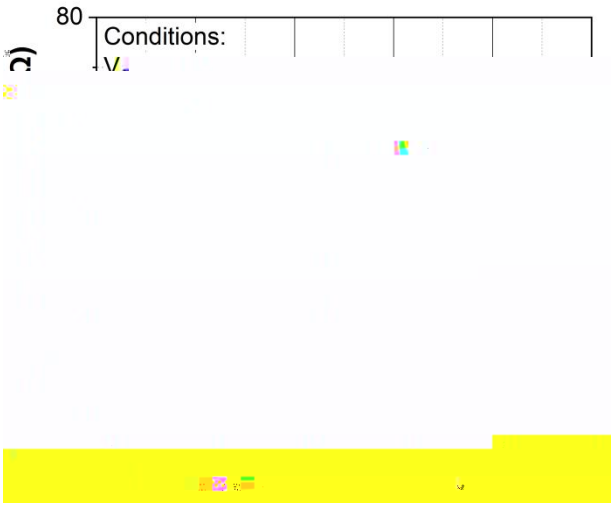
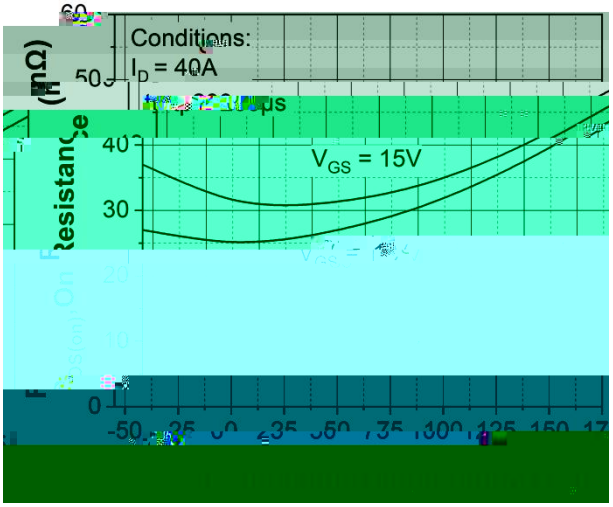

180
Conditions:
tp < 200μs
$V_{GS}$ = 18V
120

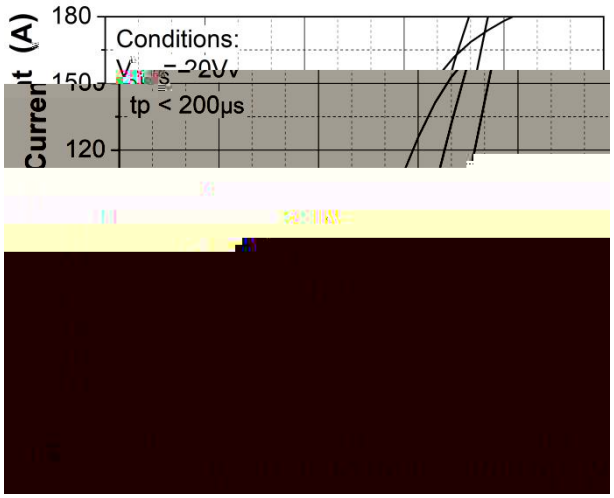

180
Conditions:
$V_{GS}$ = 18V
150
tp < 200μs
$V_{GS}$ = 15V
$V_{GS}$ = 13V

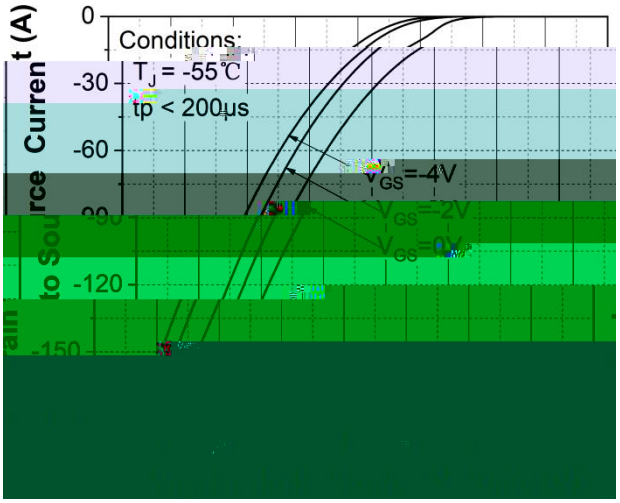

Drain to Source Current (A)
180
Conditions:
$T_J$ = 175℃
tp < 200μs
150
120
$V_{GS}$ = 18V
$V_{GS}$ = 15V
$V_{GS}$ = 13V
$V_{GS}$ = 11V
$V_{GS}$ = 9V
$V_{GS}$ = 7V
60
30

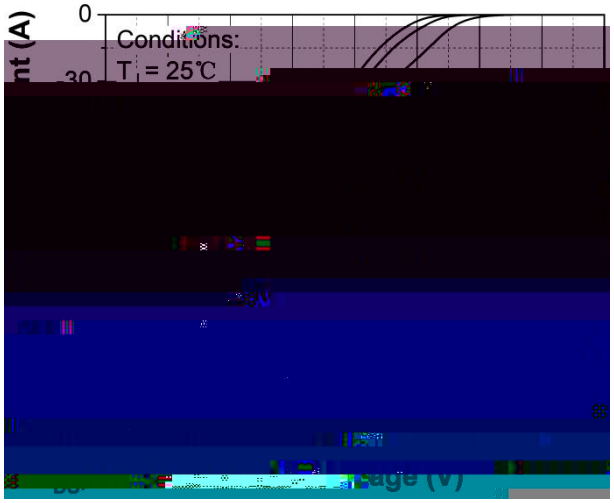

2.5
Conditions:
$I_D$ = 40A
tp < 200μs
2.0
1.5
1.0
0.0
50
75
100
125
150
175

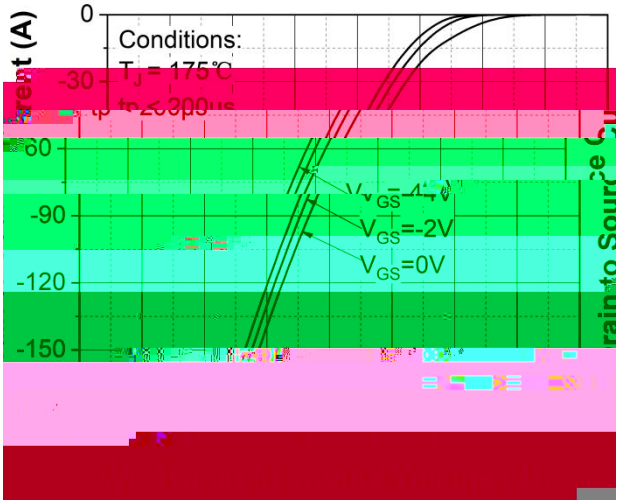

80
Conditions:

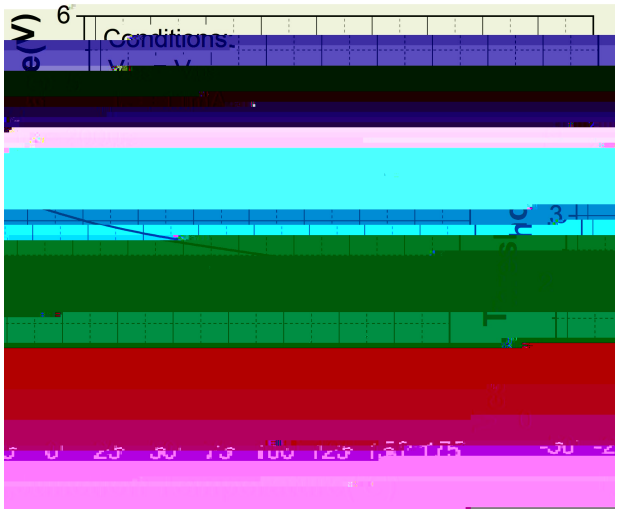

Conditions:
$I_D$ = 40A
$V_{GS}$ = 15V
40
30
0

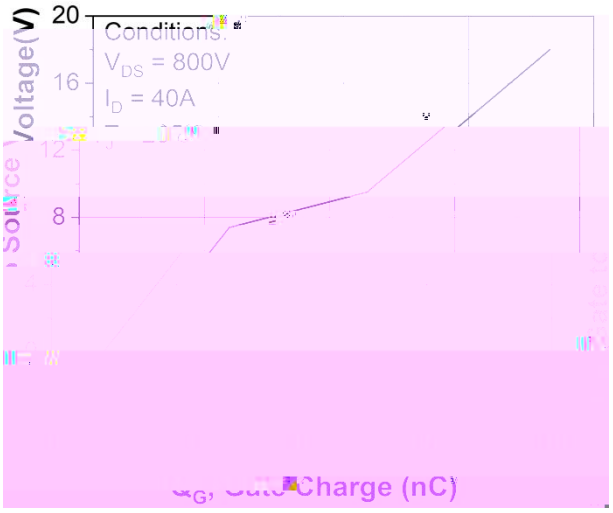

180
150
120
Conditions:
tp < 200μs

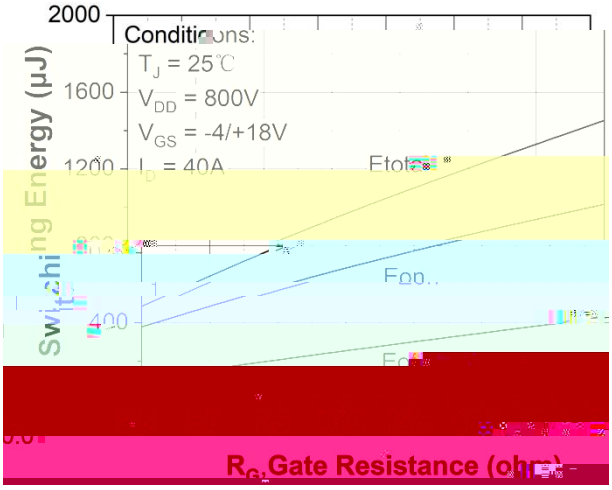

0
-30
-60
-120
-150
Conditions:
$T_J$ = -55℃
tp < 200μs
$V_{GS}$=-4V
$V_{GS}$=-2V
$V_{GS}$=0V

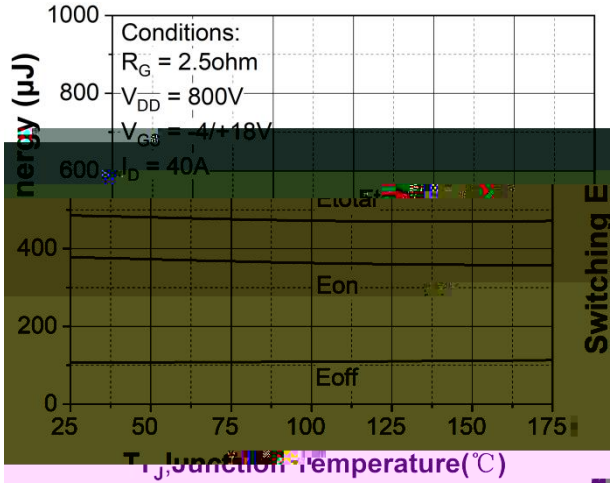

0
Conditions:
$T_J$ = 25℃

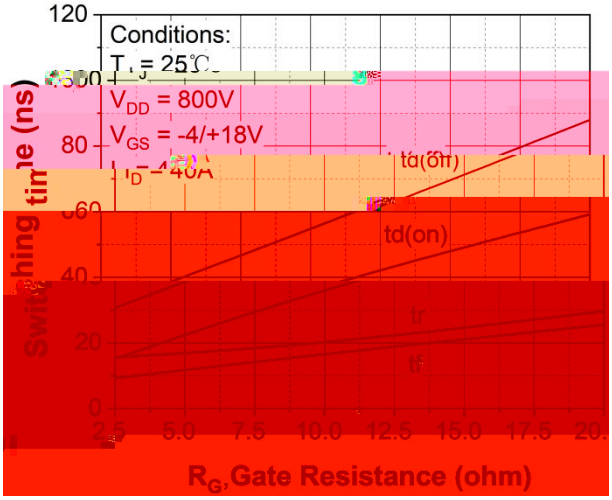

0
-30
-60
-90
-120
-150
Conditions:
$T_J$ = 175℃
$V_{GS}$=-4V
$V_{GS}$=-2V
$V_{GS}$=0V

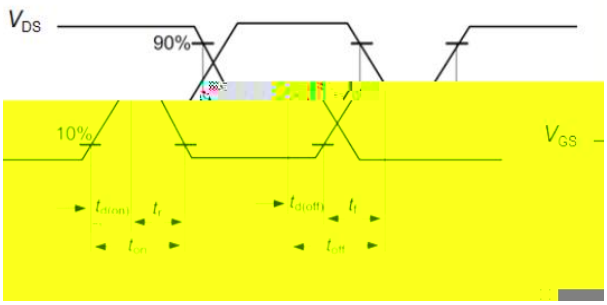

6
Conditions:

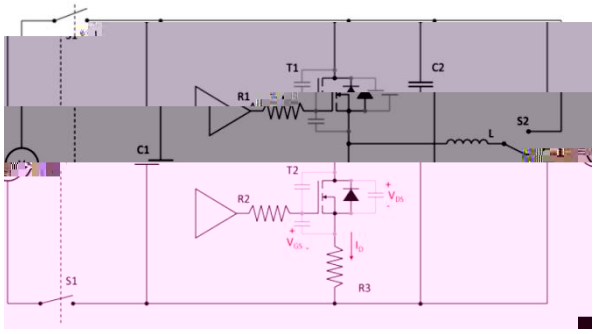

20
16
12
8
Conditions:
$V_{DS}$ = 800V
$I_D$ = 40A
Voltage(V)
Charge (nC)


Conditions:
$T_J$ = 25℃
$V_{DD}$ = 800V
$V_{GS}$ = -4/+18V
$I_D$ = 40A
Etotal
Eon
Eoff
Switching Energy (μJ)
2000
1600
1200
400
$R_G$,Gate Resistance (ohm)


Conditions:
$R_G$ = 2.5ohm
$V_{DD}$ = 800V
$V_{GS}$ = -4/+18V
$I_D$ = 40A
Etotal
Eon
Eoff
Switching Energy (μJ)
1000
800
600
400
200
0
25
50
75
100
125
150
175
$T_J$,Junction Temperature(℃)


Conditions:
$T_J$ = 25℃
$V_{DD}$ = 800V
$V_{GS}$ = -4/+18V
$I_D$ = 40A
td(off)
td(on)
tr
tf
Switching time (ns)
120
80
60
40
20
0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.
$R_G$,Gate Resistance (ohm)


$V_{DS}$
90%
10%
$V_{GS}$
$t_{d(on)}$
$t_r$
$t_{on}$
$t_{d(off)}$
$t_f$
$t_{off}$


T1
C2
R1
S2
L
C1
T2
R2
$V_{DS}$
$V_{GS}$
$I_D$
R3
S1