Electrical Characteristics at T_j

Static Characteristics

Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250 A	80	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=250 A	2.0	3.0	4.0	
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0V, V_{DS}=80V, T_j	-	-	1	A
		V_{GS}=0V, V_{DS}=80V, T_j	-	-	100	
Gate to Source Leakage Current	I_{GSS}	V_{GS} $_{DS}$=0V	-	-	100	nA
Drain to Source on Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=20A	-	5	5.9	m
Transconductance	g_{fs}	V_{DS}=5V, I_D=20A	-	50	-	S
Gate Resistance	R_G	V_{GS}=0V, V_{DS} Open, f=1MHz	-	1.1	-	

Dynamic Characteristics

Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=40V, f=1MHz	-	2449	-	pF
Output Capacitance	C_{oss}		-	502	-	
Reverse Transfer Capacitance	C_{rss}		-	19.0	-	
Total Gate Charge	Q_g(10V)	V_{DD}=40V, I_D=20A, V_{GS}=10V	-	42	-	nC
Gate to Source Charge	Q_{gs}		-	8	-	
Gate to Drain (Miller) Charge	Q_{gd}		-	12	-	
Turn on Delay Time	$t_{d(on)}$	V_{DD}=40V, I_D=20A, V_{GS}=10V, R_G=10 ,	-	11	-	ns
Rise time	t_r		-	7	-	
Turn off Delay Time	$t_{d(off)}$		-	34	-	
Fall Time	t_f		-	9	-	

Reverse Diode Characteristics

Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_F=20A	-	0.9	1.2	V
Reverse Recovery Time	t_{rr}	V_R=40V, I_F=20A, dI_F/dt=400A/ s	-	35	-	ns
Reverse Recovery Charge	Q_{rr}		-	122	-	nC

Fig 1. Typical Output Characteristics

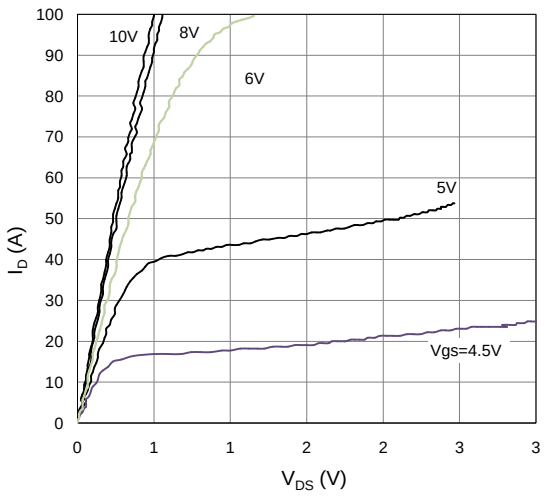


Figure 2. On-Resistance vs. Gate-Source Voltage

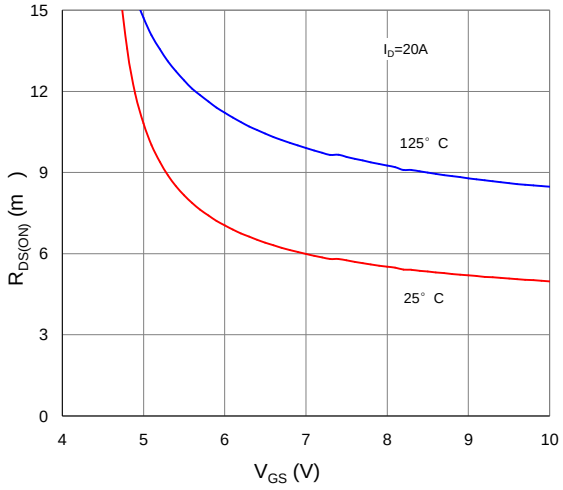


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

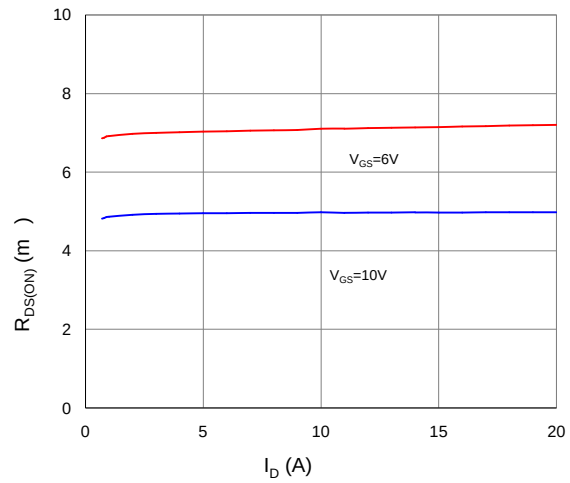


Figure 4. Normalized On-Resistance vs. Junction Temperature

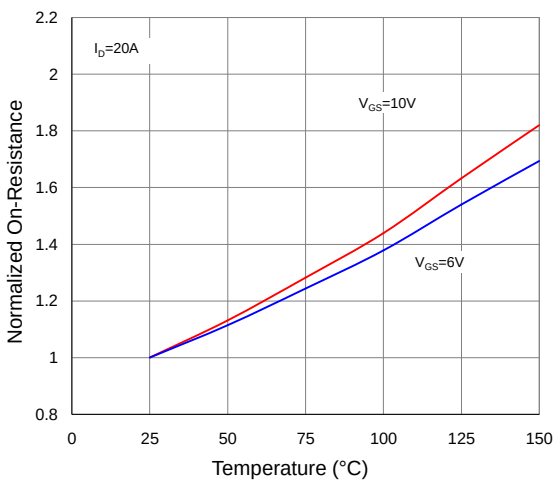


Figure 5. Typical Transfer Characteristics

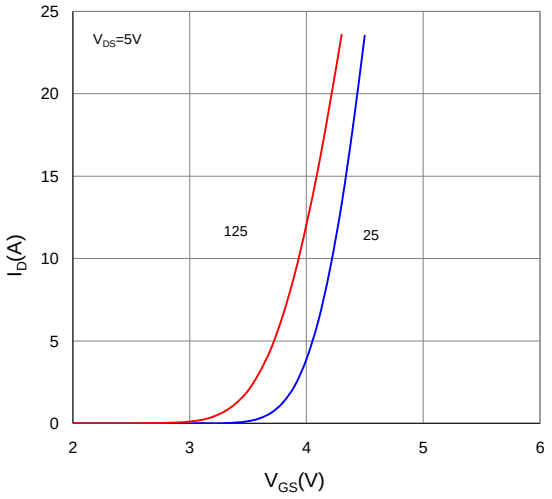
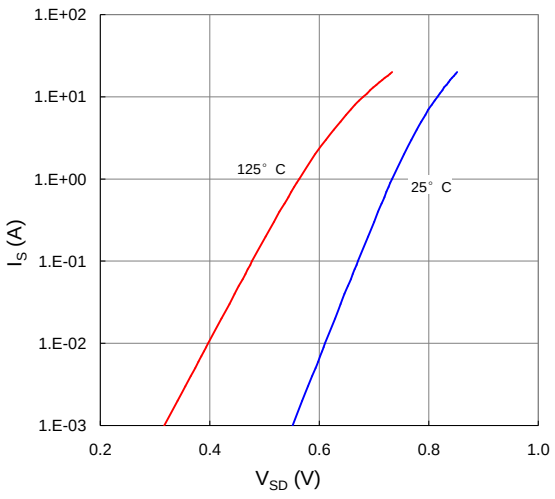
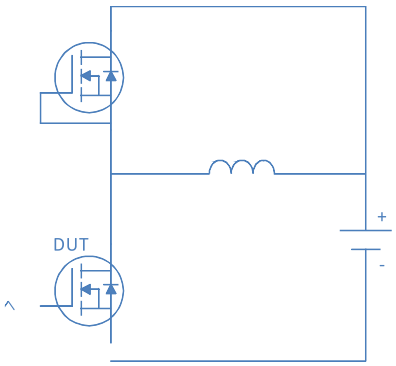
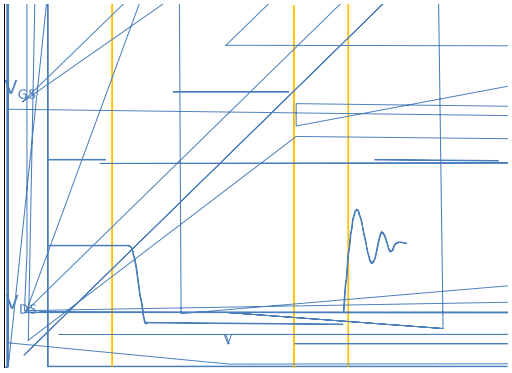


Figure 6. Typical Source-Drain Diode Forward Voltage

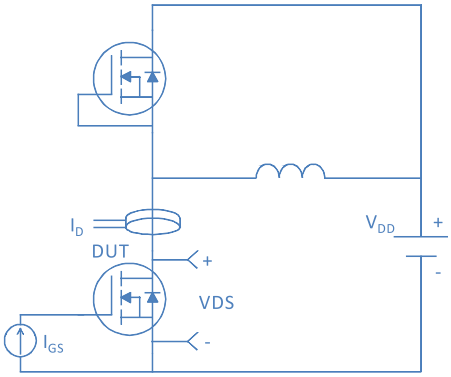


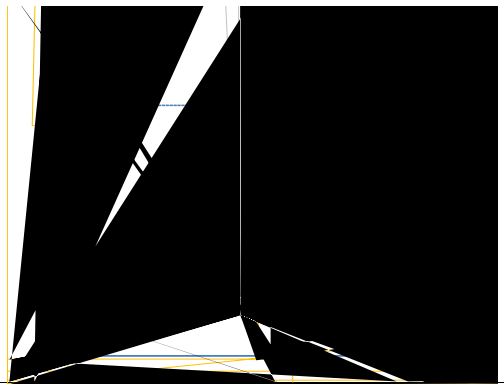
Inductive switching Test



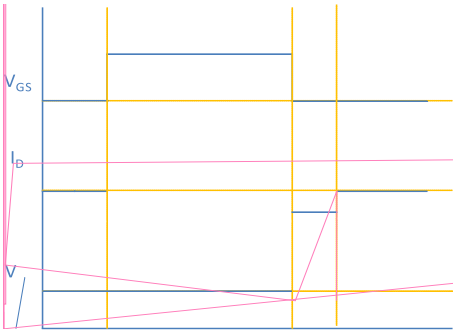
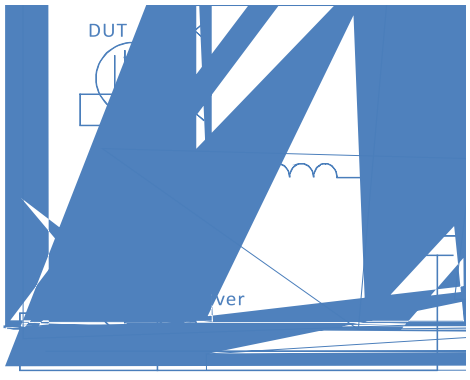
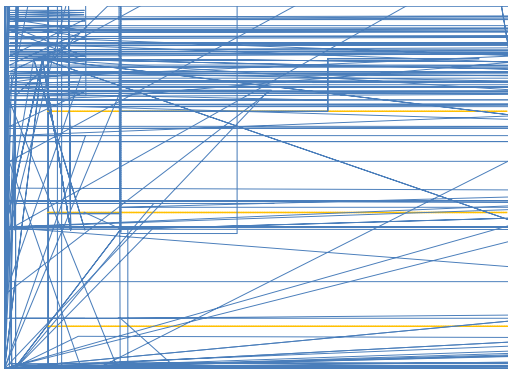


Gate Charge Test





Uclamped Inductive Switching (UIS) Test



Diode Recovery Test