25　m

A

	Symbol			
Continuous Drain Current (Silicon Limited)	I_D	T_C=25℃	42	
Continuous Drain Current (Package Limited)		T_C=25℃	35	
		-	120	V
				V
Pulsed Drain Current	I_{DM}	-	70	A
Avalanche Energy, Single Pulse				

Electrical Characteristics at T$_J$=25℃ (unless otherwise specified)

Static Characteristics

Parameter	Symbol	Conditions	Value min	typ	max	Unit
Drain to Source Breakdown Voltage	V$_{(BR)DSS}$	V$_{GS}$=0V, I$_D$=250 A	120	-	-	V
Gate Threshold Voltage	V$_{GS(th)}$	V$_{GS}$=V$_{DS}$, I$_D$=250 A	1.4	2.0	2.4	
Zero Gate Voltage Drain Current	I$_{DSS}$	V$_{GS}$=0V, V$_{DS}$=120V, T$_j$=25℃	-	-	1	A
		V$_{GS}$=0V, V$_{DS}$=120V, T$_j$=100℃	-	-	100	
Gate to Source Leakage Current	I$_{GSS}$	V$_{GS}$=±20V, V$_{DS}$=0V	-	-	±100	nA
Drain to Source on Resistance	R$_{DS(on)}$	V$_{GS}$=10V, I$_D$=5A	-	20	25	m
Drain to Source on Resistance	R$_{DS(on)}$	V$_{GS}$=4.5V, I$_D$=5A	-	25	31	m
Transconductance	g$_{fs}$	V$_{DS}$=5V, I$_D$=5A	-	20	-	S
Gate Resistance	R$_G$	V$_{GS}$=0V, V$_{DS}$ Open, f=1MHz	-	8.5	-	

Dynamic Characteristics

Input Capacitance	C$_{iss}$	V$_{GS}$=0V, V$_{DS}$=60V, f=1MHz	-	977	-	pF
Output Capacitance	C$_{oss}$		-	143	-	
Reverse Transfer Capacitance	C$_{rss}$		-	6.2	-	
Total Gate Charge	Q$_g$(10V)	V$_{DD}$=60V, I$_D$=5A, V$_{GS}$=10V	-	13.5	-	nC
Total Gate Charge	Q$_g$(4.5V)		-	7.6	-	
Gate to Source Charge	Q$_{gs}$		-	2.8	-	
Gate to Drain (Miller) Charge	Q$_{gd}$		-	2.0	-	
Turn on Delay Time	t$_{d(on)}$	V$_{DD}$=60V, I$_D$=5A, V$_{GS}$=10V, R$_G$=10 ,	-	8	-	ns
Rise time	t$_r$		-	8	-	
Turn off Delay Time	t$_{d(off)}$		-	14	-	
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$_R$=60V, I$_F$=5A, dI$_F$/dt=500A/ s	-	25	-	ns
Reverse Recovery Charge	Q$_{rr}$		-	91	-	nC

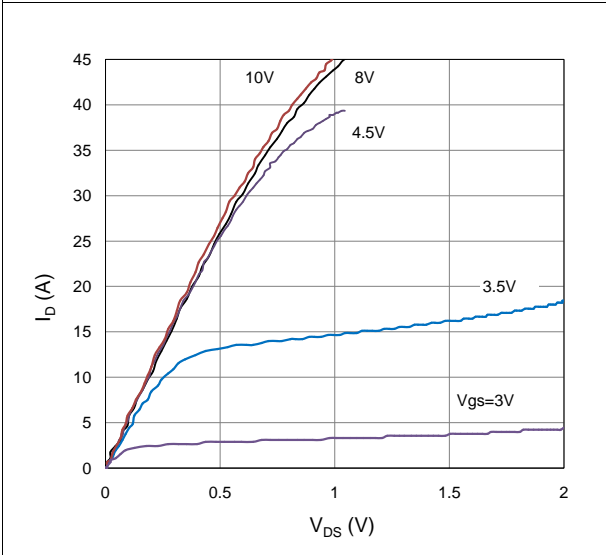Fig 1. Typical Output Characteristics

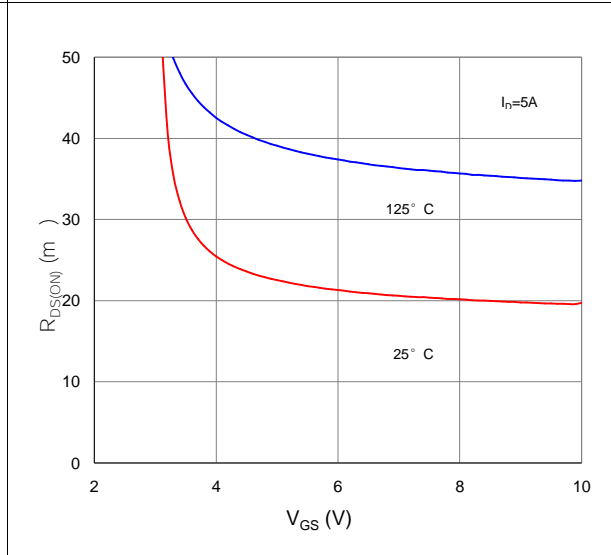Figure 2. On-Resistance vs. Gate-Source Voltage

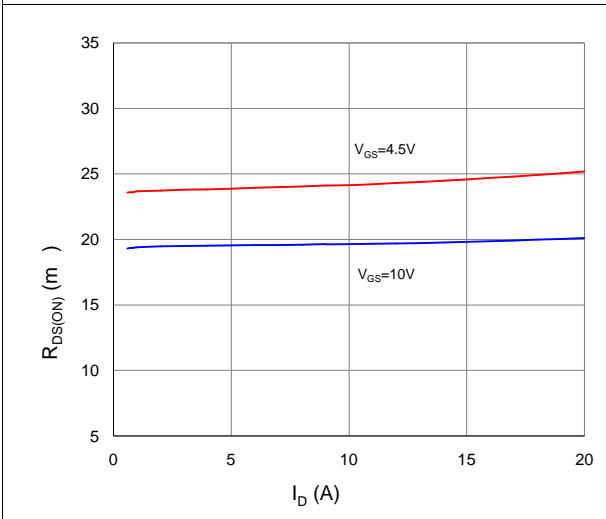Figure 3. On-Resistance vs. Drain Current and Gate Voltage

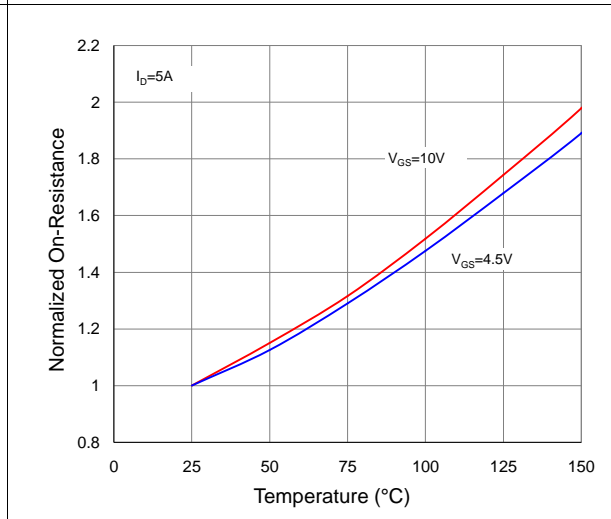Figure 4. Normalized On-Resistance vs. Junction Temperature

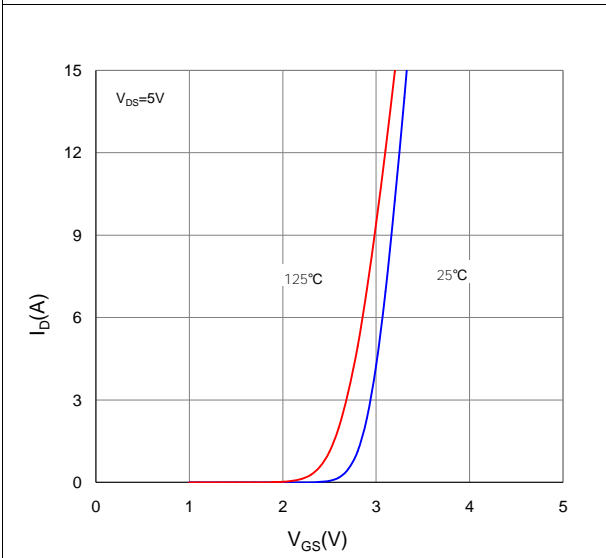Figure 5. Typical Transfer Characteristics
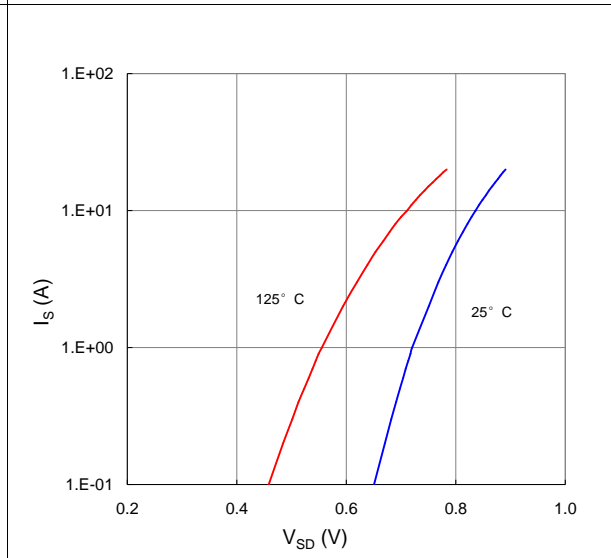

Figure 6. Typical Source-Drain Diode Forward Voltage
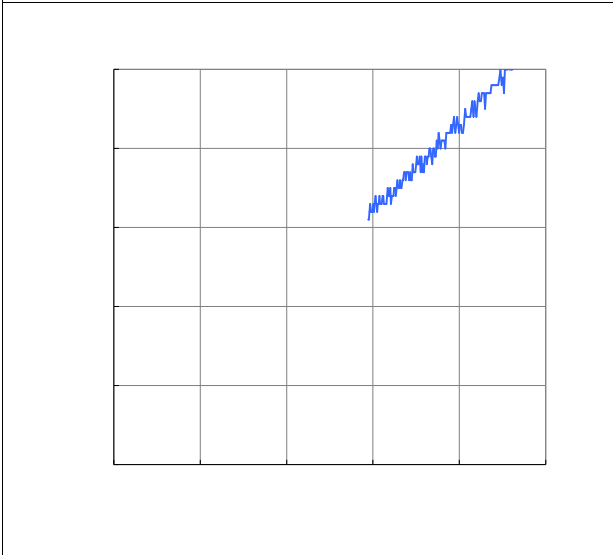
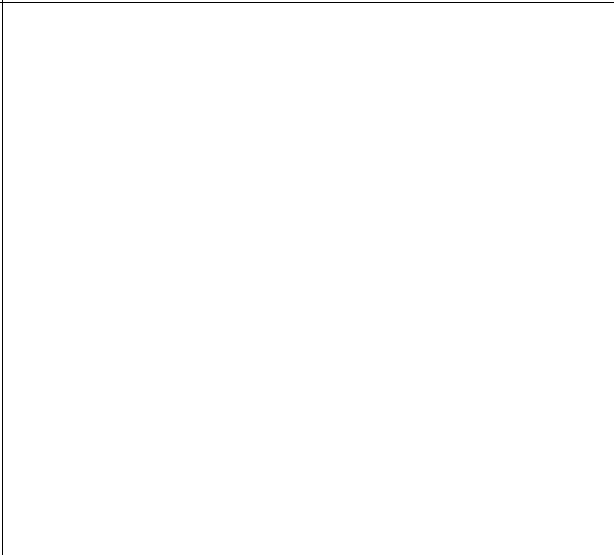| Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage	Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

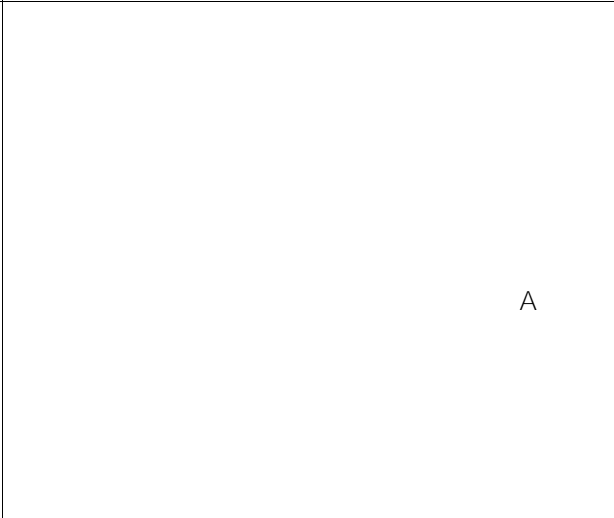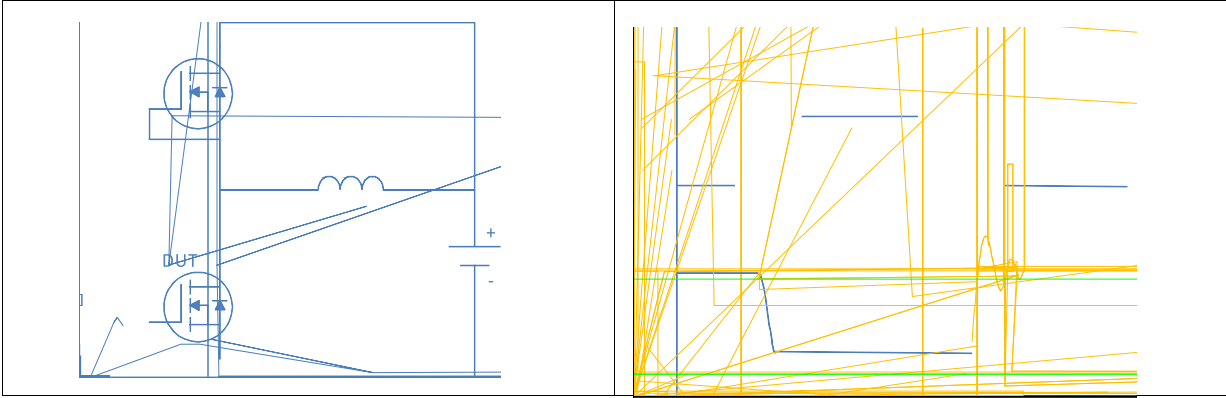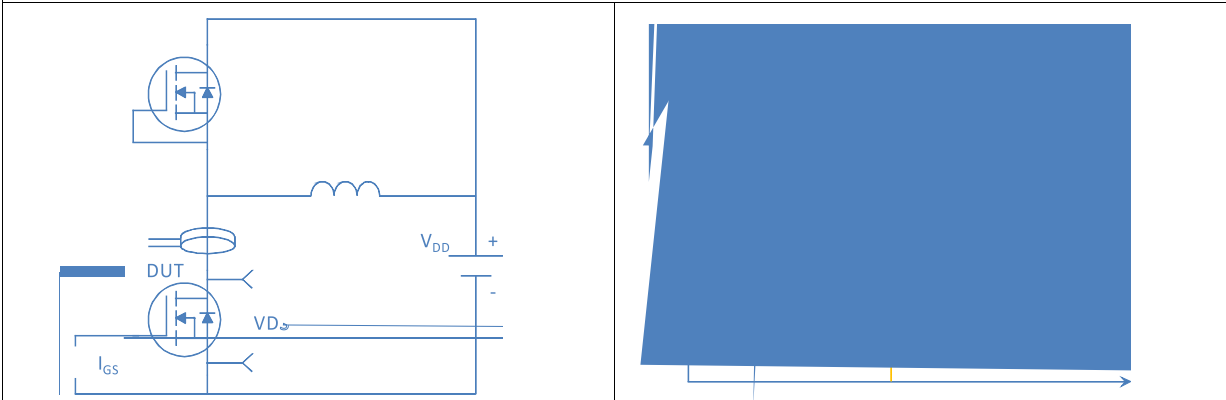| Figure 9. Maximum Safe Operating Area	Figure 10. Maximun Drain Current vs. Case Temperature
	A

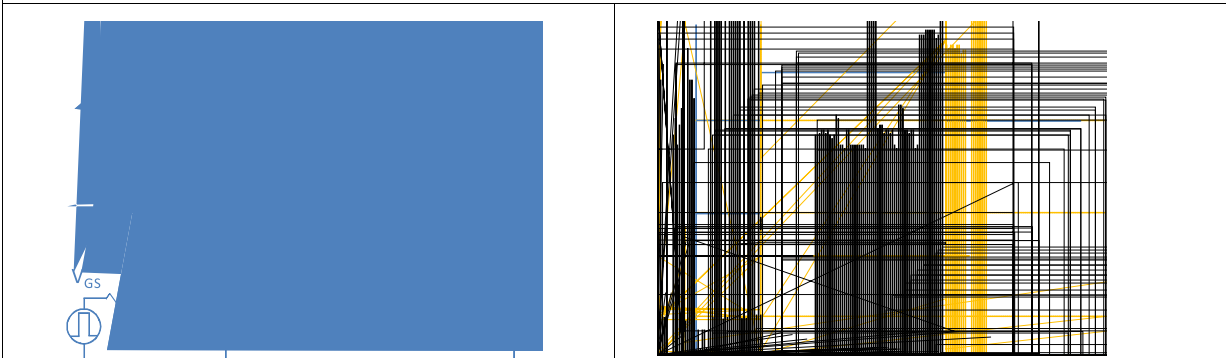Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Ambient
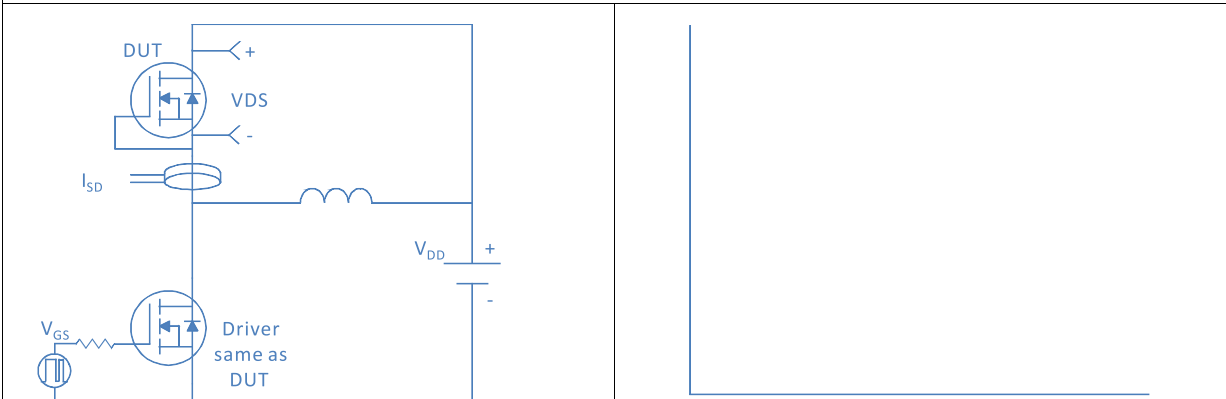
Inductive switching Test

Gate Charge Test

Uclamped Inductive Switching (UIS) Test

Diode Recovery Test

Package Outline

TO-252, 3 leads

SYMBOL	DIMENSIONAL REQMTS		
	MIN	NOM	MAX
E	6.40	6.60	6.731
L	1.40	1.52	1.77
L1	2.743 REF		
L2	0.508 BSC		
L3	0.89	--	1.27
L4	0.64	--	1.01
L5	--	--	--
D	6.00	6.10	6.223

SINGLE ROW(NEW)   MATRIX L/F