	$I_{D\ (Sillicon\ Limited)}$		17	A

		Conditions	Value	Unit
		T_C	17	A
		T_C	11	
	V	-	65	V
		-	20	V
Pulsed Drain Current	I_{DM}	-	180	A
		L=0.1mH, T_C	31	mJ
Power Dissipation		T_C	3.1	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to150	

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Lead	R_{JL}	25	
Ma b b b ! "	R_{JA}	40	
Thermal Resistance Junction-Ambient (steady state)		75	

Electrical Characteristics at T_j ! a b bb "

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	65	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=250 A	2.0	2.7	4.0	
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0V, V_{DS}=60V, T_j	-	-	1	A
		V_{GS}=0V, V_{DS}=60V, 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	-	4.7	5.7	m
Transconductance	g_{fs}	V_{DS}=5V, I_D=20A	-	50	-	S
Gate Resistance	R_G	V_{GS}=0V, V_{DS} Open, f=1MHz	-	1.2	-	

Dynamic Characteristics

Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=30V, f=1MHz	-	2373	-	pF
Output Capacitance	C_{oss}		-	769	-	
Reverse Transfer Capacitance	C_{rss}		-	45	-	
Total Gate Charge	Q_g(10V)	V_{DD}=30V, I_D=20A, V_{GS}=10V	-	41	-	nC
Gate to Source Charge	Q_{gs}		-	10	-	
Gate to Drain (Miller) Charge	Q_{gd}		-	10	-	
Turn on Delay Time	$t_{d(on)}$	V_{DD}=30V, I_D=20A, V_{GS}=10V, R_G=10 ,	-	11	-	ns
Rise time	t_r		-	7	-	
Turn off Delay Time	$t_{d(off)}$		-	35	-	
Fall Time	t_f		-	9	-	

Reverse Diode Characteristics

Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_F=30A	-	0.9	1.2	V
Reverse Recovery Time	t_{rr}	V_R=30V, I_F=20A, dI_F/dt=400A/ s	-	35	-	ns
Reverse Recovery Charge	Q_{rr}		-	88	-	nC

Fig 1. Typical Output Characteristics	Figure 2. On-Resistance vs. Gate-Source Voltage

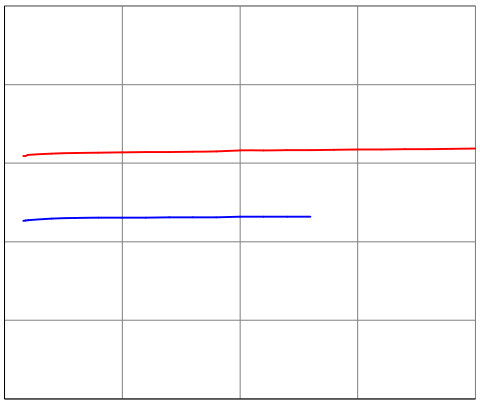
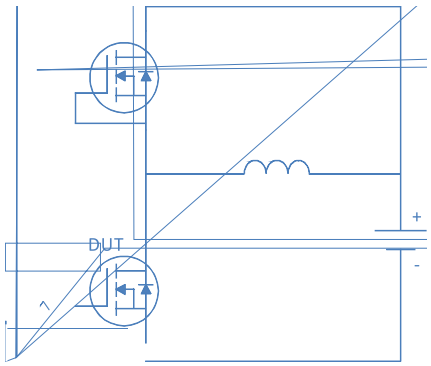
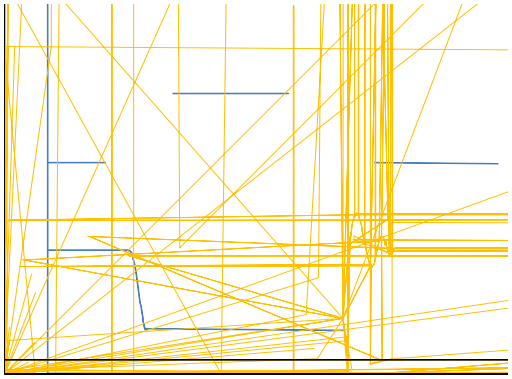
Figure 3. On-Resistance vs. Drain Current and Gate Voltage	Figure 4. Normalized On-Resistance vs. Junction Temperature
	

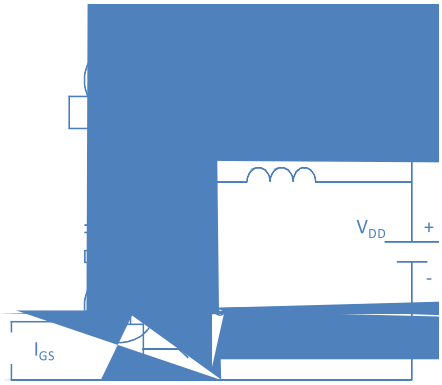
Figure 5. Typical Transfer Characteristics	Figure 6. Typical Source-Drain Diode Forward Voltage

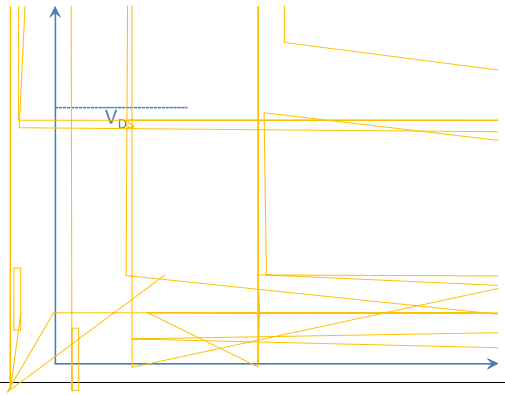
Inductive switching Test



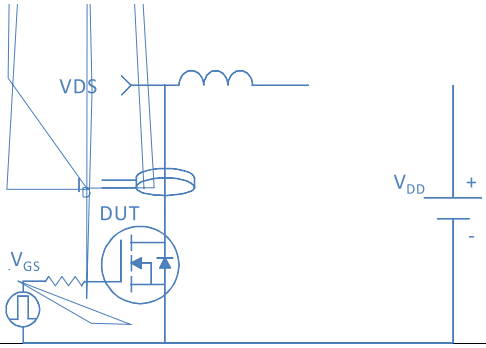


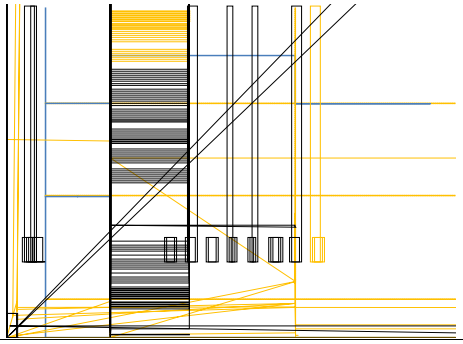
Gate Charge Test



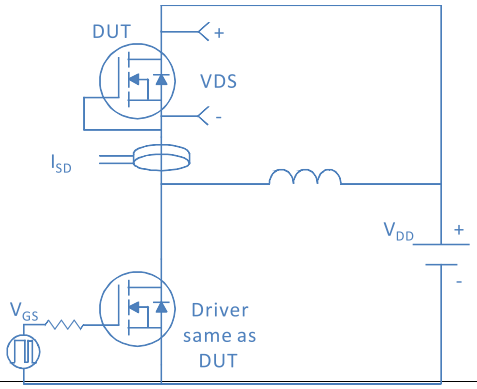


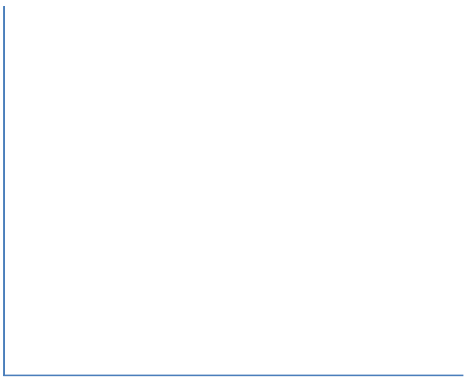
Uclamped Inductive Switching (UIS) Test





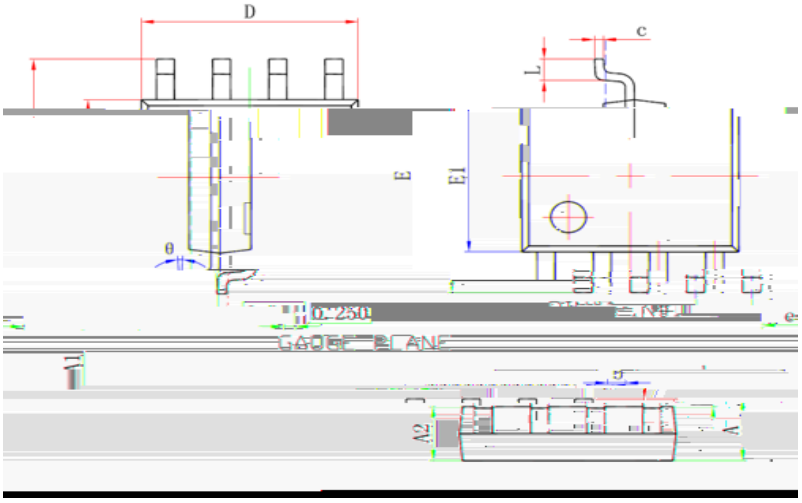
Diode Recovery Test





Package Outline

SOIC-8, 8 leads



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.250	1.650	0.049	0.065
b	0.310	0.510	0.012	0.020
c	0.170	0.250	0.007	0.010
D	4.800	5.000	0.189	0.197
e	1.270 (BSC)		0.050 (SBC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.031
θ	0°	8°	0°	8°