30V P-Ch Power MOSFET

V_{DS}		-30	V
$R_{DS(on),typ}$	V_{GS}=10V	9.2	mΩ
$R_{DS(on),typ}$	V_{GS}=4.5V	10.7	mΩ
$I_{D\ (Sillicon\ Limited)}$		-15	A

Absolute Maximum Ratings at T_j

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current (Silicon Limited)	I_D	T_C	-15	A
		T_C	-9	
Drain to Source Voltage	V_{DS}	-	-30	V
Gate to Source Voltage	V_{GS}	-	±20	V
Pulsed Drain Current	I_{DM}	-	-48	A
Avalanche Energy, Single Pulse	E_{AS}	L=0.5mH, T_C	115	mJ
Power Dissipation	P_D	T_A	1.7	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to150	

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	75	
Thermal Resistance Junction-Lead	$R_{\theta JL}$	23	

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=-250μA	-30	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=-250μA	-1.0	-1.3	-2.2	
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0V, V_{DS}=-30V, T_j	-	-	-1	μA
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=-12A	-	9.2	13	mΩ
		V_{GS}=-6V, I_D=-10A	-	10.7	17	
Transconductance	g	V_{DS}=-5V, I_D=-15A	-	28	-	S

Dynamic Characteristics

Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}	-	2900	-	pF
Output Capacitance	C_{oss}		-	410	-	
	C_{rss}		-	280	-	
Total Gate Charge	Q_g	V_{DD}=-15V, I_D=-10A, V_{GS}=-10V	-	48	-	nC
Gate to Source Charge	Q_{gs}		-	12	-	
Gate to Drain (Miller) Charge	Q_{gd}		-	14	-	
Turn on Delay Time	$t_{d(on)}$	V_{DD}=-15V, V_{GS}=-10V, R_G=3Ω,	-	15	-	ns
Rise time	t_r		-	11	-	
	t		-	44	-	
Fall Time	t		-	21	-	

Reverse Diode Characteristics

Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_F=-2A	-		-1.2	V

Fig 1. Typical Output Characteristics

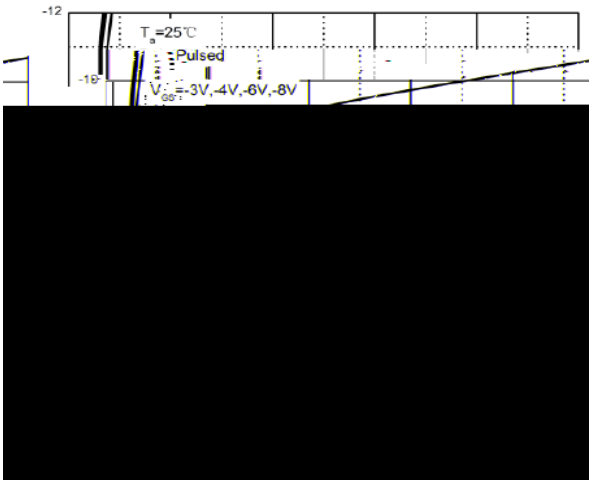


Figure 2. On-Resistance vs. Gate-Source Voltage

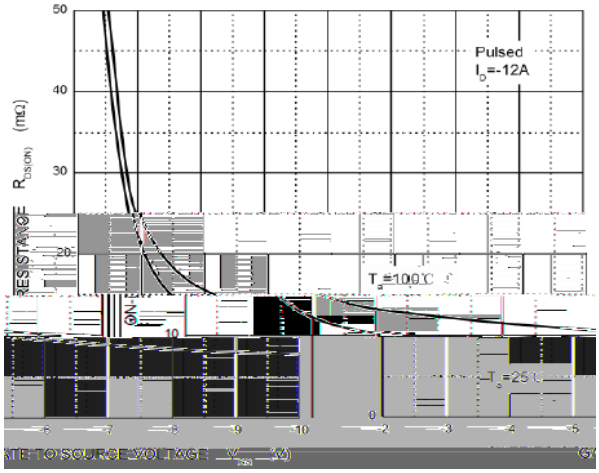


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

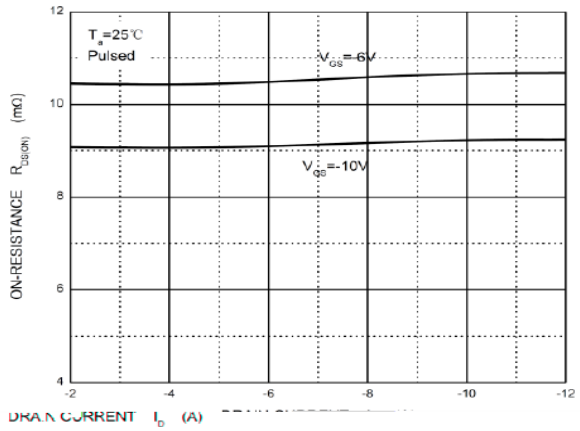


Figure 4. Thershold Voltage vs. Junction Temperature

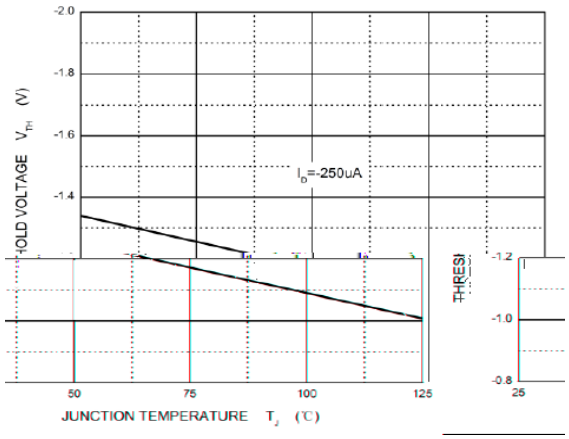
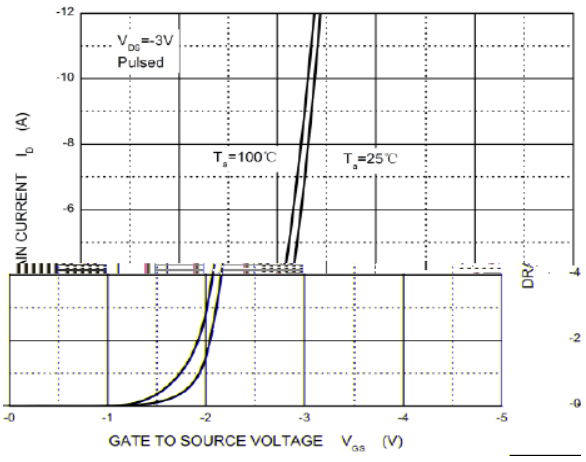
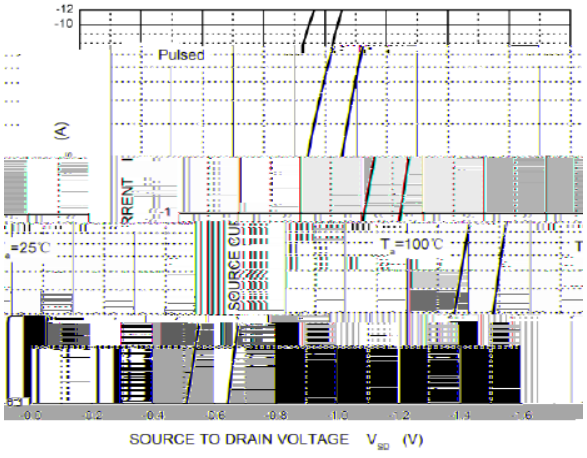
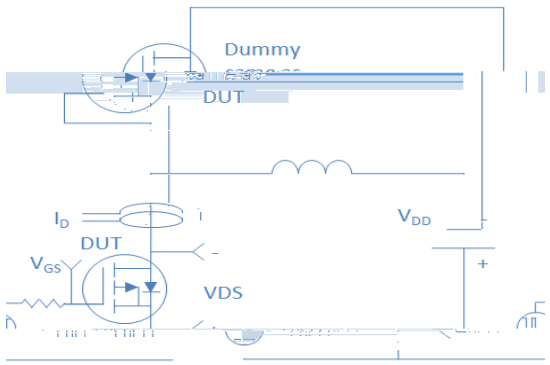


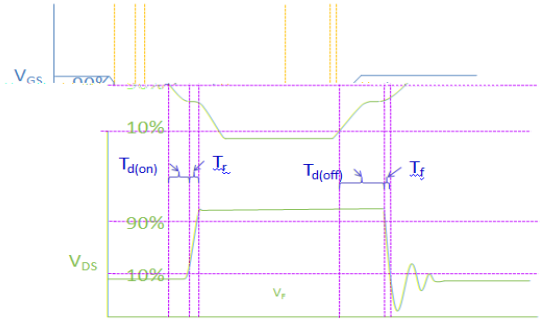
Figure 6. Typical Source-Drain Diode Forward Voltage



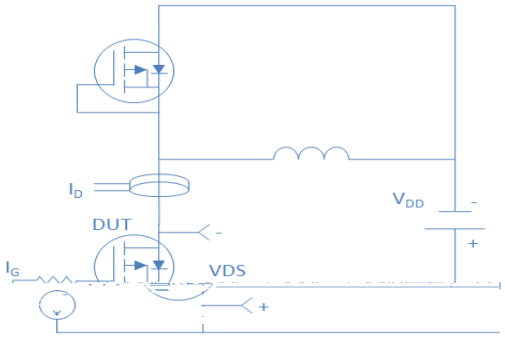


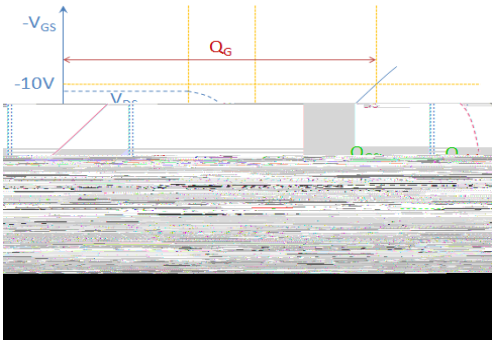
Inductive switching Test



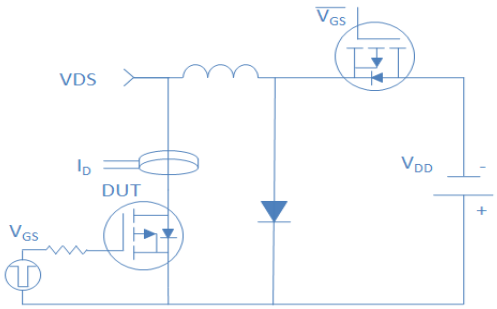


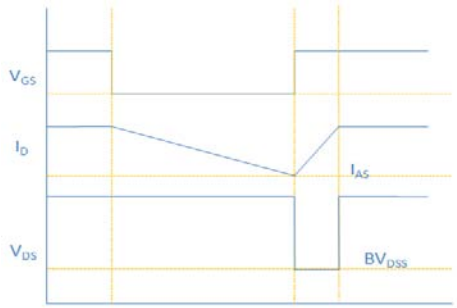
Gate Charge Test



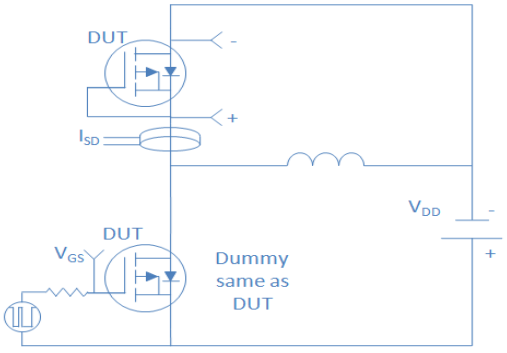


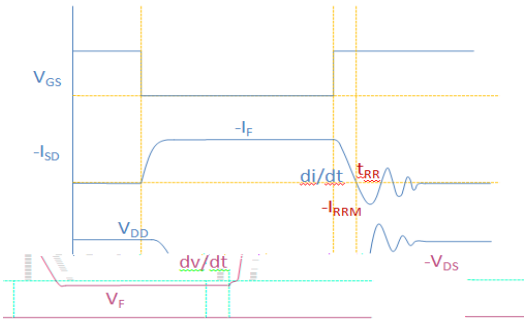
Uclamped Inductive Switching (UIS) Test





Diode Recovery Test





Package Outline

SOP-8, 8leads