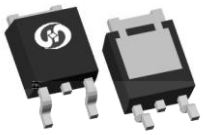
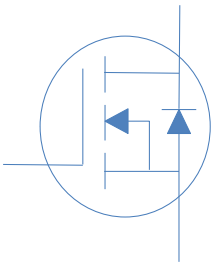
65V N-Ch Power MOSFET

H

V_{DS}		65	V
$R_{DS(on),typ}$	V_{GS}=10V	3.8	m
$R_{DS(on),typ}$	V_{GS}=4.5V	5.5	m
$I_{D\ (Sillicon\ Limited)}$		101	A

H





Part Number	Package	Marking
HGD046NE6AL	TO-252	GD046NE6AL

Absolute Maximum Ratings at T_j=25℃ (unless otherwise specified)

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current (Silicon Limited)	I_D	T_C=25℃	101	A
		T_C=100℃	72	
Drain to Source Voltage	V_{DS}	-	65	V
Gate to Source Voltage	V_{GS}	-	±20	V
Pulsed Drain Current	I_{DM}	-	340	A
Avalanche Energy, Single Pulse	E_{AS}	L=0.1mH, T_C=25℃	31	mJ
Power Dissipation	P_D	T_C=25℃	94	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to175	℃

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Ambient	R_{JA}	50	℃/W
Thermal Resistance Junction-Case	R_{JC}	1.6	℃/W

			min			
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250 A				
	$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=250 A	1.0			
						nA
			-			m
				870		
Total Gate Charge						
Turn on Delay Time	$t_{d(on)}$		-	10	-	
Rise time	t_r	V_{DD}=30V, I_D=20A, V_{GS}=10V,	-	8	-	ns
Turn off Delay Time	$t_{d(off)}$	R_G=10 ,	-	34	-	
Fall Time	t_f		-	10	-	
Reverse Diode Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_F=30A	-	0.9	1.2	V

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

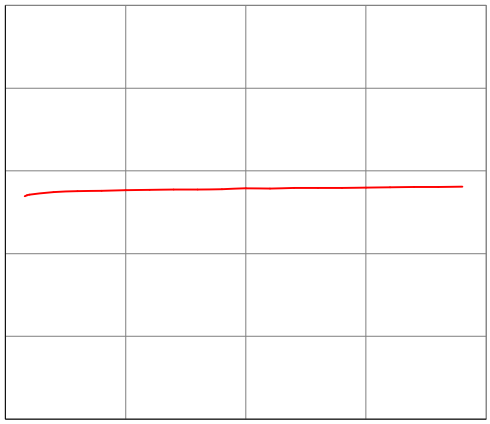
Figure 3. On-Resistance vs. Drain Current and Gate Voltage	Figure 4. Normalized On-Resistance vs. Junction Temperature
	

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

Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage

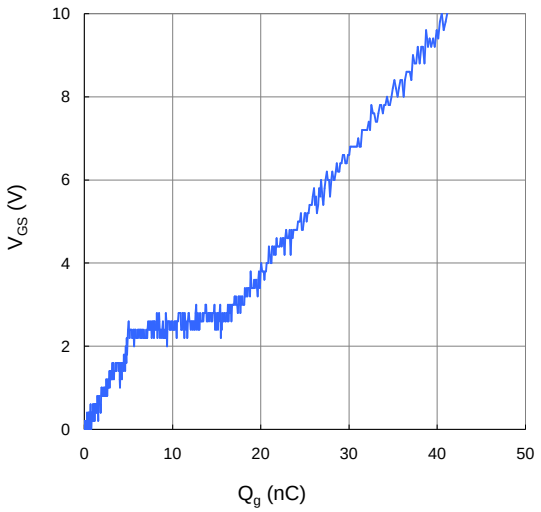


Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

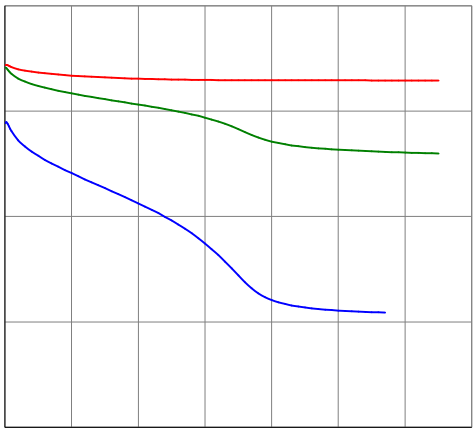
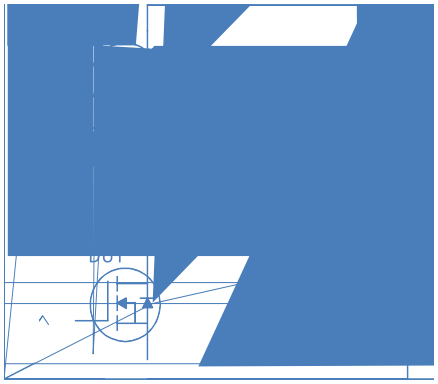


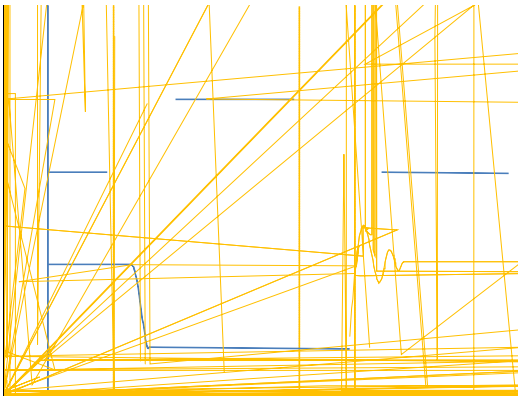
Figure 9. Maximum Safe Operating Area

Figure 10. Maximun Drain Current vs. Case Temperature

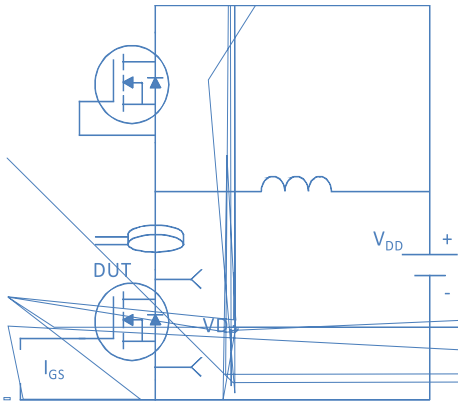
Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Ambient

Inductive switching Test

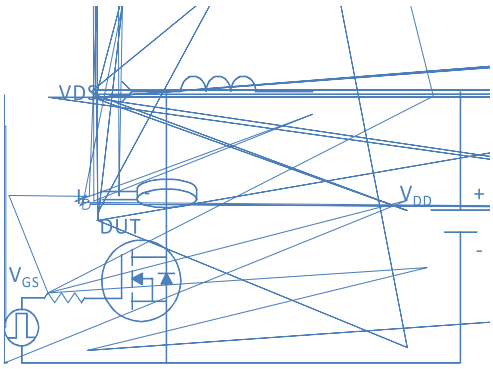


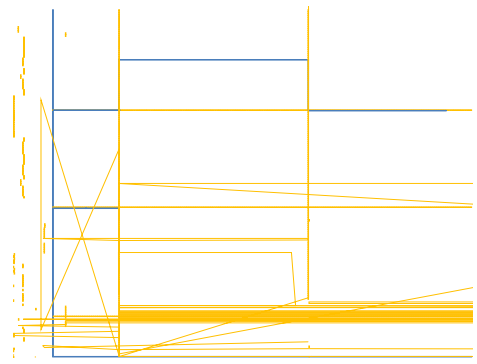


Gate Charge Test

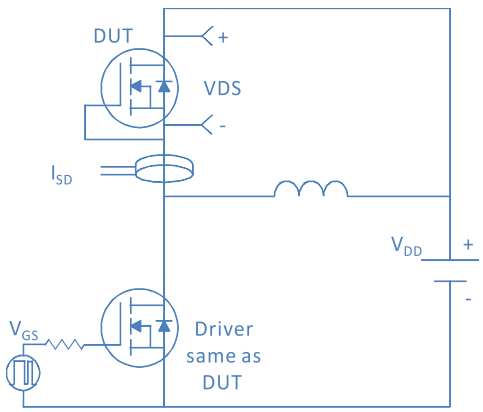


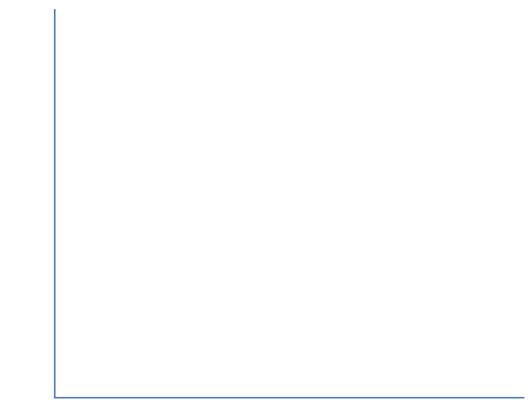
Uclamped Inductive Switching (UIS) Test





Diode Recovery Test





Package Outline