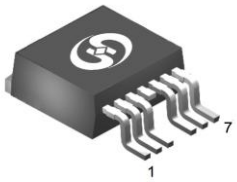
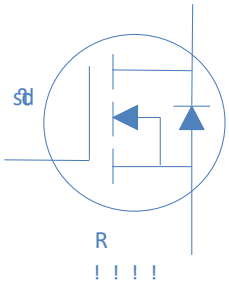
65V N-Ch Power MOSFET

d st d
ft R ddch d R st R st ft
D dch ch ch chd ch chst st
D dch d ftftdch drr
T R drstdch ft drstdch
d ch dd
st
R r d st st R R
chR st ft ch ft R ddch st
d r
T R
st st

V_{DS}	65	V
$R_{DS(on),typ}$	0.78	m
$I_{D\ (Sillicon\ Limited)}$	506	A
$I_{D\ (Package\ Limited)}$	240	A

Part Number	Package	Marking
HGB009NE6A	TO-263	GB009NE6A





Absolute Maximum Ratings at T_j

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current (Silicon Limited)	I_D	T_C	506	A
		T_C	358	
Continuous Drain Current (Package Limited)		T_C	240	
Drain to Source Voltage	V_{DS}	-	65	V
Gate to Source Voltage	V_{GS}	-	20	V
Pulsed Drain Current	I_{DM}	-	1950	A
Avalanche Energy, Single Pulse	E_{AS}	L=0.4mH, T_C	720	mJ
Power Dissipation	P_D	T_C	429	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to175	

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Case	R	0.35	
Thermal Resistance Junction-Ambient	R	60	

			typ	max
Drain to Source Breakdown Voltage			-	
				4
			-	1
		V_{GS}=0V, V_{DS}=60V, T_j	-	100
Drain to Source on Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=20A		

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

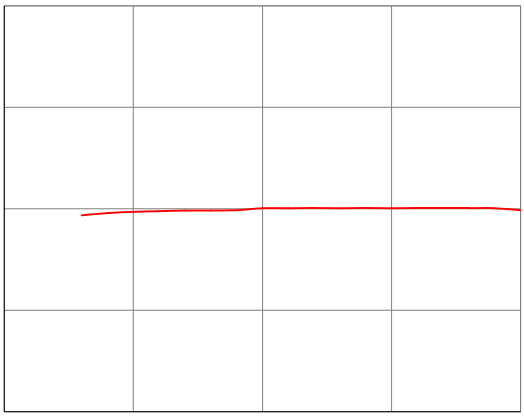
Figure 3. On-Resistance vs. Drain Current and Gate Voltage	Figure 4. Normalized On-Resistance vs. Junction Temperature
	

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

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

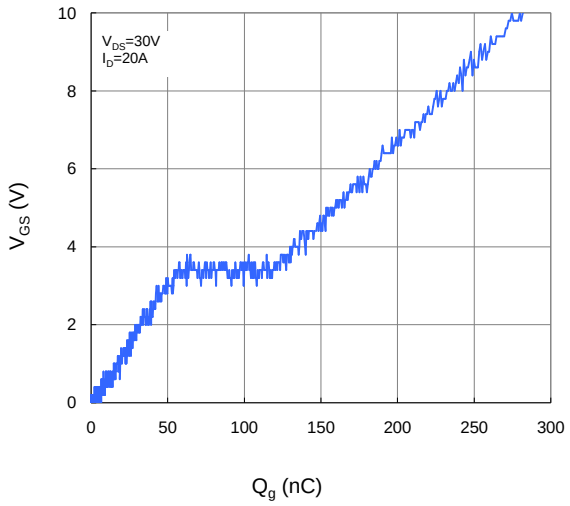


Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

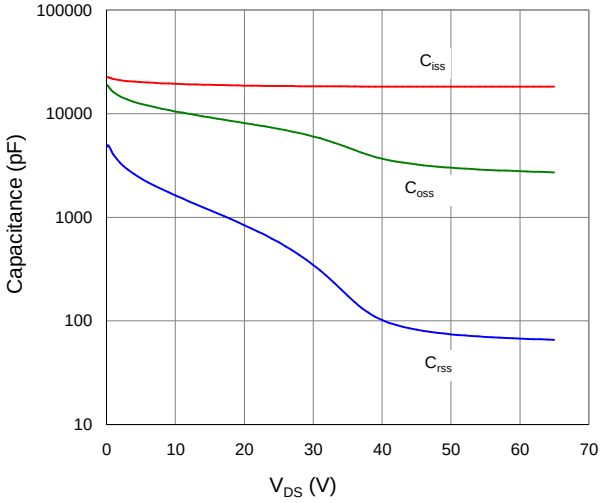


Figure 9. Maximum Safe Operating Area

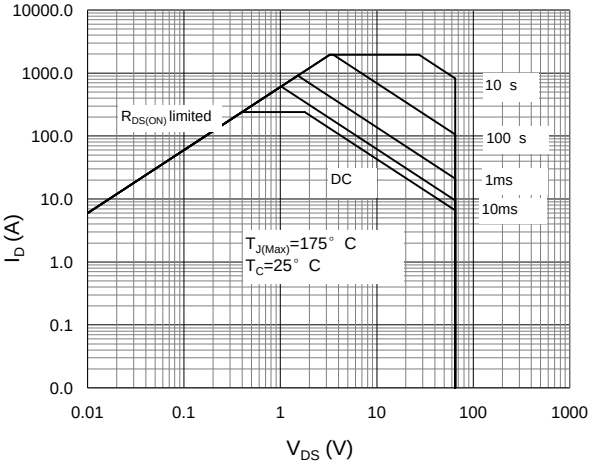


Figure 10. Maximun Drain Current vs. Case Temperature

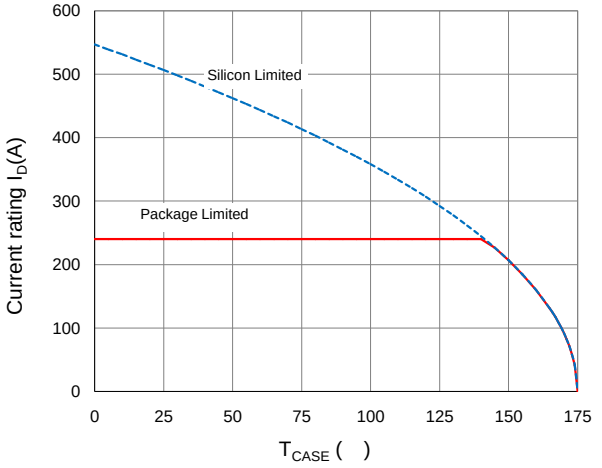
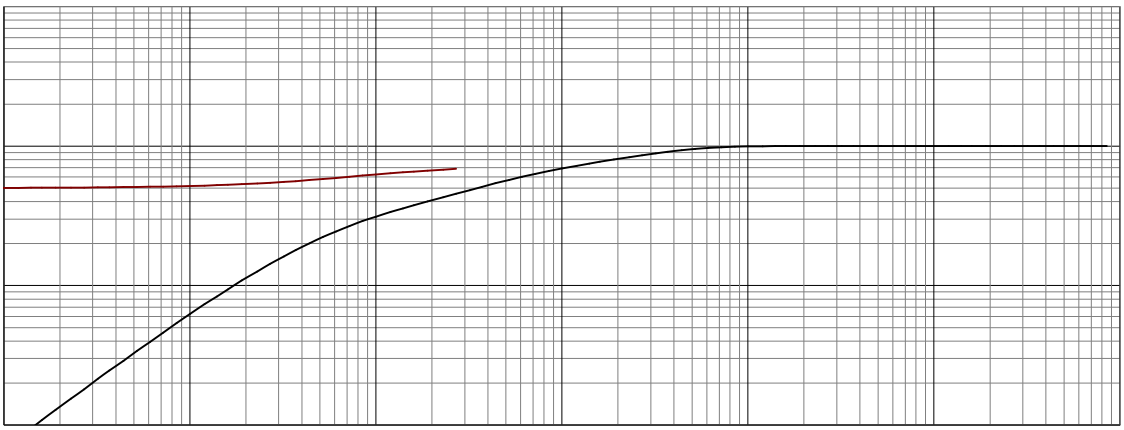
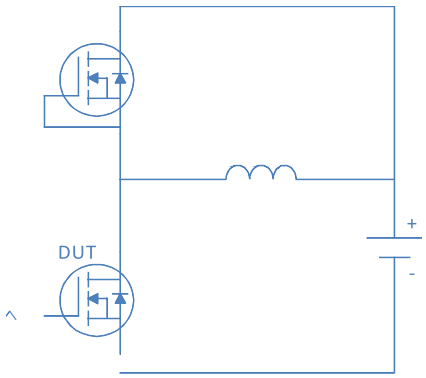
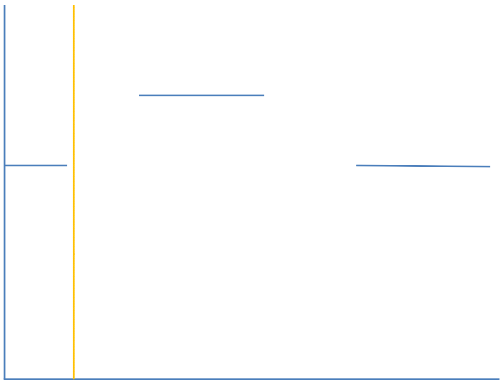


Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Case



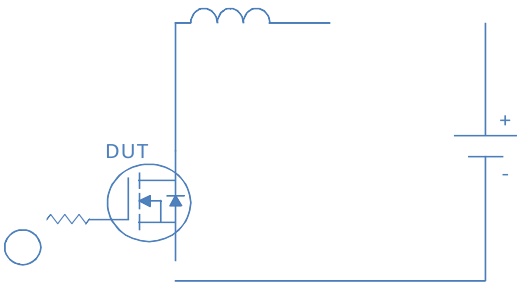
Inductive switching Test

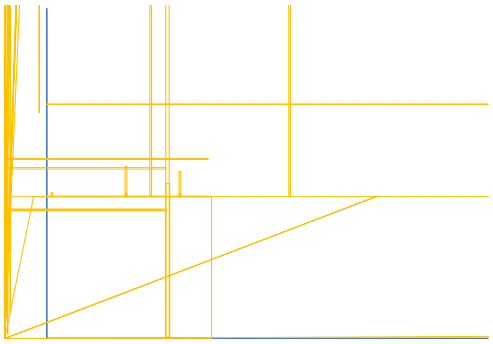




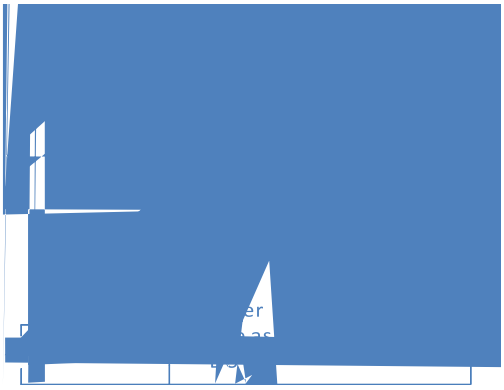
Gate Charge Test

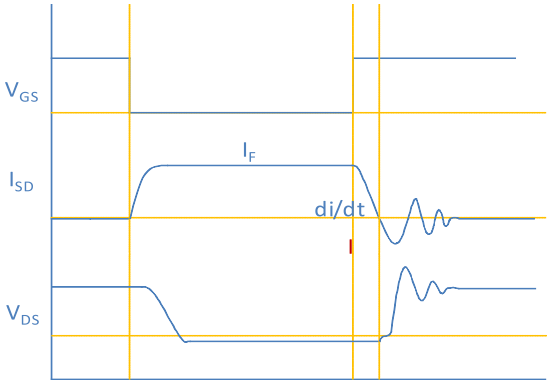
Uclamped Inductive Switching (UIS) Test



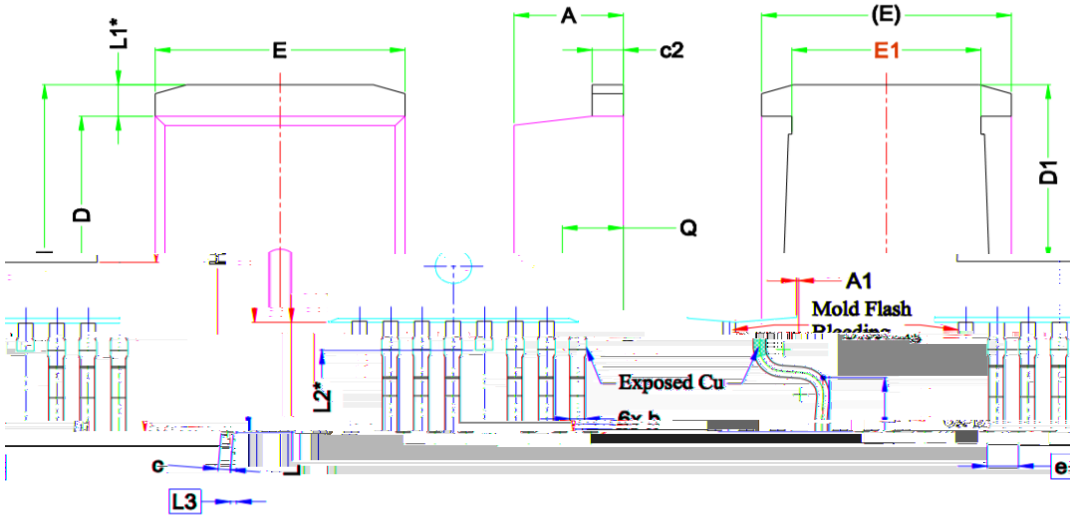


Diode Recovery Test





TO-263-7, 7 leads



DIMENSIONS			
MIN.	NOM.	MAX.	SYMBOL
4.24	4.44	4.64	A
[illegible]	0.10	[illegible]	A1
0.58	0.68	0.78	b
0.48	0.50	0.60	c
1.15	1.27	1.40	c2
8.82	8.92	9.02	D
6.86	7.65	[illegible]	D1
9.80	10.16	10.36	E
6.89	7.77	7.89	E1
	1.27 BSC		e
14.61	15.00	15.88	H
1.78	2.32	2.79	L
	1.36 REF.		L1
	1.20 REF.		L2
	0.25 BSC		L3
0.50	[illegible]	2.80	[illegible]