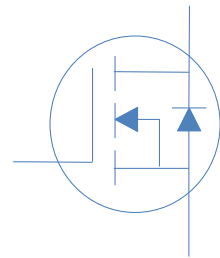


250V N-Ch Power MOSFET

V_{DS}		250	V
$R_{DS(on),typ}$	$V_{GS}=10V$	180	$m\Omega$
$R_{DS(on),typ}$	$V_{GS}=4.5V$	190	$m\Omega$
I_D		13	A



Part Number	Package	Marking
HGP2K4N25ML	TO-220	GP2K4N25ML

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

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current	I_D	$T_C=25$	12.8	A
		$T_C=100$	9.1	
Drain to Source Voltage	V_{DS}	-	250	V
Gate to Source Voltage	V_{GS}	-	± 20	V
Pulsed Drain Current	I_{DM}	-	18	A
Avalanche Energy, Single Pulse	E_{AS}	$L=0.4mH, T_C=25$	1.8	mJ
Power Dissipation	P_D	$T_C=25$	88	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to 175	

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Case	R	1.7	$^{\circ}W$
Thermal Resistance Junction-Ambient	R	65	$^{\circ}W$

Electrical Characteristics at $T_j=25$ (unless otherwise specified)

Static Characteristics

Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	250	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{GS}		2.1	3	
Gate to Source Leakage Current		$V_{GS}=0V, V_{DS}=20V, T_j=100$	-	-	100	μA
		$V_{GS}=20V, V_{DS}=20V, T_j=100$	-	190	280	$m\Omega$

Figure 5. Normalized On-Resistance vs. Junction Temperature

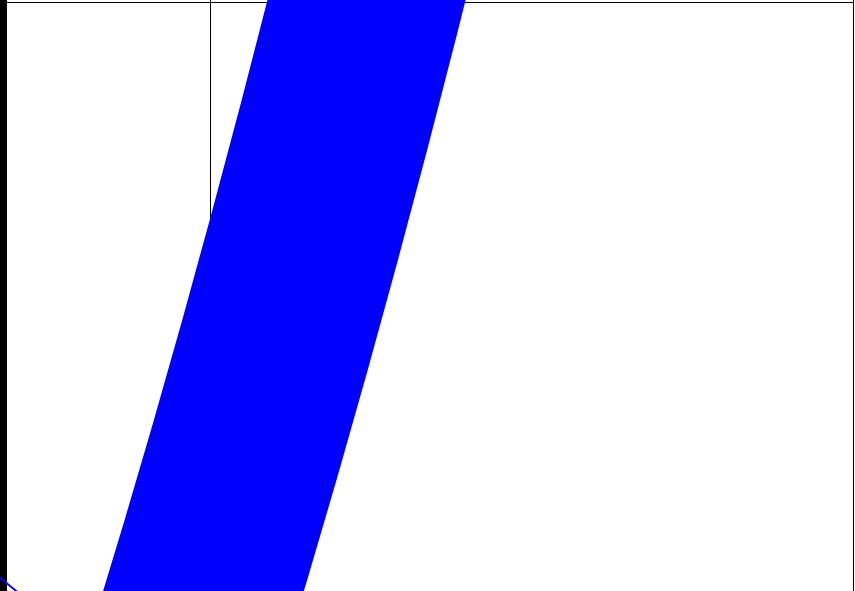


Figure 6. Typical Source-Drain Diode Forward Voltage

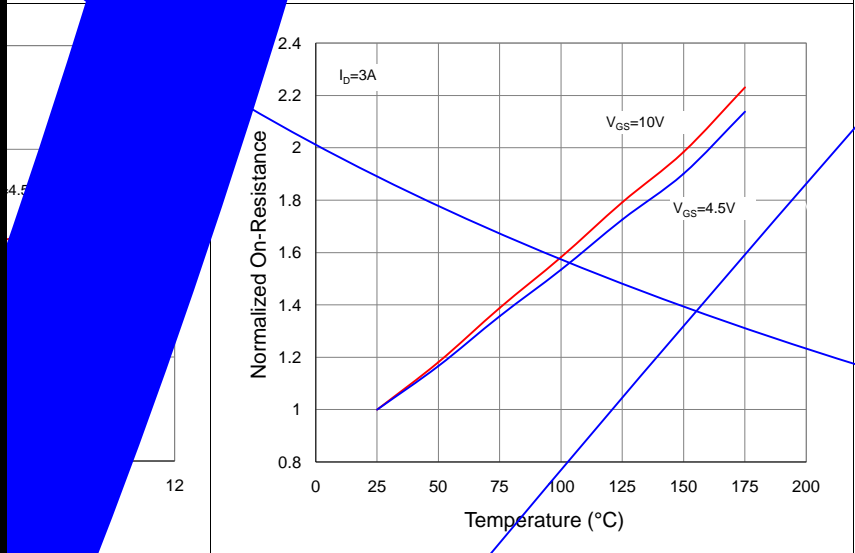


Figure 6. Typical Source-Drain Diode Forward Voltage

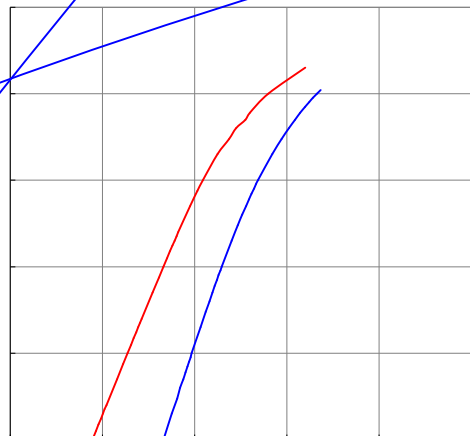




Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage

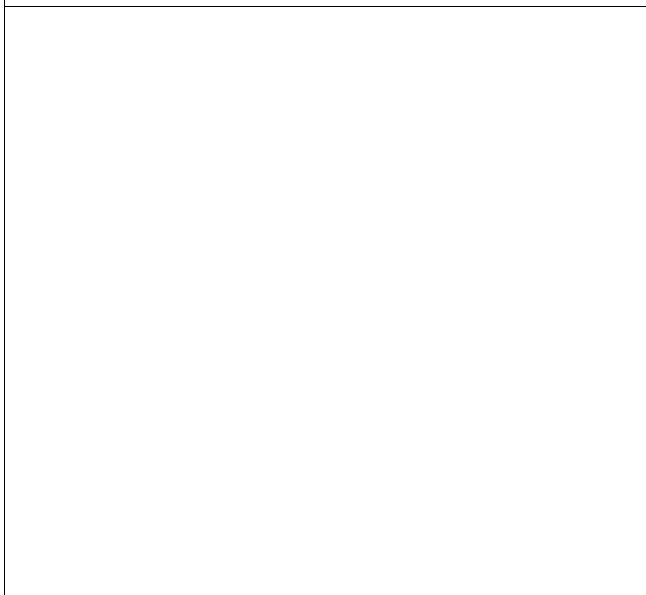


Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

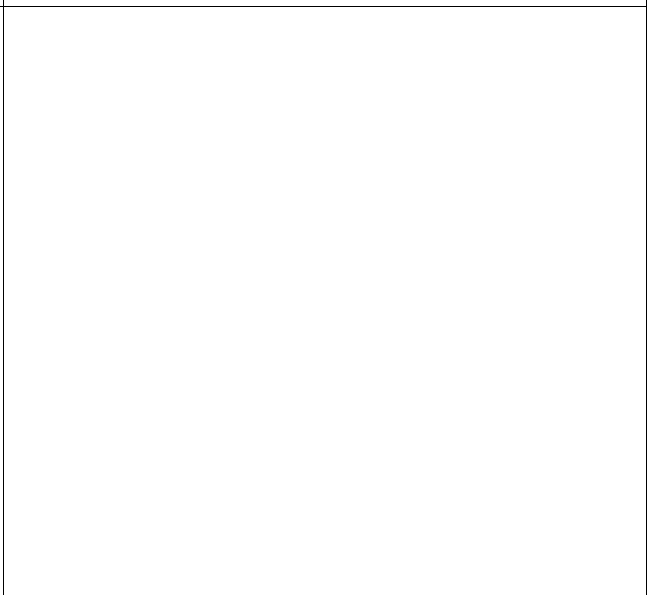


Figure 9. Maximum Safe Operating Area

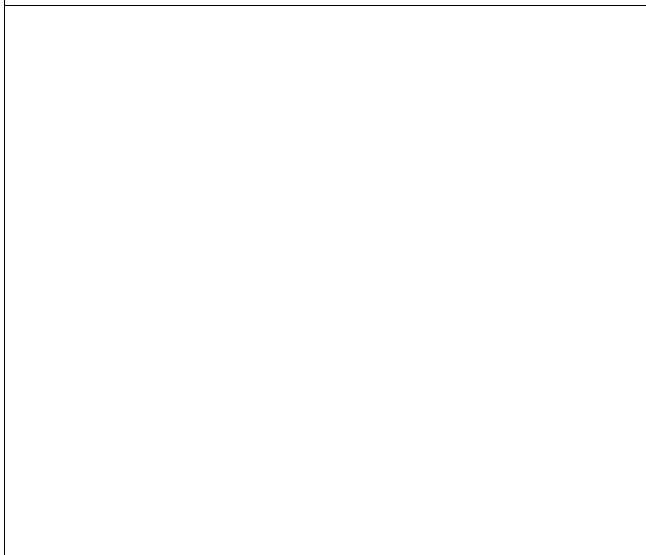


Figure 10. Maximun Drain Current vs. Case Temperature

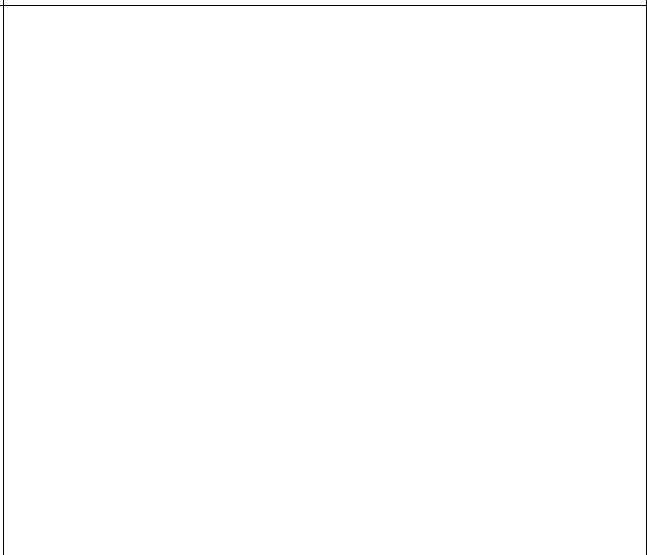
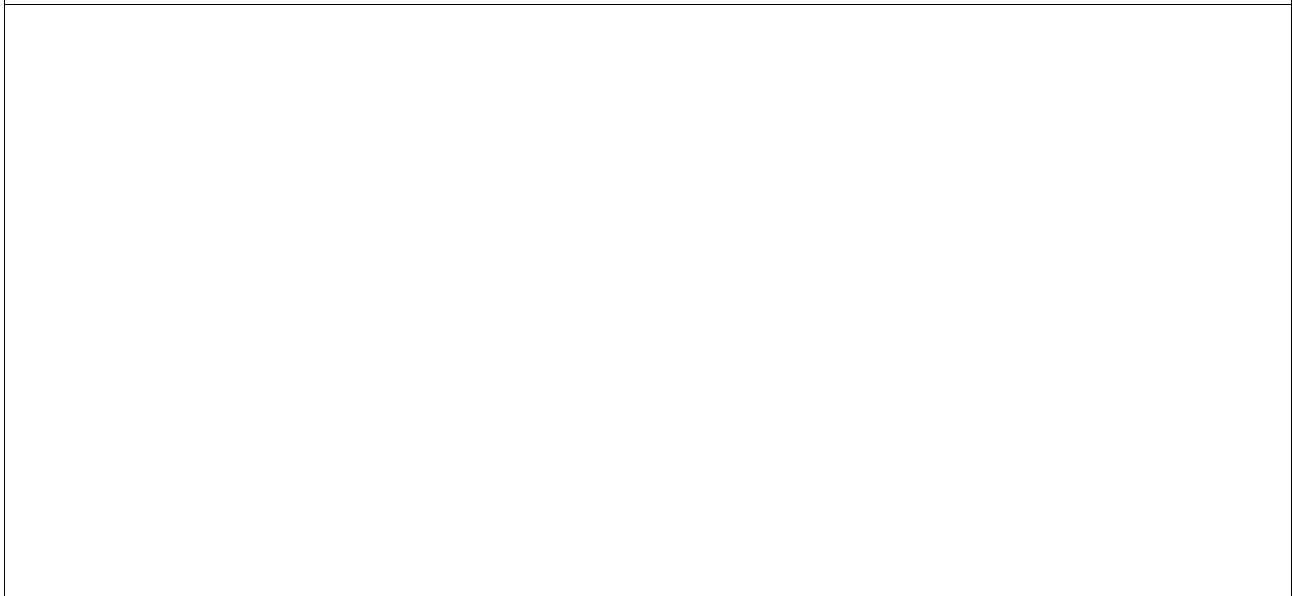
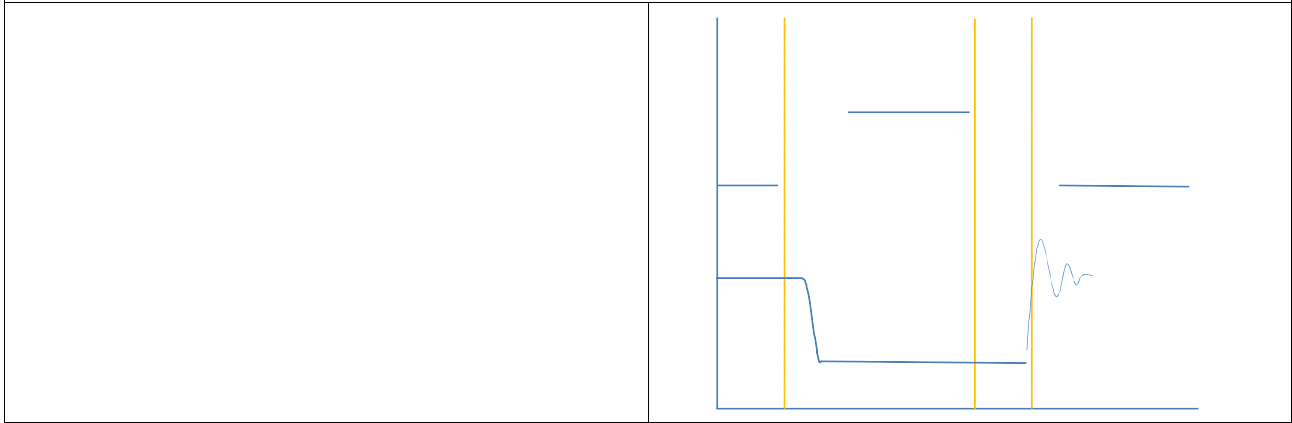


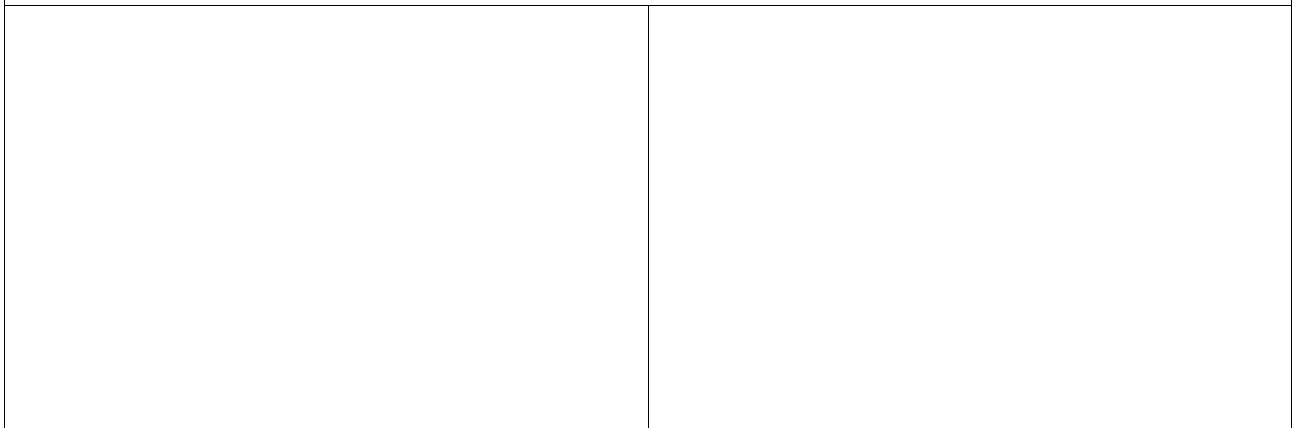
Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Case



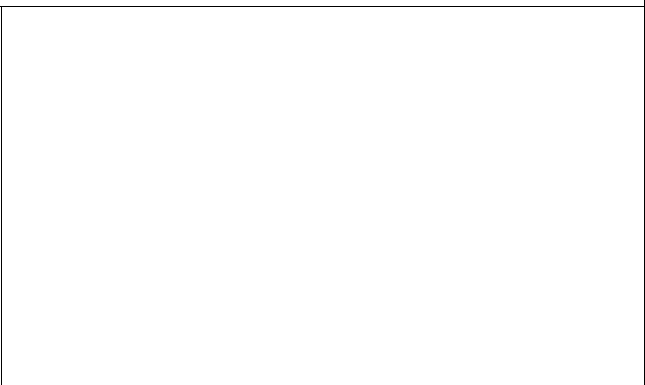
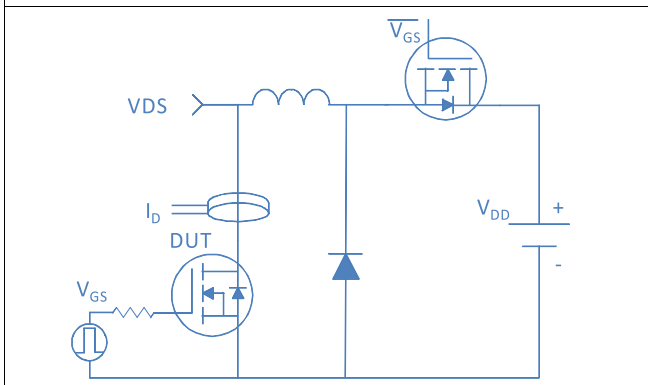
Inductive switching Test



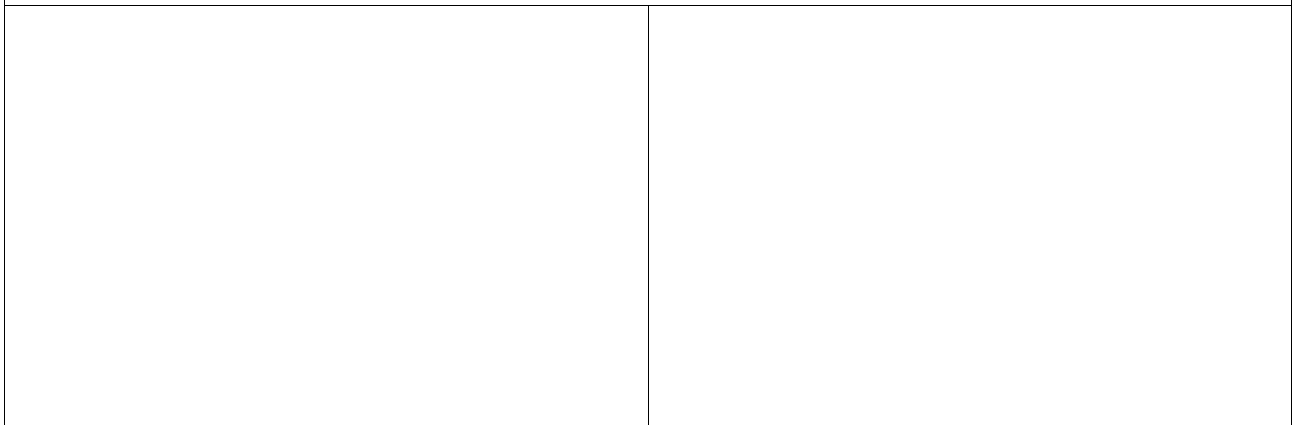
Gate Charge Test



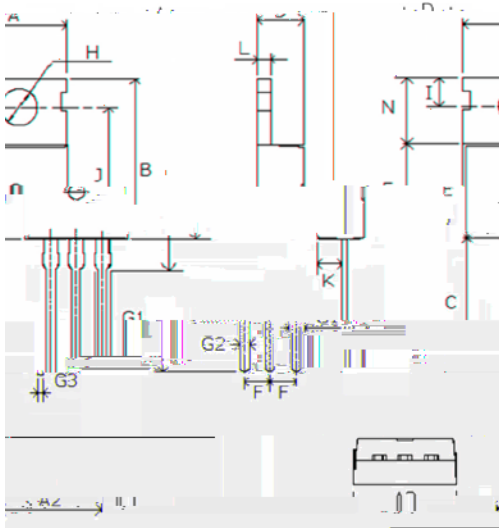
Uclamped Inductive Switching (UIS) Test



Diode Recovery Test



TO-220, 3 leads



Dimensions in mm unless otherwise specified

Symbol	Min	Nom	Max
A	9.66	9.97	10.28
A2	9.80	10.00	10.20
B	15.60	15.70	15.80
C	12.70	13.48	14.27
D	4.30	4.50	4.70
E	9.00	9.20	9.40
F		2.54	
G1	1.32	1.52	1.72
G2	0.70	0.82	0.95
G3	0.45	0.52	0.60
H	3.50	3.60	3.70
I	2.70	2.80	2.90
J	15.70	15.97	16.25
K	2.20	2.40	2.60
L	1.15	1.27	1.40
N	6.40	6.60	6.80