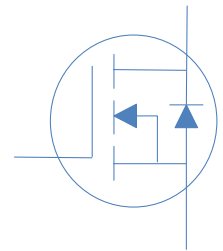


80V N-Ch Power MOSFET

V_{DS}		80	V
$R_{DS(on),typ}$	$V_{GS}=10V$	3.2	m
$R_{DS(on),typ}$	$V_{GS}=4.5V$	4.3	m
I_D		150	A



Part Number	Package	Marking
HGP035N08AL	TO-220	GP035N08AL

Absolute Maximum Ratings at $T_J=25^{\circ}C$ (unless otherwise specified)

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current	I_D	$T_C=25^{\circ}C$	150	A
		$T_C=100^{\circ}C$	106	
Drain to Source Voltage	V_{DS}	-	80	V
Gate to Source Voltage	V_{GS}	-	± 20	V
Pulsed Drain Current	I_{DM}	-	400	A
Avalanche Energy, Single Pulse	E_{AS}	$L=0.1mH, T_C=25^{\circ}C$	80	mJ
Power Dissipation	P_D	$T_C=25^{\circ}C$	172	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to 175	$^{\circ}C$

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Ambient	R_{JA}	60	$^{\circ}C/W$
Thermal Resistance Junction-Case	R_{JC}	0.87	$^{\circ}C/W$



			min	typ	Unit
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\text{ A}$	80		V
	$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\text{ A}$	1.0	2.4	
				5.3	
			-	3738	
			-		
Turn on Delay Time	$t_{d(on)}$		-	-	
Rise time	t_r	$V_{DD}=40V, I_D=20A, V_{GS}=10V,$	-		
Turn off Delay Time	$t_{d(off)}$	$R_G=10\text{ }\mu\text{s}$	-		
Fall Time	t_f		-	-	
Reverse Diode Characteristics					
Diode Forward Voltage	V_{SD}		-	0.9	1.2

Fig 1. Typical Output Characteristics

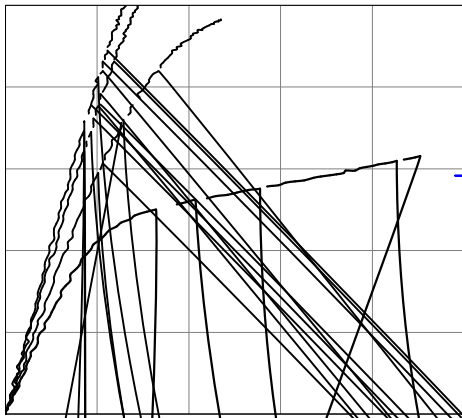


Figure 2. On-Resistance vs. Gate-Source Voltage

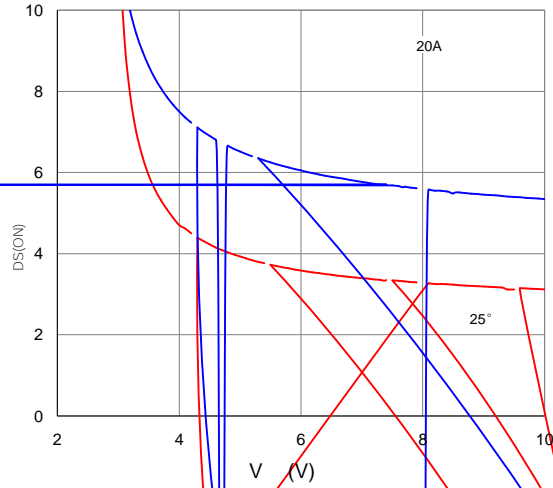


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

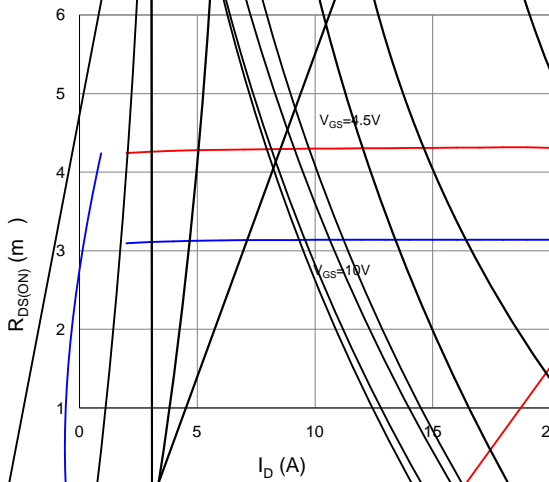


Figure 4. Normalized On-Resistance vs. Junction Temperature

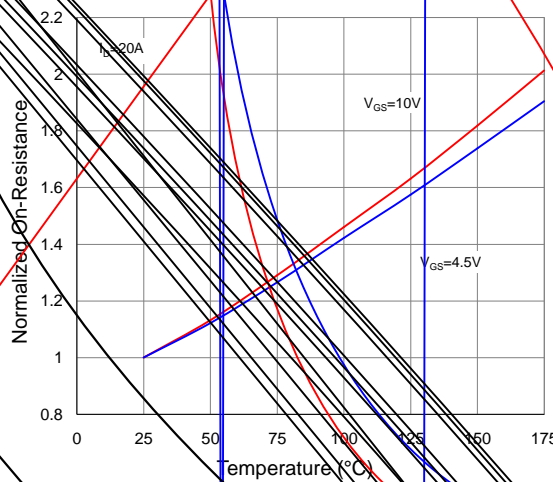


Figure 5. Typical Transfer Characteristics

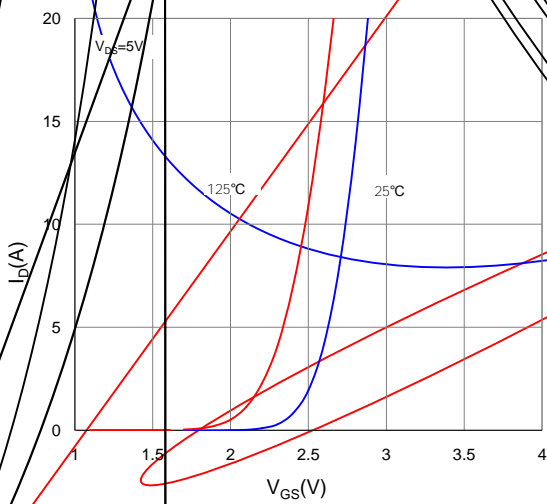


Figure 6. Typical Source-Drain Diode Forward Voltage

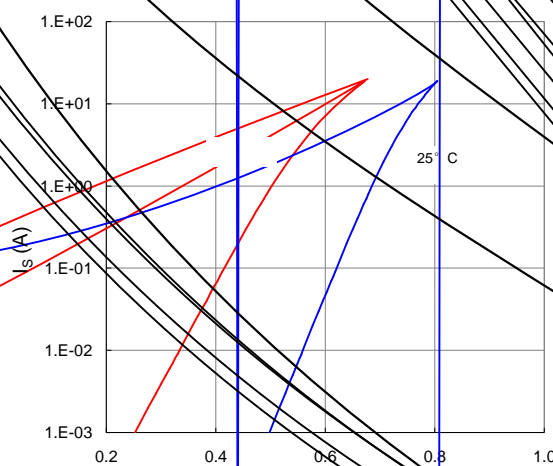


Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage

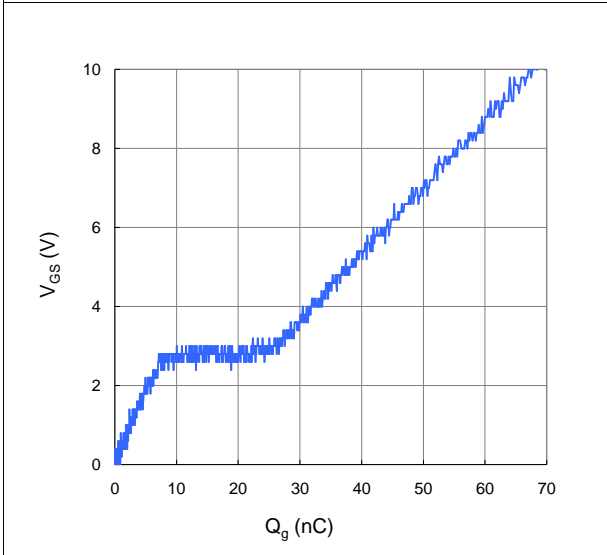


Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

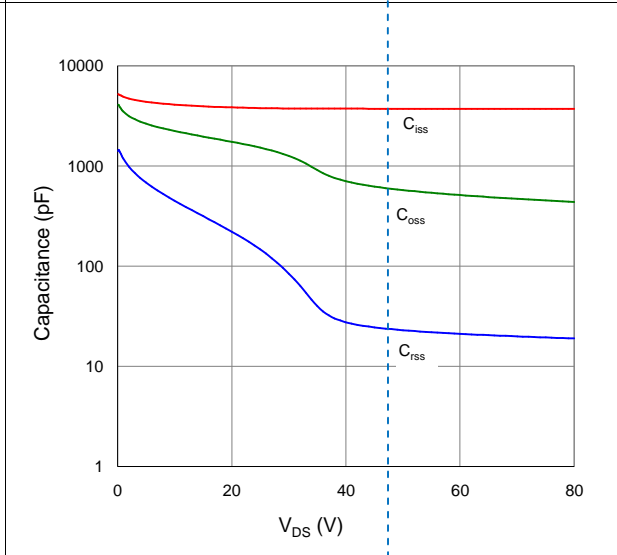


Figure 9. Maximum Safe Operating Area

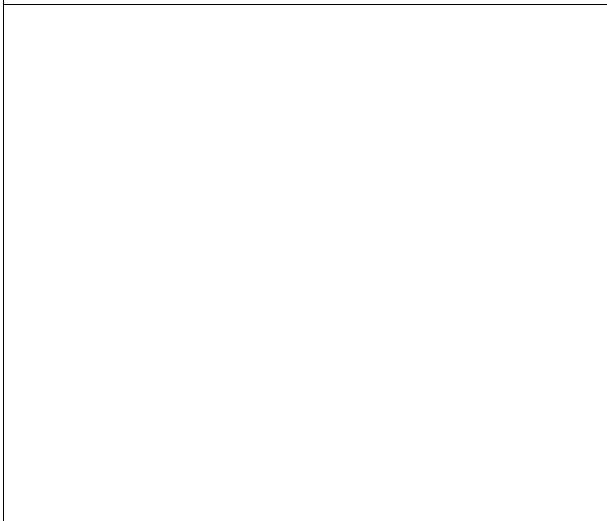


Figure 10. Maximum Drain Current vs. Case Temperature

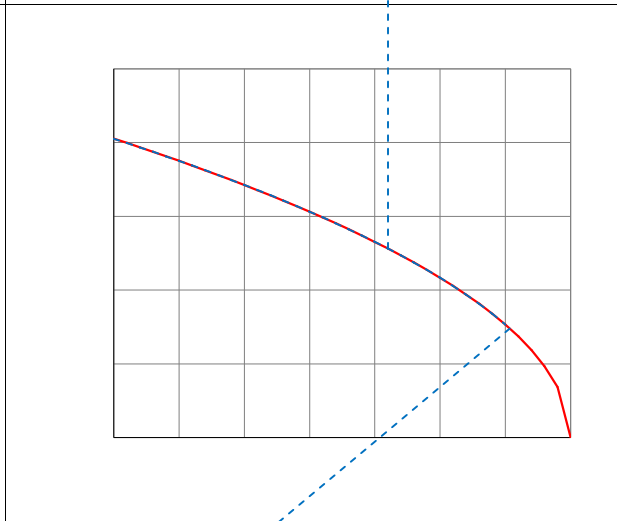
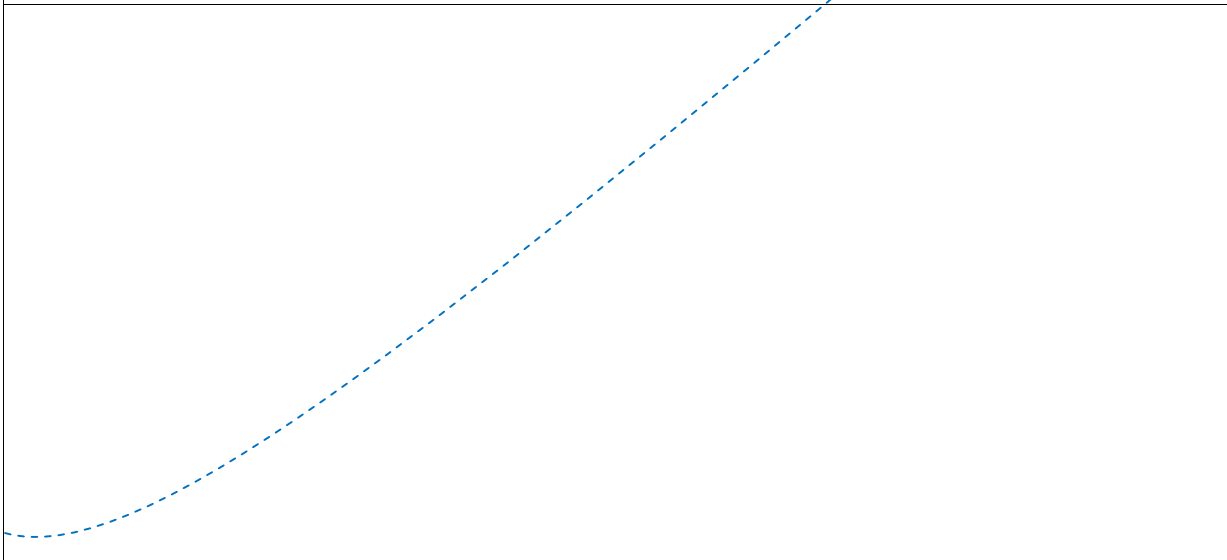
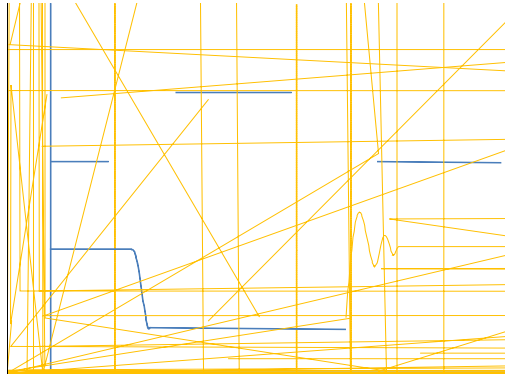
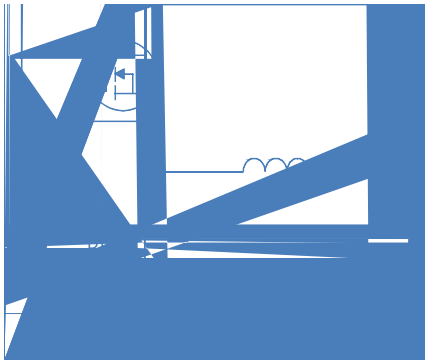


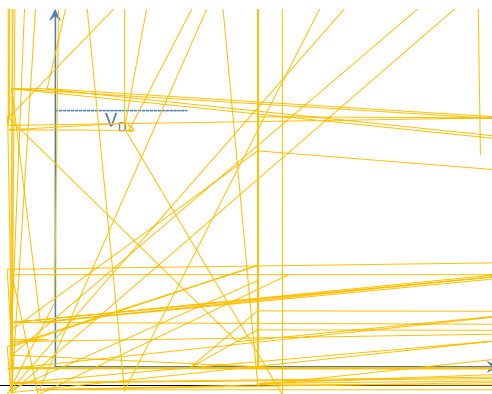
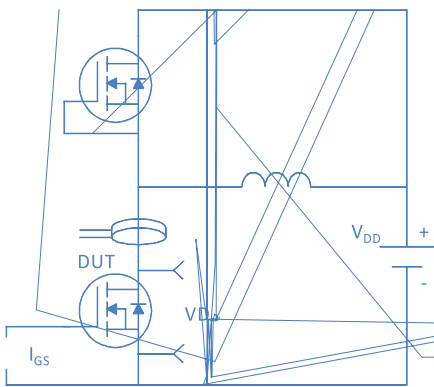
Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Ambient



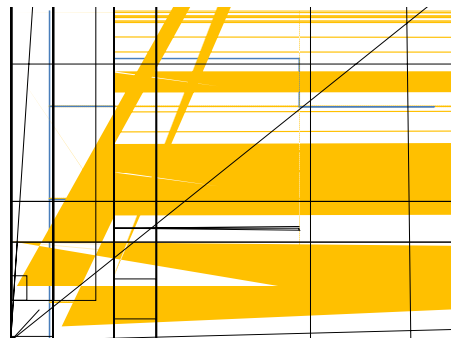
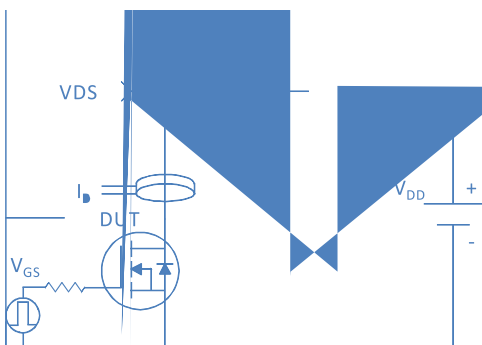
Inductive switching Test



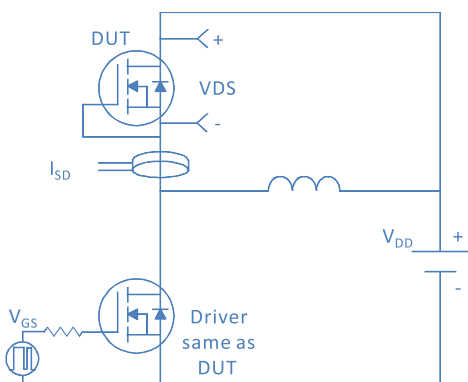
Gate Charge Test



Uclamped Inductive Switching (UIS) Test

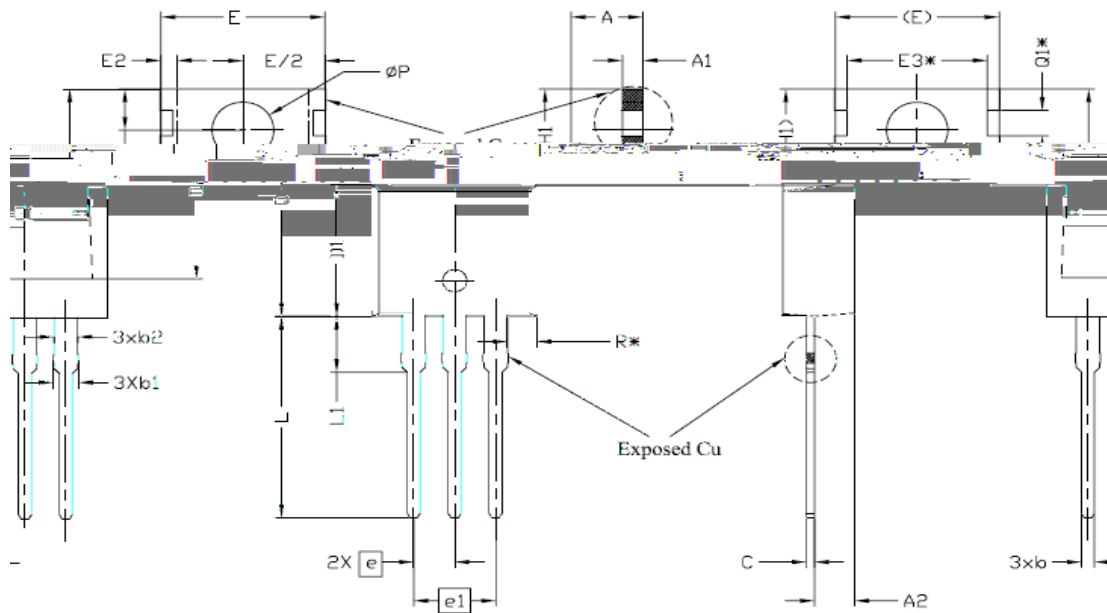


Diode Recovery Test



Package Outline

TO-220, 3 leads



SYMBOL	DIMENSIONS			NOTES
	MIN.	NOM.	MAX.	
A	5.20	5.54	5.81	
A1	1.38	1.37	1.30	
A2	3.25	3.57	3.73	
b	3.75	4.05	4.30	
b1	1.25	1.55	1.68	
b2	1.25	1.55	1.68	
e	1.40	1.45	1.52	
e1	1.20	1.30	1.38	1
E	8.80	9.05	9.15	
E2	10.80	11.10	11.25	2
E3	6.80	7.10	7.25	2
E3*	6.80	7.10	7.25	2
øP		0.25	0.28	2
R*		0.25	0.25	2
3xb		2.54	2.54	2,3
3xb1		1.27	1.27	2,3
3xb2		1.27	1.27	2,3
2X e		1.27	1.27	2,3
e1		1.27	1.27	2,3
C		1.27	1.27	2,3
Exposed Cu		0.25	0.25	2