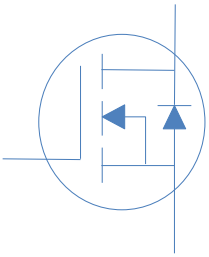
150V N-Ch Power MOSFET

V_{DS}		150	V
$R_{DS(on),typ}$	TO-263	9.4	m
$R_{DS(on),typ}$	TO-220	9.7	m
I_D		91	A



Part Number	Package	Marking
HGB115N15S	TO-263	GB115N15S
HGP115N15S	TO-220	GP115N15S

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℃	91	A
		T_C=100℃	64	
Drain to Source Voltage	V_{DS}	-	150	V
Gate to Source Voltage	V_{GS}	-	±20	V
Pulsed Drain Current	I_{DM}	-	300	A
Avalanche Energy, Single Pulse	E_{AS}	L=0.4mH, T_C=25℃	125	mJ
Power Dissipation	P_D	T_C=25℃	214	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to175	℃

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Ambient	R_{JA}	60	℃/W
Thermal Resistance Junction-Case	R_{JC}	0.7	℃/W

				42	-	
			-	14	-	nC
			-	7	-	
Turn on Delay Time	$t_{d(on)}$		-	17	-	
Rise time	t_r	V_{DD}=75V, I_D=20A, V_{GS}=10V,	-	8	-	ns
Turn off Delay Time	$t_{d(off)}$	R_G=10 ,	-	26	-	
Fall Time	t_f		-	10		

Reverse Diode Characteristics

Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_F=20A	-	0.9	1.2	V
Reverse Recovery Time	t_{rr}	V_R=75V, I_F=20A, dI_F/dt=100A7( )20/	-			ns
Reverse Recovery Charge	Q_{rr}		-			

Fig 1. Typical Output Characteristics

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

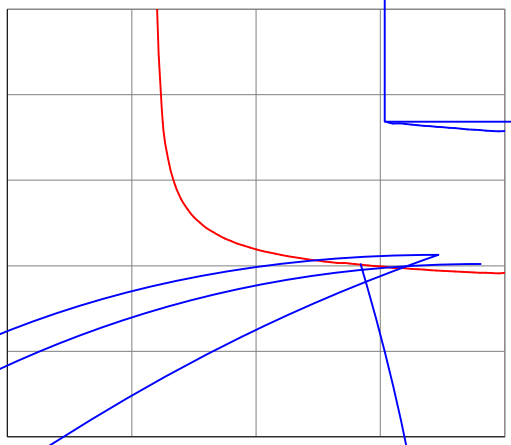


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

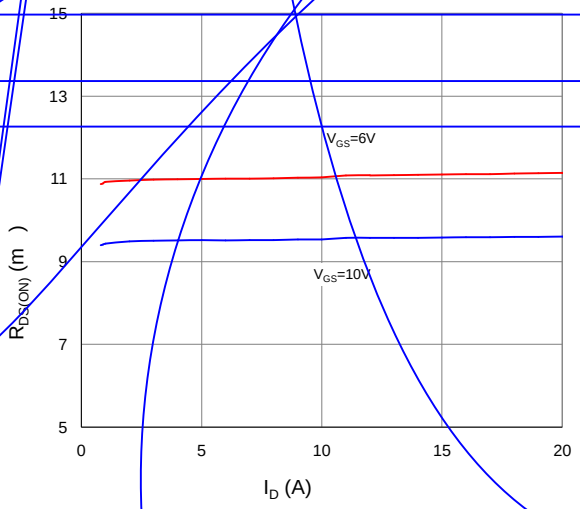


Figure 4. Normalized On-Resistance vs. Junction Temperature

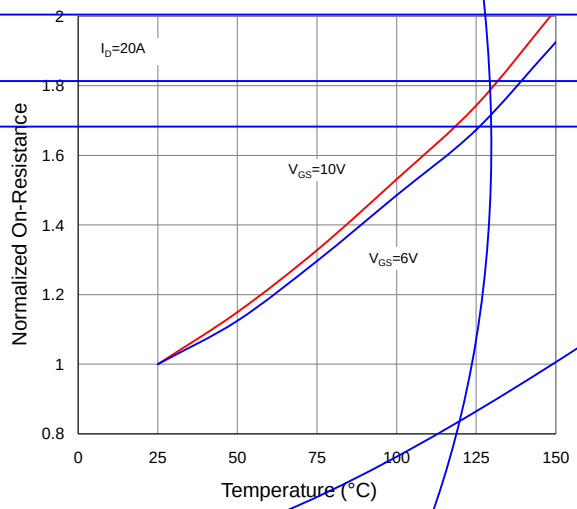


Figure 5. Typical Transfer Characteristics

Figure 6. Typical Source-Drain Diode Forward Voltage

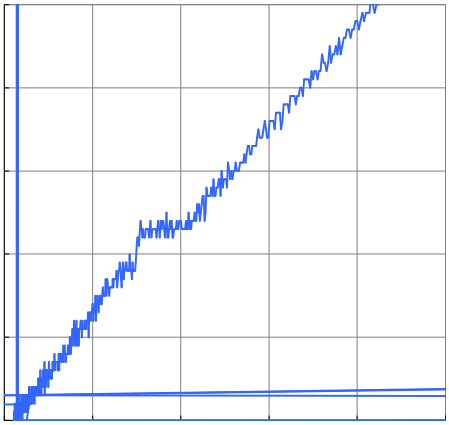
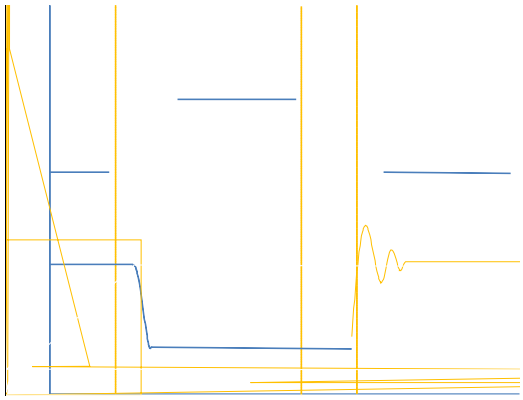
Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage	Figure 8. Typical Capacitance vs. Drain-to-Source Voltage
	

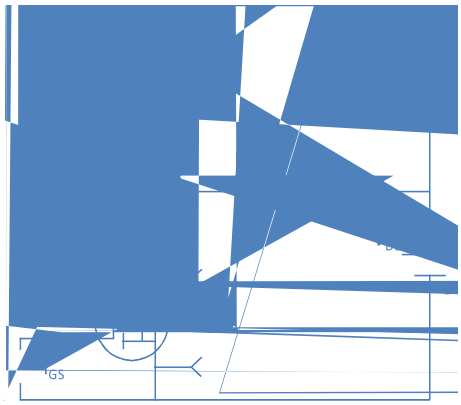
Figure 9. Maximum Safe Operating Area	Figure 10. Maximun Drain Current vs. Case Temperature

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

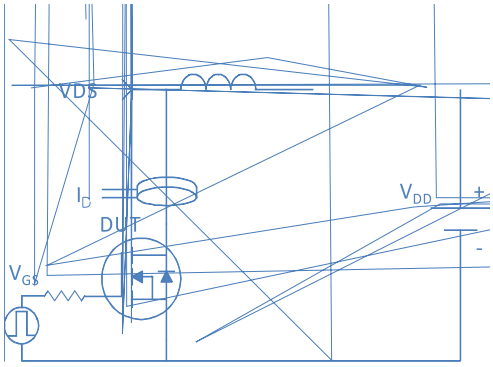
Inductive switching Test

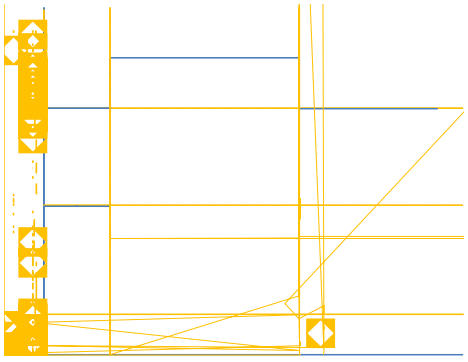


Gate Charge Test

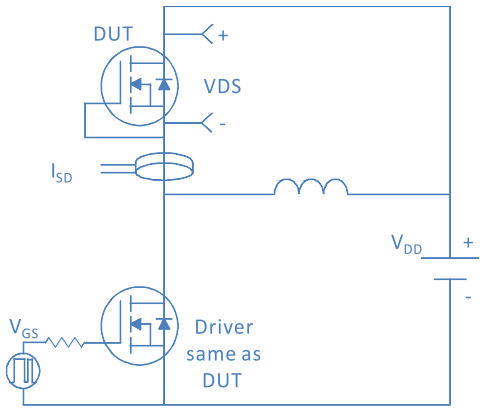


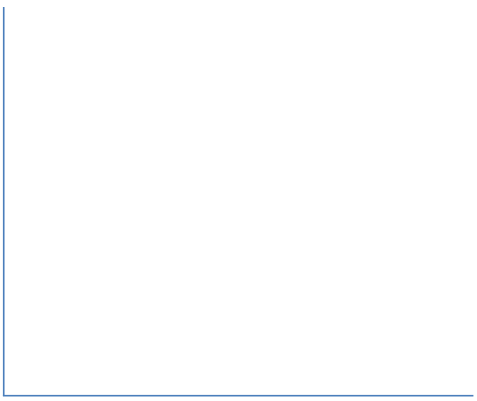
Uclamped Inductive Switching (UIS) Test





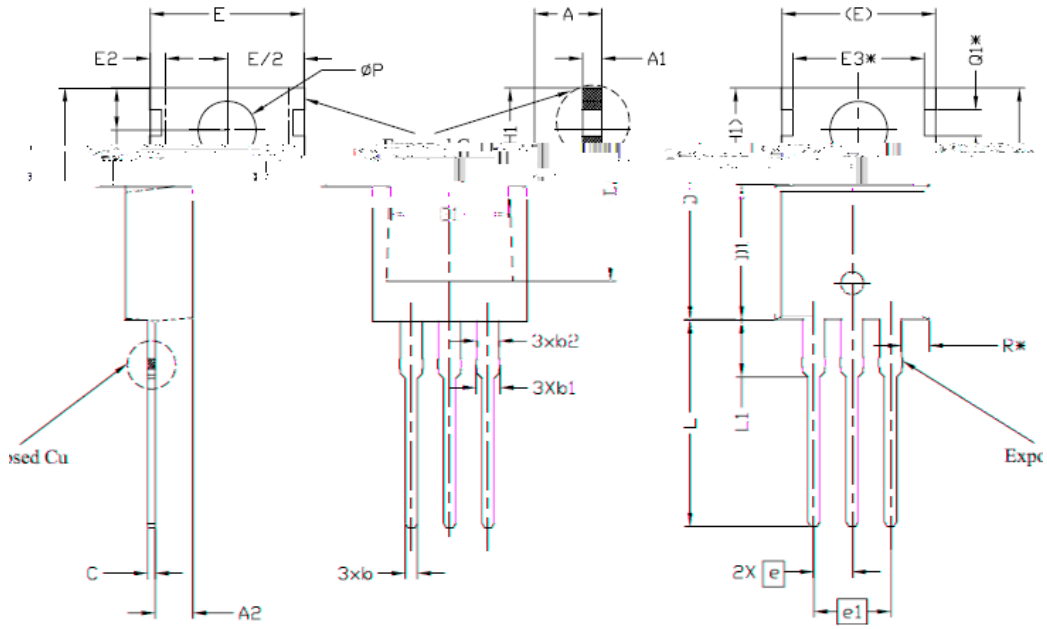
Diode Recovery Test





Package Outline

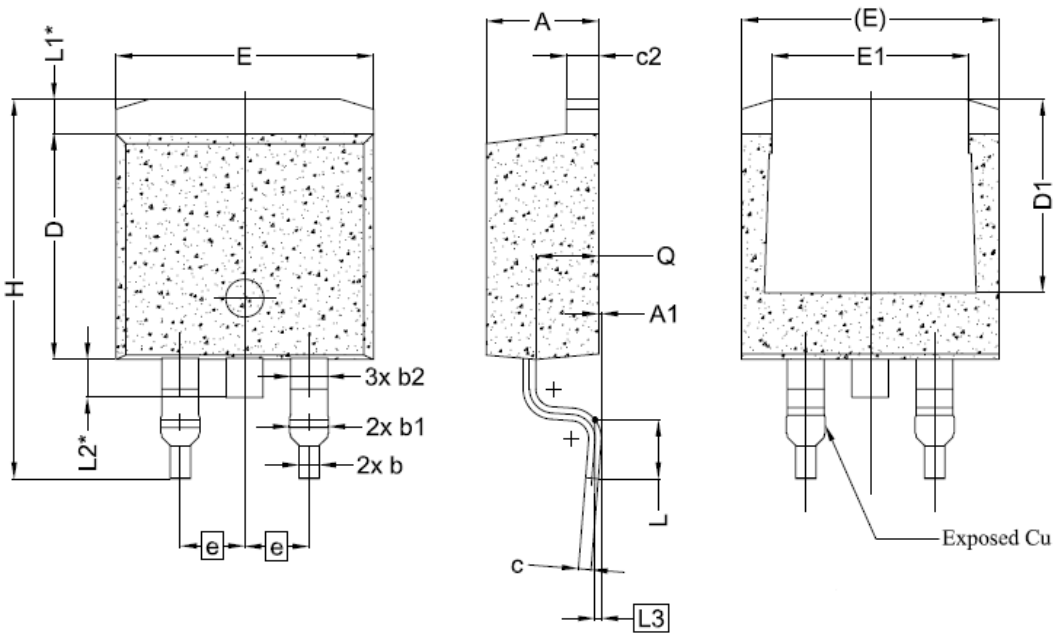
TO-220, 3 leads



SYMBOL	DIMENSIONS			NOTES
	MIN.	NOM.	MAX.	
A*	4.30	4.40	4.50	
A2	2.59	2.69	2.79	
b	0.75	0.80	0.90	
b1	1.30	1.35	1.40	
b2	1.20	1.45	1.70	
c	0.45	0.50	0.60	
D	14.70	15.87	16.00	4
D1*	8.30	8.50	8.70	
D2	12.83	12.73	12.63	8
E	9.96	10.13	10.36	4,5
E1	8.05	7.77	8.50	8
E2			8.76	6
L3*		0.75BSC		
e		2.54BSC		
e1		5.08BSC		
H1*	6.30	6.45	6.60	5,8
L	13.47	13.72	13.97	
L1	3.60	3.80	4.00	
ØP	3.75	3.84	3.93	
Q	2.60	2.80	3.00	
Q1*		1.78REF		
R*		1.82REF		

Package Outline

TO-263, 3 leads



	2,54 BSC		
4,61	15,00	15,88	H
2,78	2,92	2,79	L
	1,35 REF.		L1
	1,50 REF.		L2
	0,25 BSC		L3
2,30	2,48	2,70	Q