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 A		150	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=250 A		2	3	4	
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0V, V_{DS}=150V, T_j=25℃		-	-	1	A
		V_{GS}=0V, V_{DS}=150V, T_j=100℃		-	-	100	
Gate to Source Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V		-	-	±100	nA
Drain to Source on Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=20A	TO-263	-	7.9	8.8	m
Drain to Source on Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=20A	TO-220		7.9	8.8	m
Transconductance	g_{fs}	V_{DS}=5V, I_D=20A		-	70	-	S
Gate Resistance	R_G	V_{GS}=0V, V_{DS} Open, f=1MHz		-	0.95	-	

Dynamic Characteristics

Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=75V, f=1MHz	-	4362	-	pF
Output Capacitance	C_{oss}		-	333	-	
Reverse Transfer Capacitance	C_{rss}		-	11.5	-	
Total Gate Charge	Q_g(10V)	V_{DD}=75V, I_D=20A, V_{GS}=10V	-	52	-	nC
Gate to Source Charge	Q_{gs}		-	19	-	
Gate to Drain (Miller) Charge	Q_{gd}		-	5	-	
Turn on Delay Time	$t_{d(on)}$	V_{DD}=75V, I_D=20A, V_{GS}=10V, R_G=10 ,	-	19	-	ns
Rise time	t_r		-	10	-	
Turn off Delay Time	$t_{d(off)}$		-	29	-	
Fall Time	t_f		-	12	-	

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=100A/ s	-	80	-	ns
Reverse Recovery Charge	Q_{rr}		-	160	-	nC

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

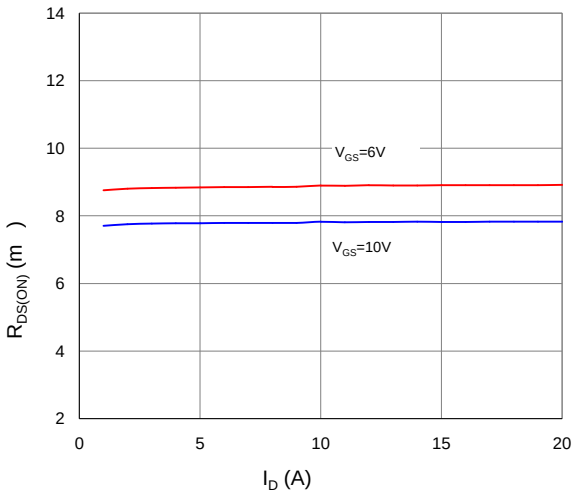
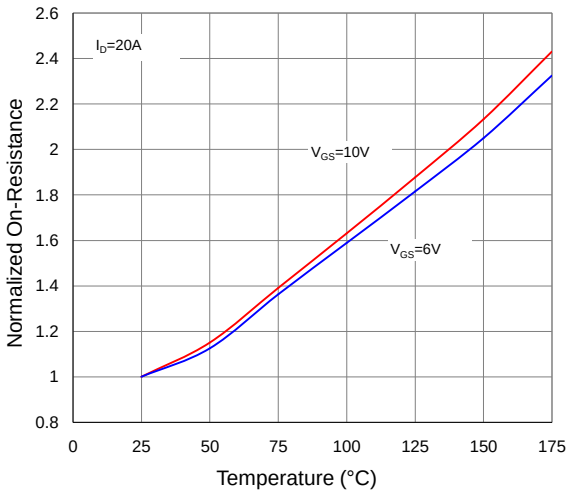
Figure 3. On-Resistance vs. Drain Current and Gate Voltage	Figure 4. Normalized On-Resistance vs. Junction Temperature
	

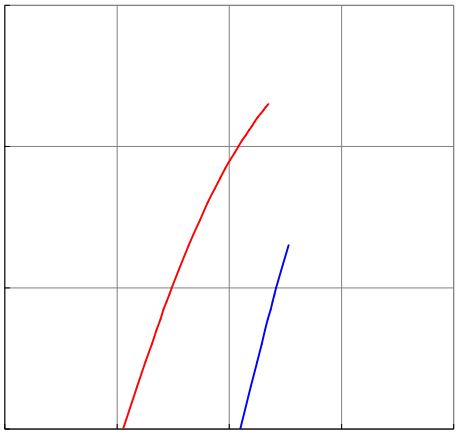
Figure 5. Typical Transfer Characteristics	Figure 6. Typical Source-Drain Diode Forward Voltage
	

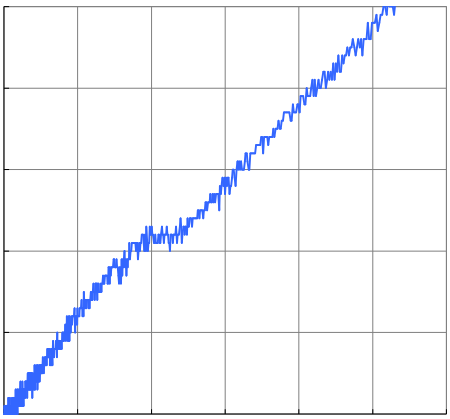
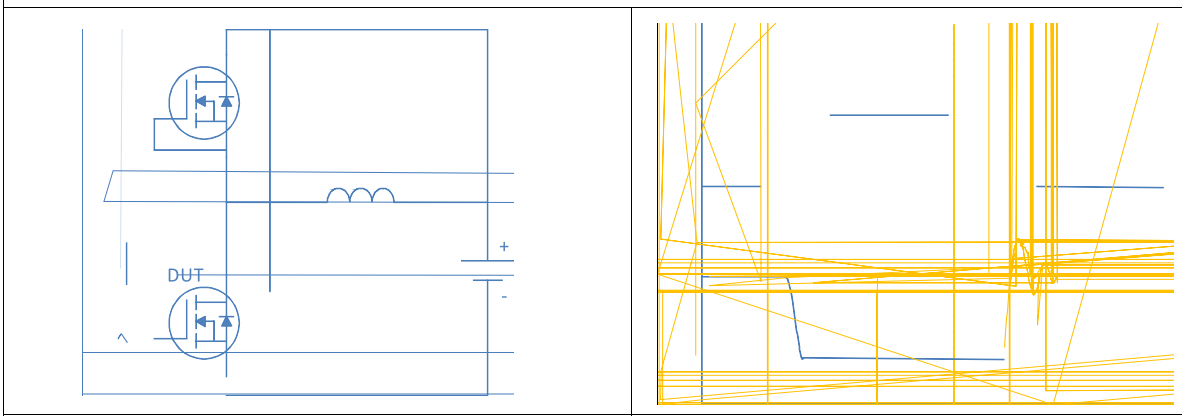
Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage	Figure 8. Typical Capacitance vs. Drain-to-Source Voltage
	

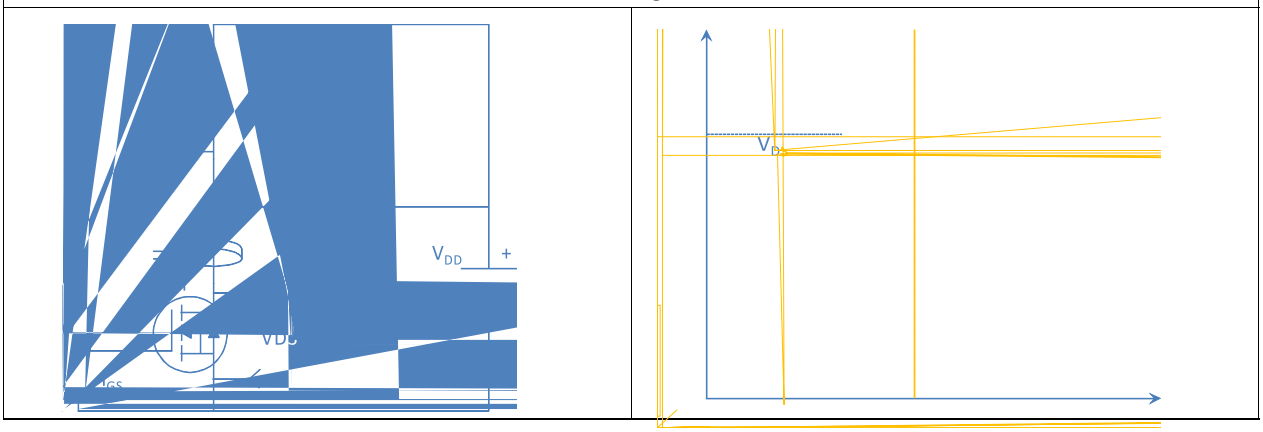
Figure 9. Maximum Safe Operating Area	Figure 10. Maximun Drain Current vs. Case Temperature

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

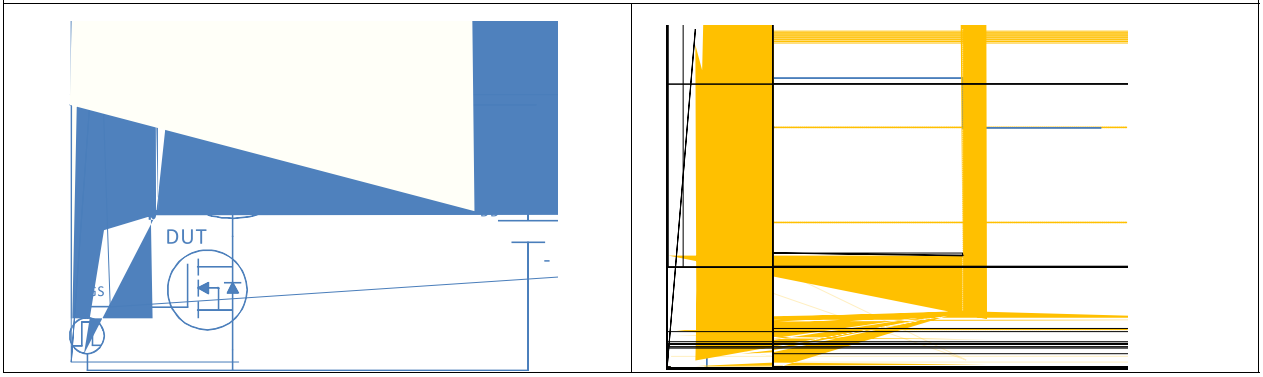
Inductive switching Test



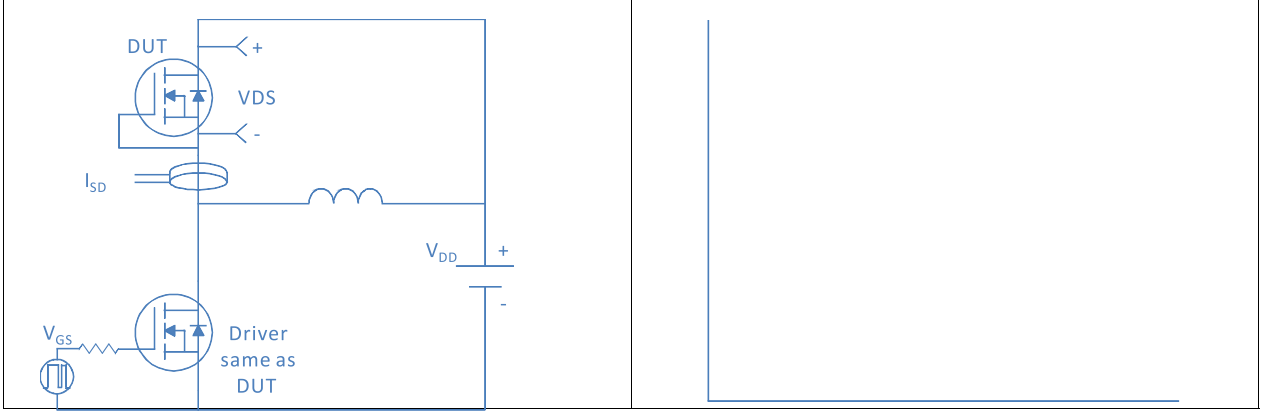
Gate Charge Test



Uclamped Inductive Switching (UIS) Test

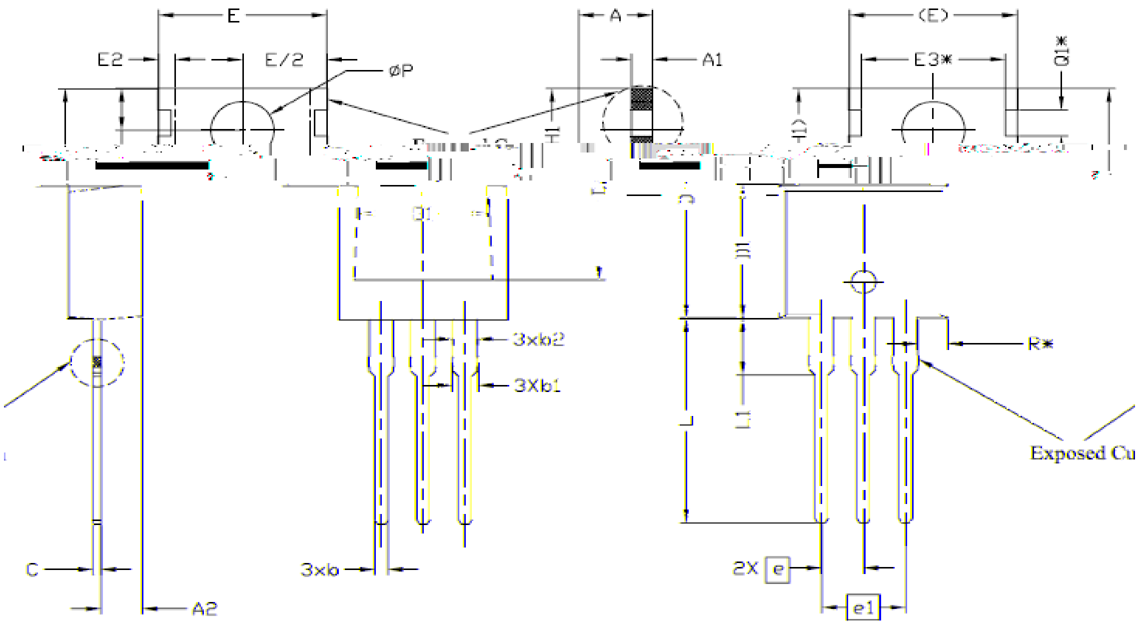


Diode Recovery Test



Package Outline

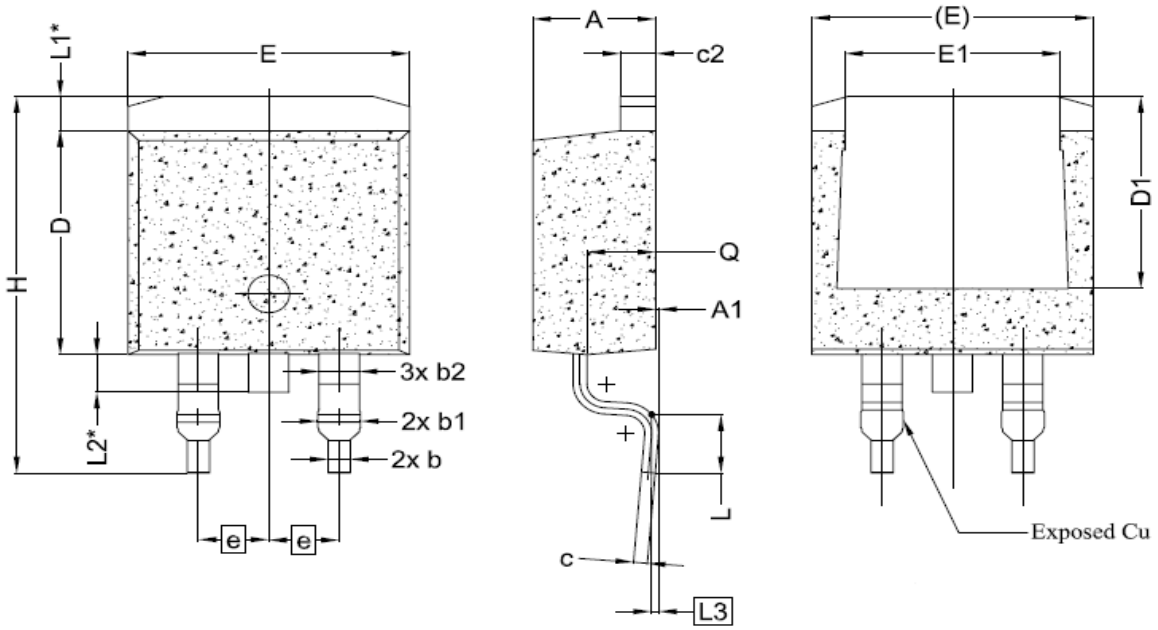
TO-220, 3 leads



SYMBOL	DIMENSIONS			NOTES
	MIN.	NOM.	MAX.	
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
D	[illegible]	[illegible]	[illegible]	[illegible]
D1	[illegible]	[illegible]	[illegible]	
D2	[illegible]	[illegible]	[illegible]	[illegible]
E	9.96	10.16	10.36	3,4
E1	[illegible]	[illegible]	[illegible]	[illegible]
E2			[illegible]	5
E3*		5.70REF		
e		2.54BSC		
e1		5.08BSC		
H1	6.30	6.45	6.60	5,6
L	[illegible]	13.72	13.97	
L1	3.60	3.80	4.00	
ØP	3.75	3.84	3.93	
Q	2.65	2.80	2.95	
Q1*		[illegible]		
R*		[illegible]		

Package Outline

TO-263, 3 leads



			A1
			b
			b1
	1,45	1,70	b2
			c
	1,27	1,40	c2
			D
			D1
			E
		7,85	E1
2,54 BSC			e
4,61	15,00	15,88	H
1,78	2,32	2,79	L
1,35 REF.			L1
1,50 REF.			L2
0,25 BSC			L3
2,30	2,48	2,70	Q