Electrical Characteristics at T_j XQOHVV RWKHUZLVH VSHFLILHG

Static Characteristics

Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250 PA	150	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=250 PA	1	2	3	
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0V, V_{DS}=150V, T_j	-	-	1	PA
		V_{GS}=0V, V_{DS}=150V, T_j	-	-	100	
Gate to Source Leakage Current	I_{GSS}	V_{GS} s 9 $_{DS}$9=0V	-	-	s100	nA
Drain to Source on Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=20A	-	17.5	20	m :
Drain to Source on Resistance	$R_{DS(on)}$	V_{GS}=4.5V, I_D=20A	-	20	25	m :
Transconductance	g_{fs}	V_{DS}=5V, I_D=20A	-	65	-	S
Gate Resistance	R_G	V_{GS}=0V, V_{DS} Open, f=1MHz	-	2.2	-	:

Dynamic Characteristics

Parameter	Symbol	Conditions	min	typ	max	Unit
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=75V, f=1MHz	-	2105	-	pF
Output Capacitance	C_{oss}		-	128	-	
Reverse Transfer Capacitance	C_{rss}		-	7	-	
Total Gate Charge	Q_g(10V)	V_{DD}=75V, I_D=20A, V_{GS}=10V	-	29	-	nC
Total Gate Charge	Q_g(4.5V)		-	13	-	
Gate to Source Charge	Q_{gs}		-	6	-	
Gate to Drain (Miller) Charge	Q_{gd}		-	4	-	
Turn on Delay Time	$t_{d(on)}$	V_{DD}=75V, I_D=20A, V_{GS}=10V, R_G=10 : ,	-	10	-	ns
Rise time	t_r		-	8	-	
Turn off Delay Time	$t_{d(off)}$		-	16	-	
Fall Time	t_f		-	9	-	

Reverse Diode Characteristics

Parameter	Symbol	Conditions	min	typ	max	Unit
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/ Ps	-	60	-	ns
Reverse Recovery Charge	Q_{rr}		-	120	-	nC

Fig 1. Typical Output Characteristics

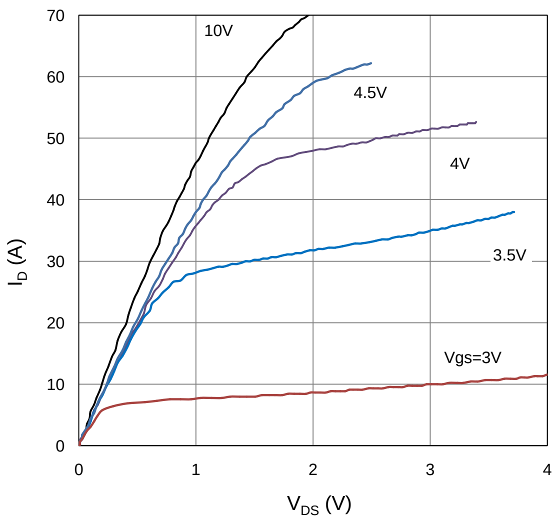


Figure 2. On-Resistance vs. Gate-Source Voltage

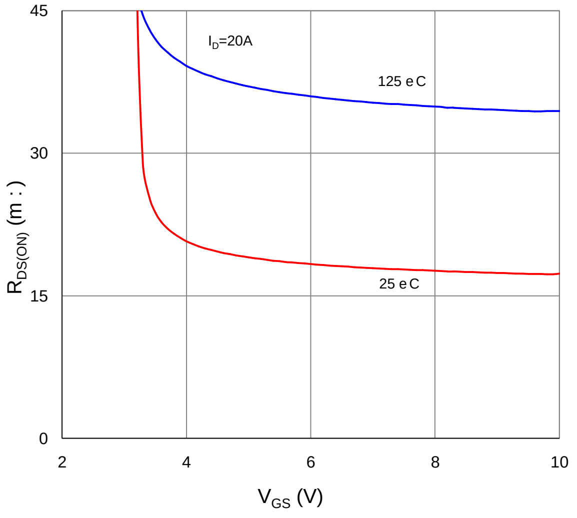


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

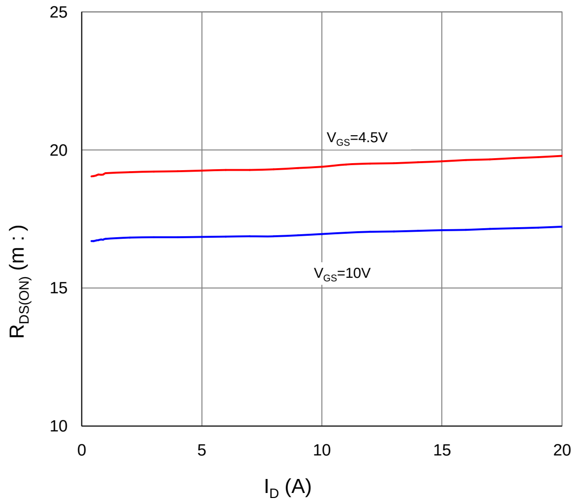


Figure 4. Normalized On-Resistance vs. Junction Temperature

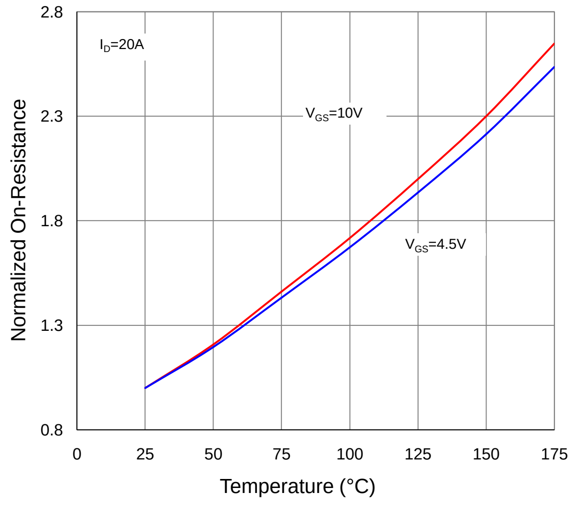


Figure 5. Typical Transfer Characteristics

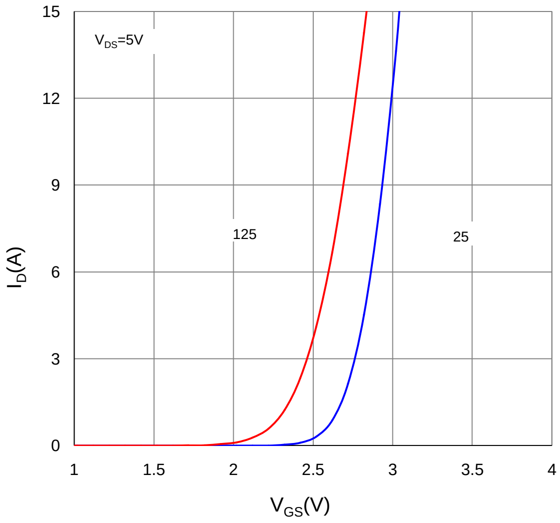


Figure 6. Typical Source-Drain Diode Forward Voltage

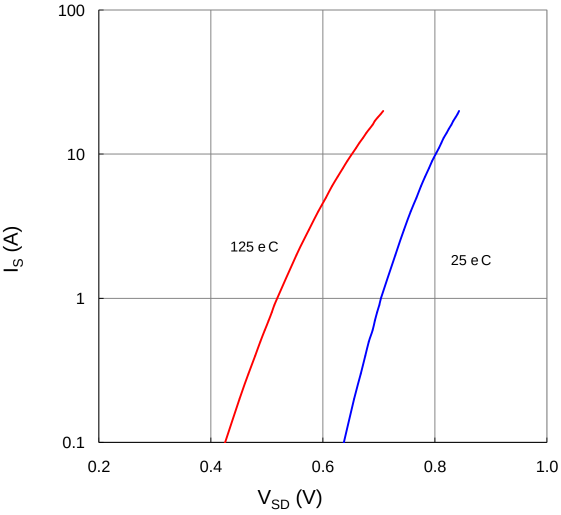
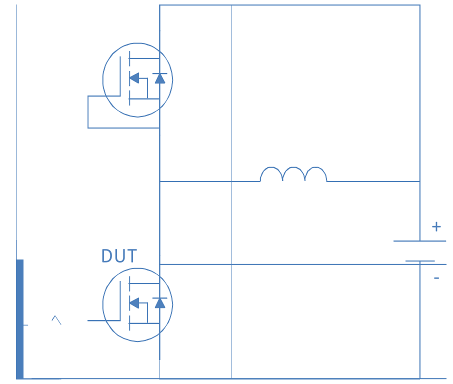


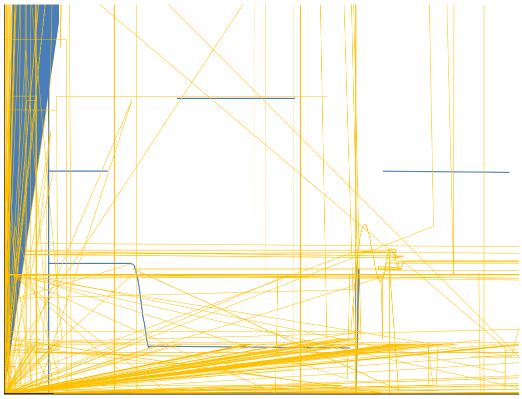
Figure 9. Maximum Safe Operating Area

Figure 10. Maximun Drain Current vs. Case Temperature

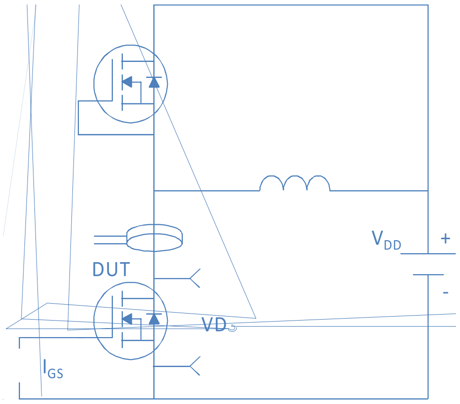
Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Ambient

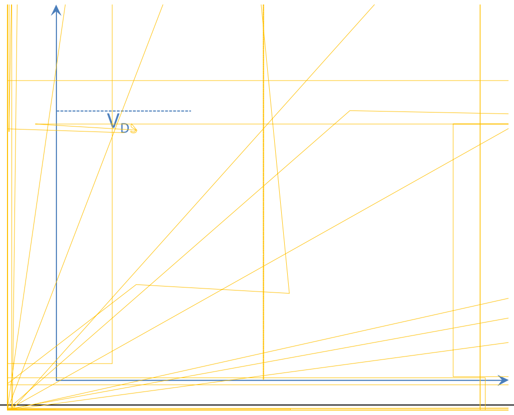
Inductive switching Test



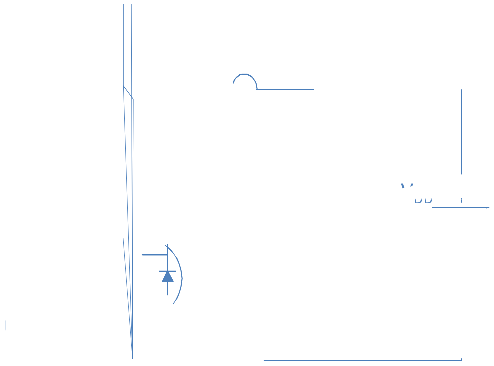


Gate Charge Test

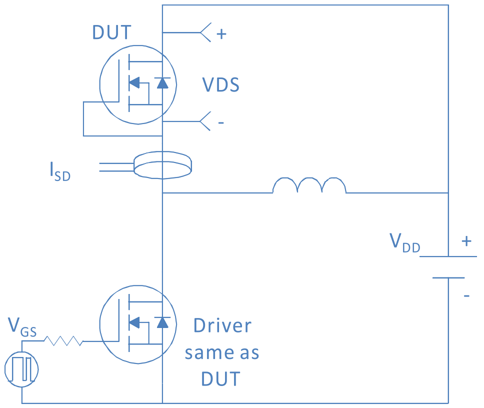


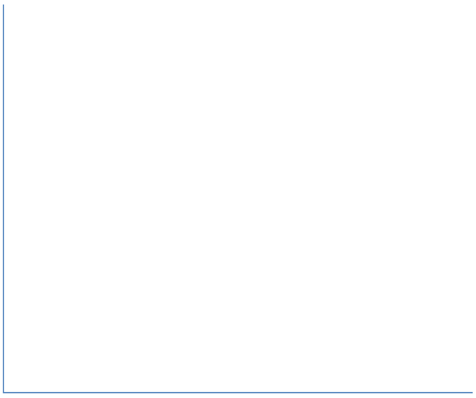


Uclamped Inductive Switching (UIS) Test



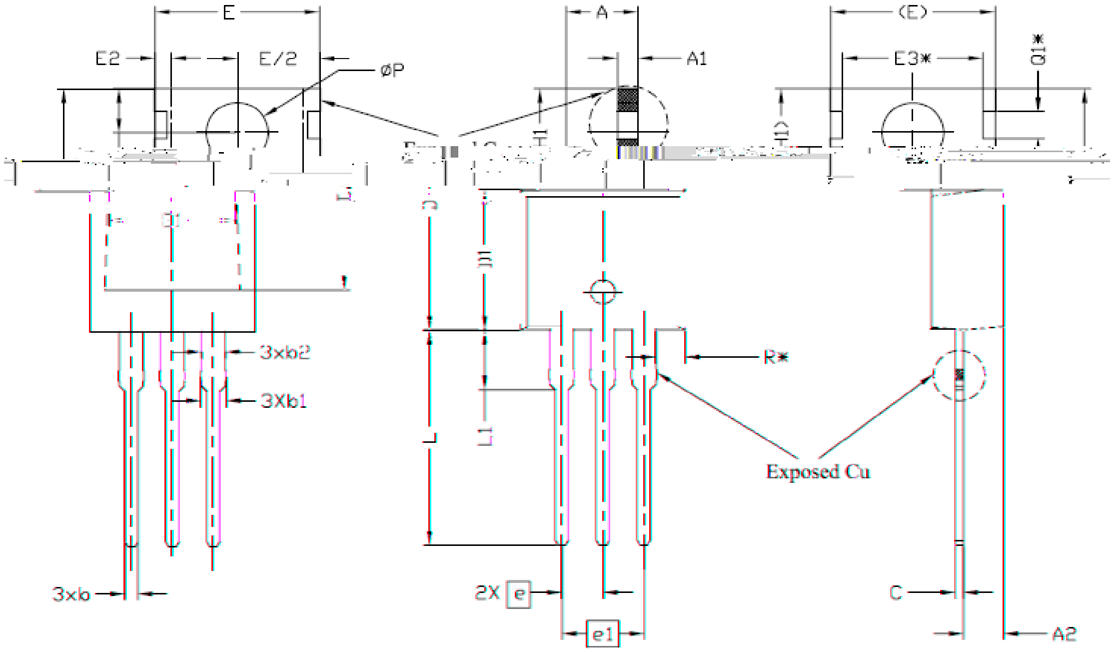
Diode Recovery Test





Package Outline

TO-220, 3 leads



SYMBOL	DIMENSIONS			NOTES
	MIN.	NOM.	MAX.	
A	[illegible]	[illegible]	[illegible]	
A1	[illegible]	[illegible]	[illegible]	
A2	[illegible]	[illegible]	[illegible]	
b	[illegible]	[illegible]	[illegible]	
b1	[illegible]	[illegible]	[illegible]	
b2	[illegible]	[illegible]	[illegible]	
c	[illegible]	[illegible]	[illegible]	
D	[illegible]	[illegible]	[illegible]	[illegible]
D1	[illegible]	[illegible]	[illegible]	
D2	[illegible]	[illegible]	[illegible]	[illegible]
E	[illegible]	[illegible]	[illegible]	4,5
E1	[illegible]	[illegible]	[illegible]	[illegible]
E2			0.76	6
E3*		[illegible]		
e		2.54BSC		
e1		5.08BSC		
H1	6.30	6.45	6.60	5,6
L	13.47	13.72	13.97	
L1	3.60	3.80	4.00	
ØP	3.75	3.84	3.93	
Q	2.65	2.80	[illegible]	
Q1*		[illegible]		
R*		[illegible]		