

65V N-Ch Power MOSFET

V_{DS}		65	V
$R_{DS(on),typ}$	$V_{GS}=10V$	2.5	m

174 A

65
±20 V

Pulsed Drain Current I_{DM} 400 A

Operating and Storage Temperature P_D 172411.9 W
 T_J, T_{stg} -55 to 175

Absolute Maximum Ratings

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

Electrical Characteristics at $T_J=25^\circ\text{C}$ (unless otherwise specified)

Static Characteristics

Gate to Source Leakage Current	I_{GSS}	$V_{GS}=\pm 20\text{V}, V_{DS}=0\text{V}$	-	-	± 100	
Drain to Source on Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}, I_D=20\text{A}$	-	2.5	3	m
Drain to Source on Resistance	$R_{DS(on)}$	$V_{GS}=4.5\text{V}, I_D=20\text{A}$	-	3.6		m
Gate Resistance	R_G		-			

Dynamic Characteristics

Input Capacitance	C_{iss}					
Output Capacitance	C_{oss}	$V_{GS}=0\text{V}, V_{DS}=30\text{V}, f=1\text{MHz}$		1625		
Reverse Transfer Capacitance	C_{rss}					
Total Gate Charge	$Q_g(10\text{V})$		-		-	
Gate to Source Charge	Q_{gs}	$V_{DD}=30\text{V}, I_D=20\text{A}, V_{GS}=10\text{V}$	-	34	-	nC
Gate to Drain (Miller) Charge	Q_{gd}		-	8	-	
				14		
				13	-	
				49	-	ns
				19		

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

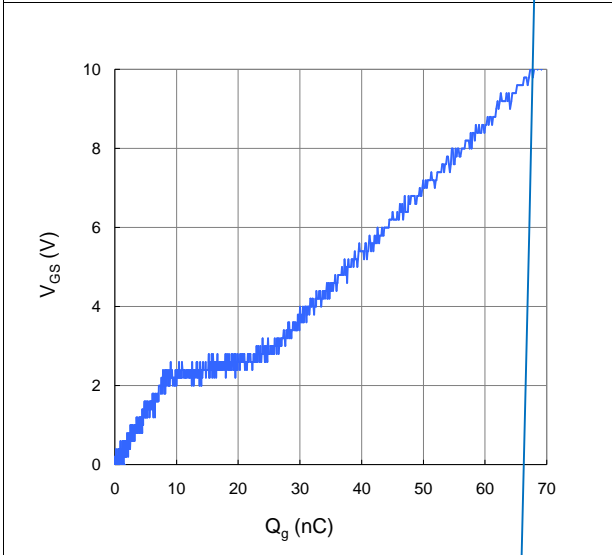


Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

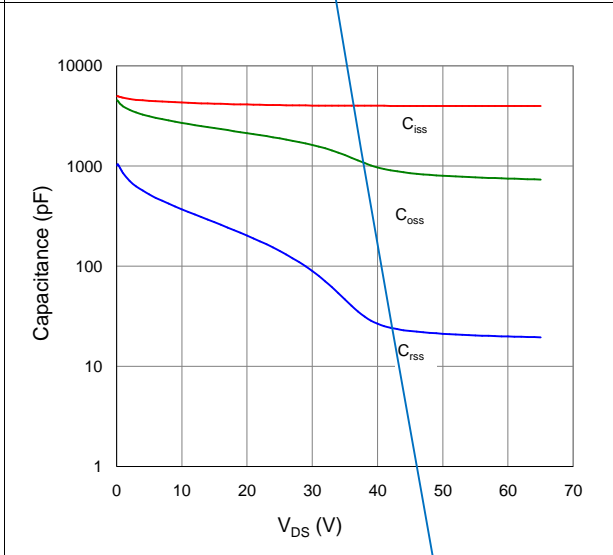


Figure 9. Maximum Safe Operating Area



Figure 10. Maximum Drain Current vs. Case Temperature

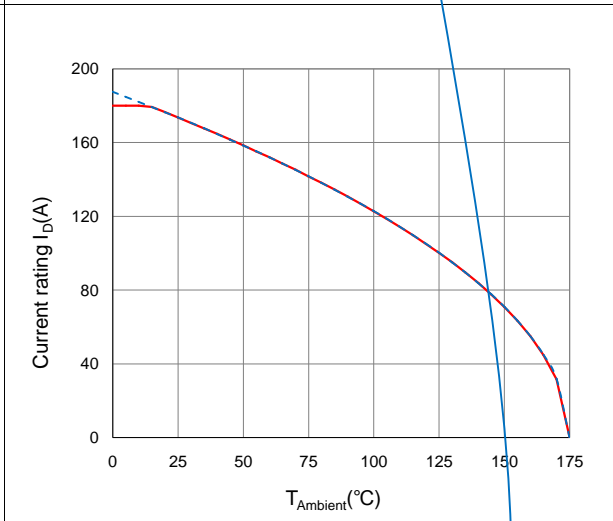
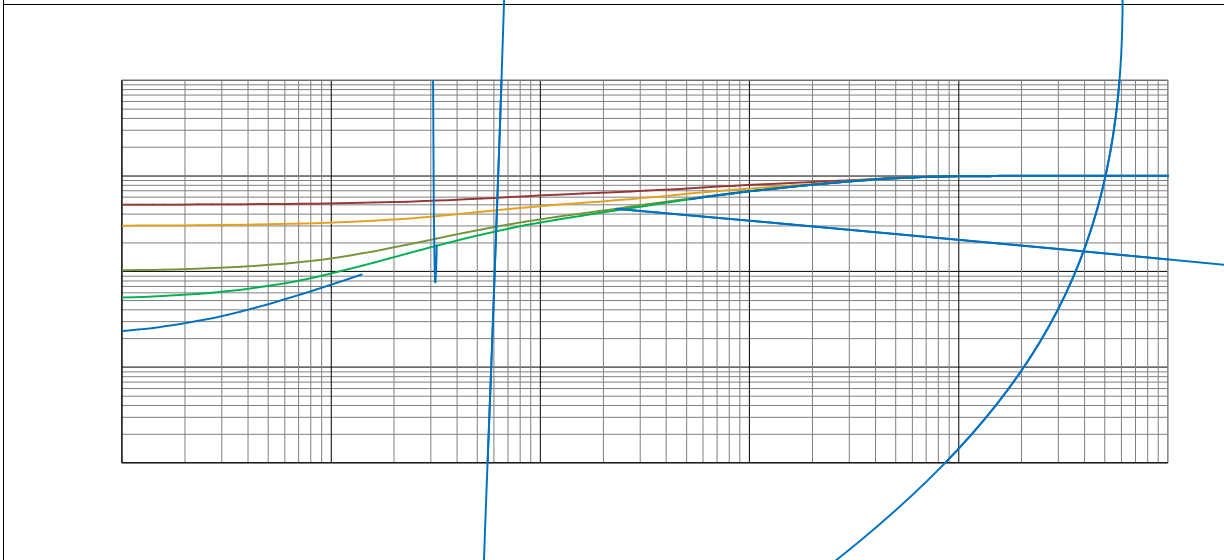
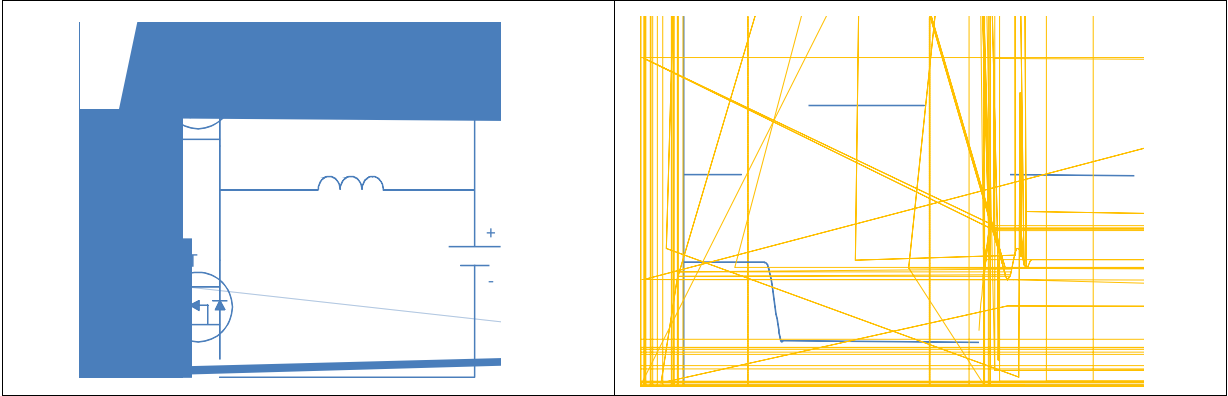


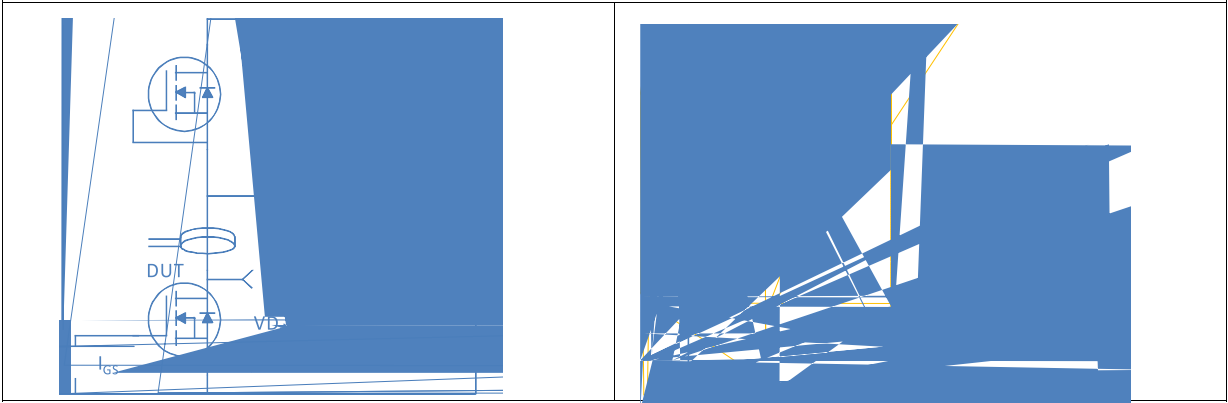
Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Ambient



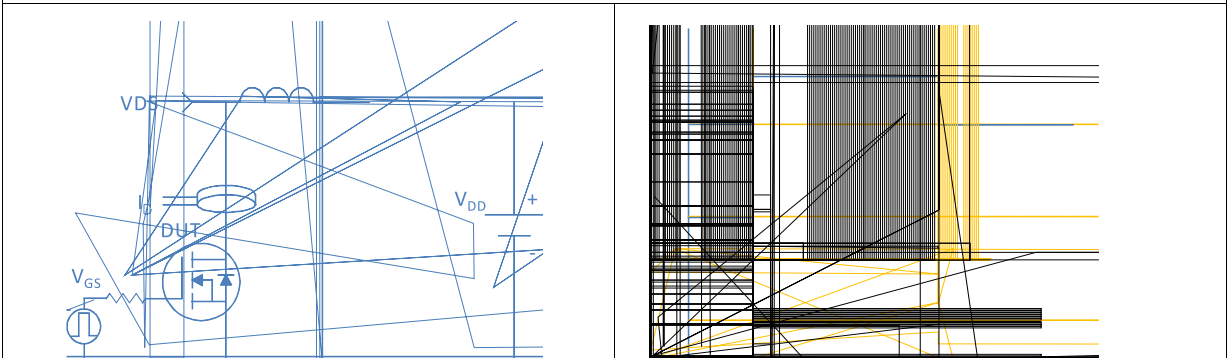
Inductive switching Test



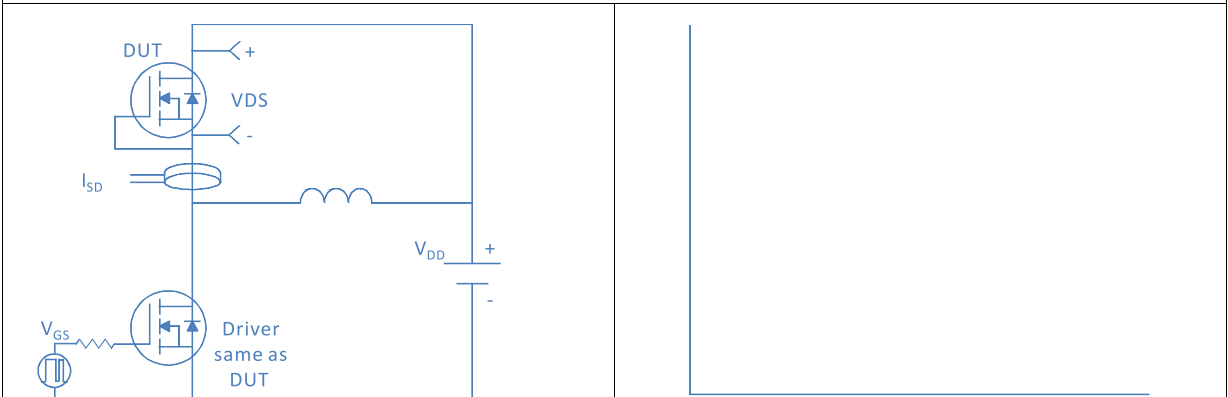
Gate Charge Test



Uclamped Inductive Switching (UIS) Test

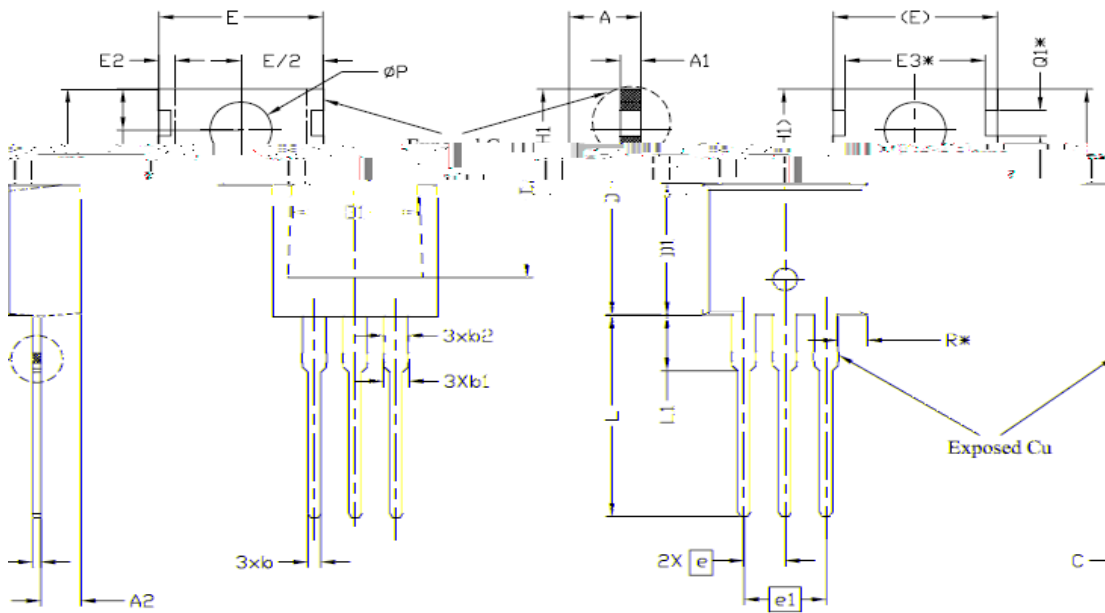


Diode Recovery Test



Package Outline

TO-220, 3 leads



SYMBOL	DIMENSIONS			NOTES
	MIN.	NOM.	MAX.	
A*	11.30	12.20	13.00	
A1	3.30	3.90	4.00	
A2	6.40	6.00	6.50	
E*	13.00	14.50	15.00	
E	13.00	14.50	15.00	
e	0.75	0.90	0.95	
b	11.70	10.90	10.00	4
b1	9.30	8.90	8.00	
b2	12.70	13.10	12.20	5
E2	3.50	4.10	4.50	4,5
E/2	6.50	7.20	7.50	5
E3*		7.10	7.10	6
øP		0.70REF		
R*		2.64BSC		
e1		0.02BSC		
H1	6.30	6.40	6.50	5,9
L	10.47	10.72	10.97	
L1	3.40	3.80	4.00	
øP	0.75	0.84	0.90	
Q	2.90	2.80	3.00	
Q*		1.70REF		
R*		1.82REF		