(Tc = 25°C unless otherwise specified)

$V_{DS,max}$	Drain source voltage	750	V	V_{GS} = 0V, I_D = 100μA
$V_{GS,max}$	Gate source voltage	-8 /+22	V	Absolute maximum values
$V_{GSpulse}$	Gate-source voltage, max. transient voltage	-10 /+25	V	$t_p \leq 0.5\mu s$, D 0.01
V_{GSop}	Gate source voltage	-4 /+18	V	Recommended operatio
I_D	Continuous drain current	72	A	V_{GS} = 18V, T_C = 25˚C
		51		V_{GS} = 18V, T_C = 10
$I_{D(pulse)}$	Pulsed drain current	182	A	Pulse width t_P =10
P_D	Power dissipation	300	W	T_C = 25˚C,T_J = 1

T_J

}

C

Datasheet

Q_{gs}	Gate source charge	-	12	-	nC	V_{DS} = 500V, V_{GS} = -4/+18V I_D = 22A	Fig.12
Q_{gd}	Gate drain charge	-	12	-			
Q_g	Gate charge	-	38	-			

(Tc = 25°C unless otherwise specified)

E_{on}	Turn on switching energy	-	93	-	μJ	V_{DS} = 500V, V_{GS} = -4/+18V I_D = 22A, Rg = 2.5Ω L = 120μH	Fig.26
E_{off}	Turn off switching energy	-	40	-			
$t_{d\ on}$	Turn on delay time	-	11	-	ns		Fig.27
t_r	Rise time	-	21	-			
$t_{d\ off}$	Turn off delay time	-	14	-			
t_f	Fall time	-	9	-			

V_{SD}	Diode forward voltage	-	3.7	-	V	V_{GS} = -4V, I_{SD} = 11A	Fig.8,9, 10
		-	3.2	-	V	V_{GS} = -4V, I_{SD} = 11A T_J = 175°C	
I_S	Continuous diode forward current	-	62	-	A	V_{GS} = -4V, Tc = 25°C	Note2
t_{rr}	Reverse recovery time	-	20	-	ns	V_R = 500V, V_{GS} = -4V I_{SD} = 22A di/dt =2473A/μS T_J = 175°C	
Q_{rr}	Reverse recovery charge	-	330	-	nC		
I_{rrm}	Peak reverse recovery current	-	24	-	A		

Note 2: When using SiC Body Diode the maximum recommended V_{GS} = -4 V

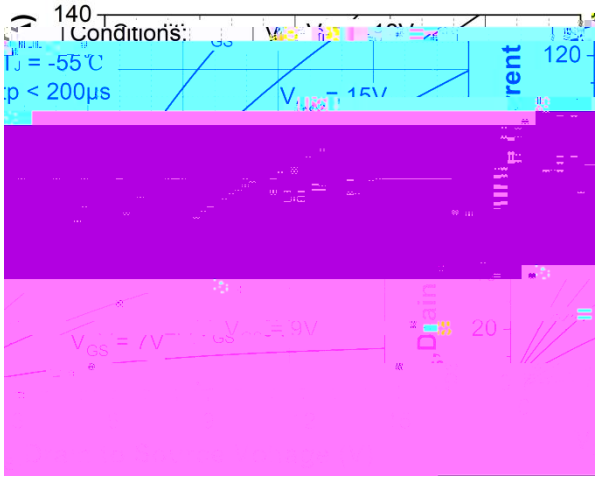


Figure 1. Output characteristics T_J = -55 ºC

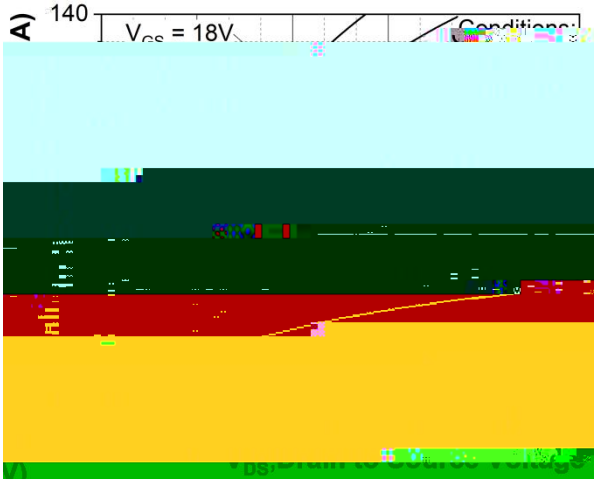


Figure 2. Output characteristics T_J = 25 ºC

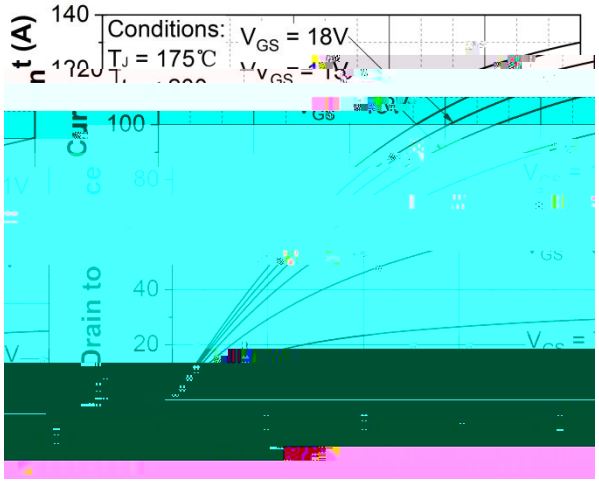


Figure 3. Output characteristics T_J = 175 ºC

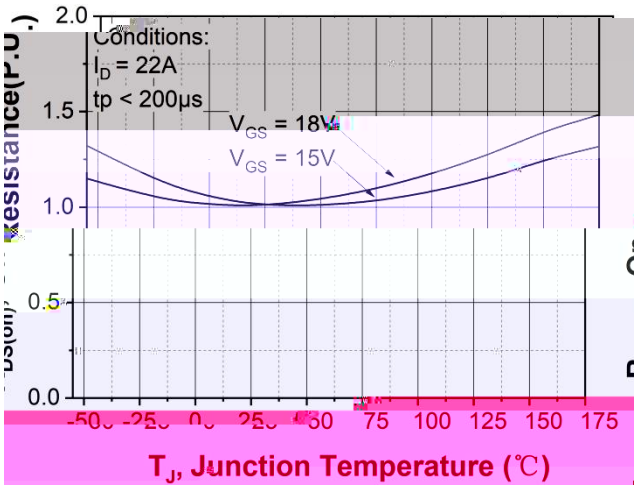


Figure 4. Normalized on-resistance vs. temperature

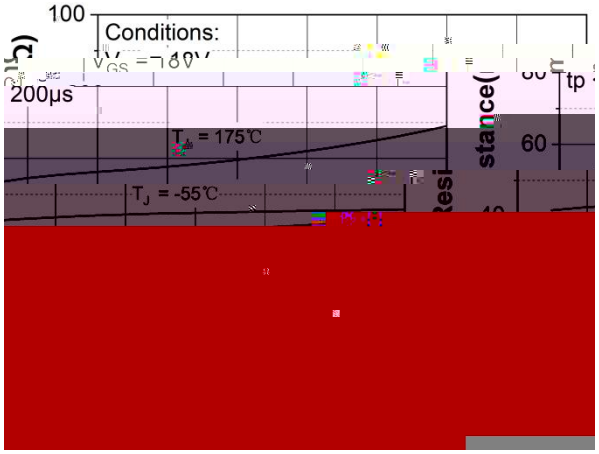


Figure 5. On-resistance vs. drain current for various temperatures

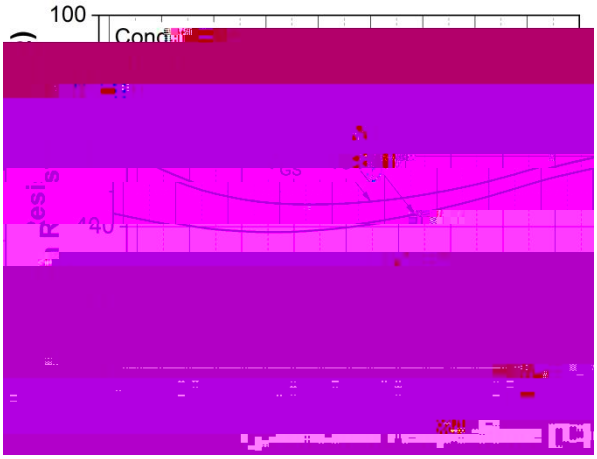


Figure 6. On-resistance vs. temperature for various gate voltages

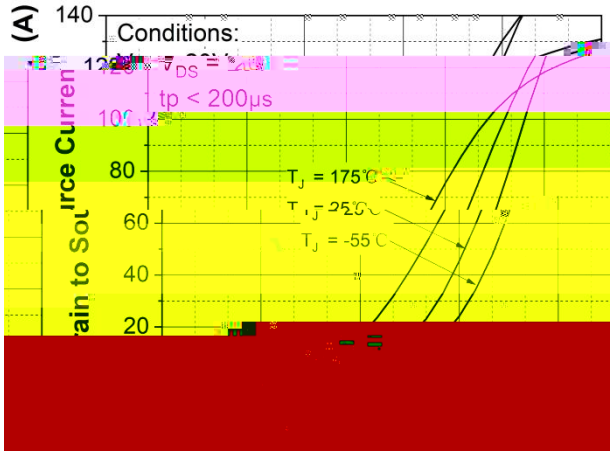


Figure 7. Transfer characteristic for various junction temperatures

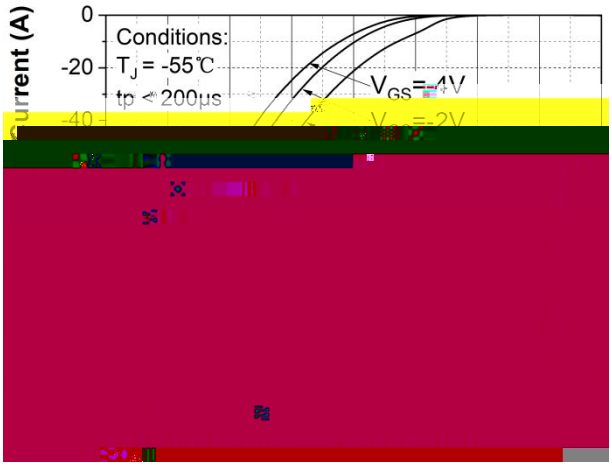


Figure 8. Body diode characteristic at T_J = -55 ºC

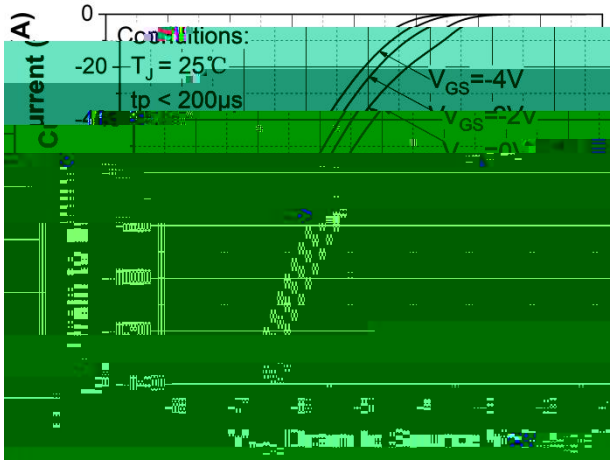


Figure 9. Body diode characteristic at T_J = 25 ºC

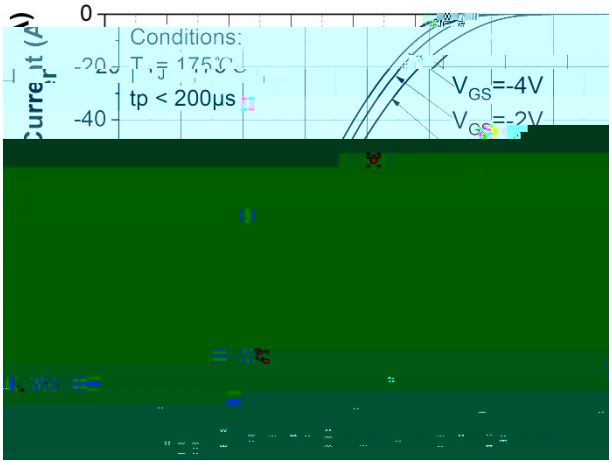


Figure 10. Body diode characteristic at T_J = 175ºC

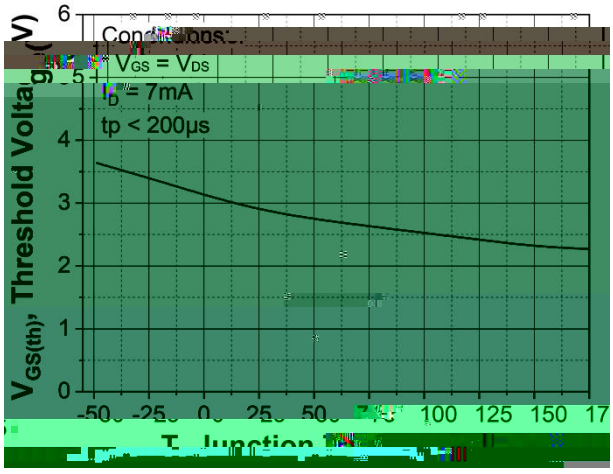


Figure 11. Threshold voltage vs. temperature

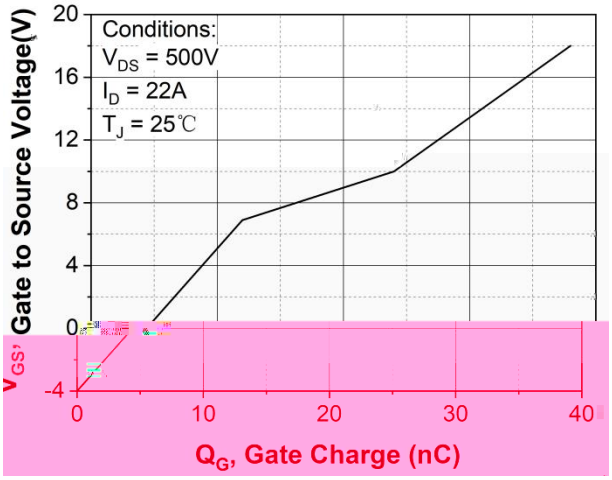


Figure 12. Gate charge characteristic

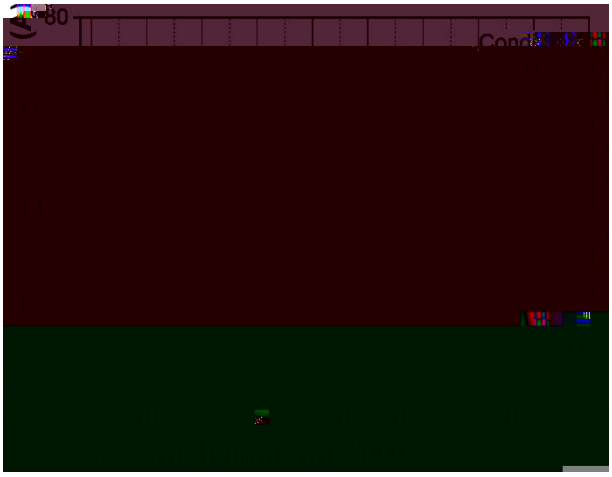


Figure 19. Continuous drain current derating vs. case temperature

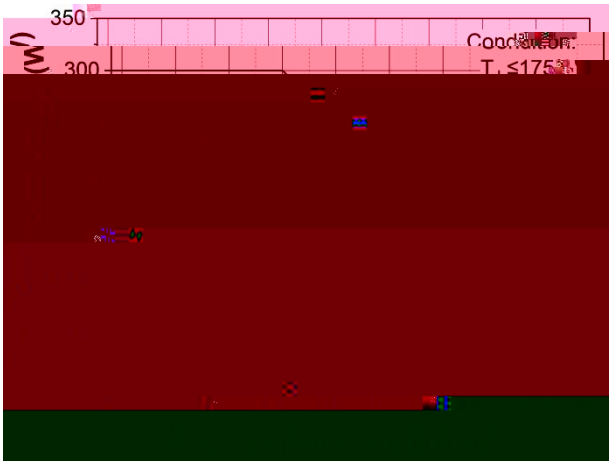


Figure 20. Maximum power dissipation derating vs. case temperature

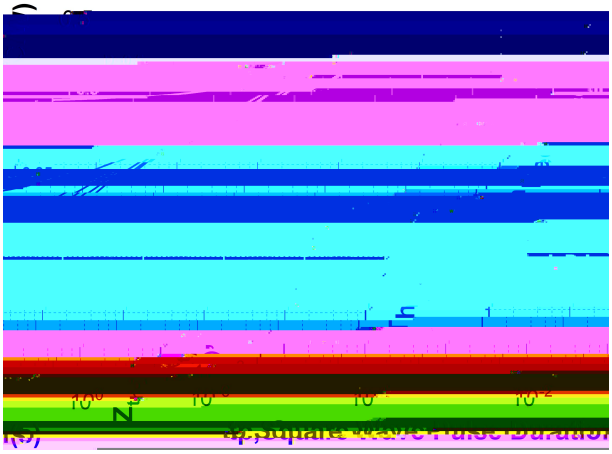


Figure 21. Transient thermal impedance (junction - case)

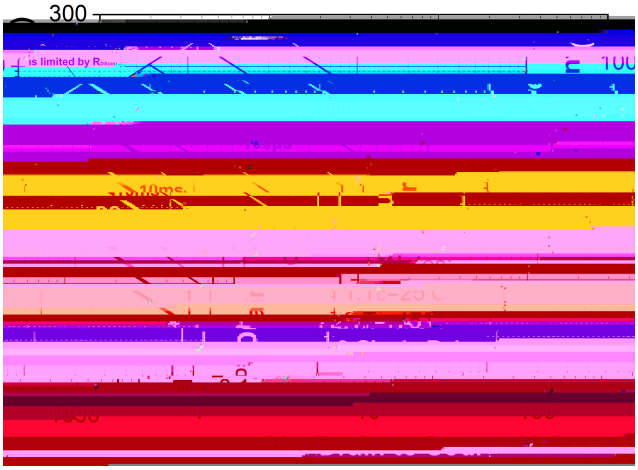


Figure 22. Safe operating area

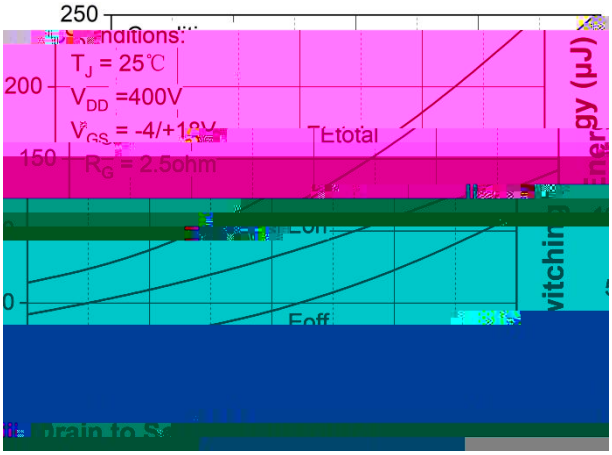


Figure 23. Clamped Inductive switching energy vs. drain current (V_{DD} = 400V)

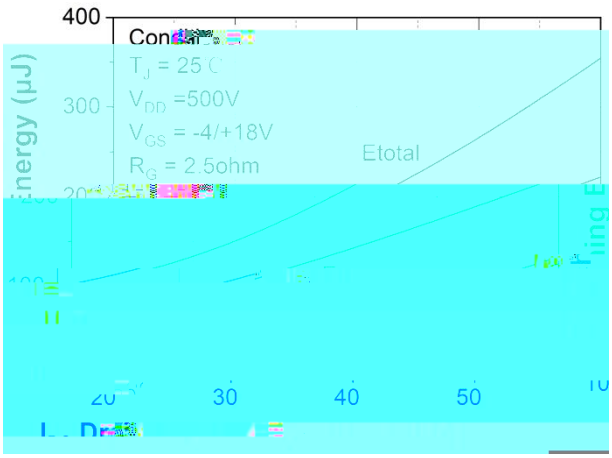


Figure 24. Clamped inductive switching energy vs. drain current (V_{DD} = 500V)

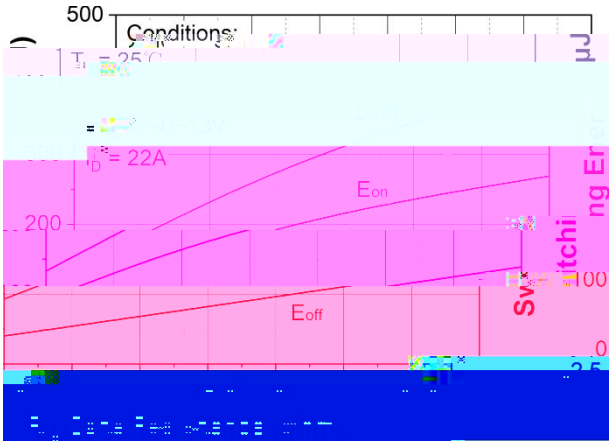


Figure 25. Clamped inductive switching energy vs. R_G (ext)

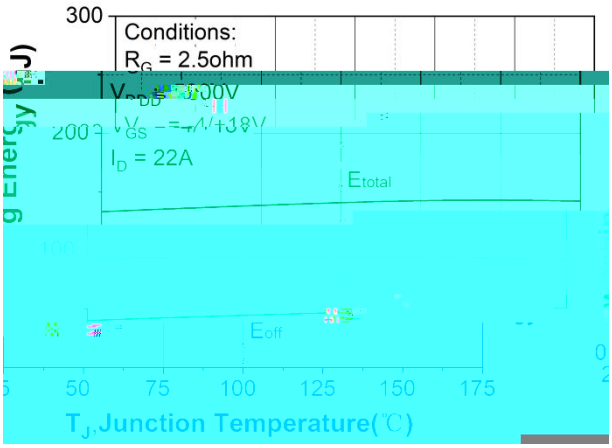


Figure 26. Clamped inductive switching energy vs. temperature

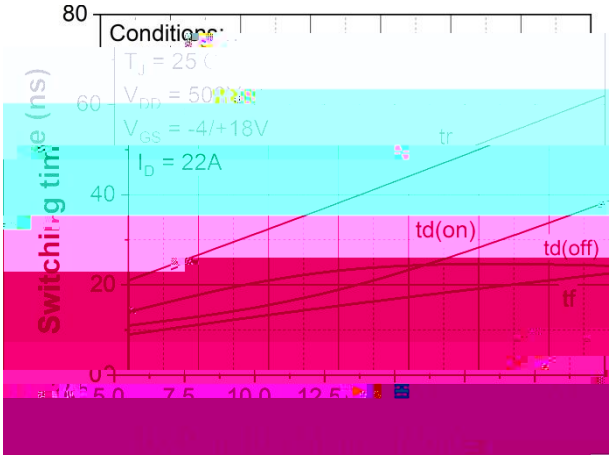
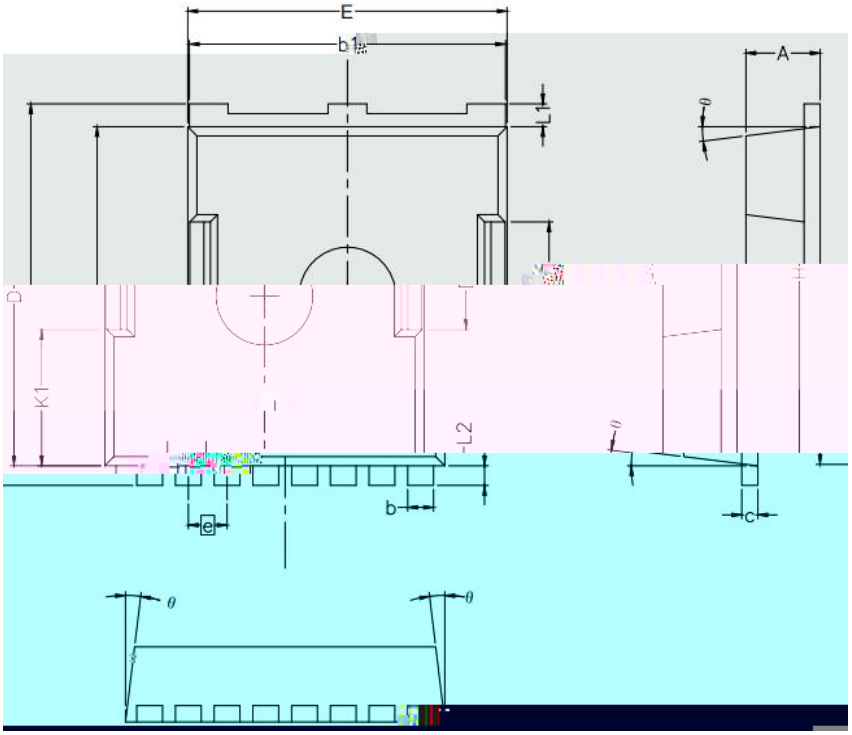
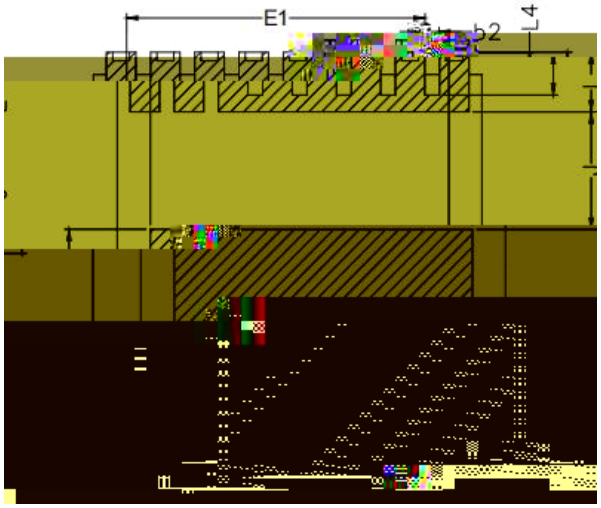


Figure 27. Switching times vs. R_G (ext)

(TOLL-8L)





SYMBOL	DIMENSIONS MILLIMETERS	
	MIN	MAX
A	2.20	2.40
b	0.70	0.90
b1	9.70	9.90
b2	0.42	0.60
c	0.40	0.60
D	10.28	10.58
D2	3.10	3.50
E	9.70	10.10
E1	7.90	8.30
e	1.20BSC	
H	11.48	11.88
H1	6.75	7.15
N	8	
J	3.00	3.30
K1	3.98	4.38
L	1.40	1.80
L1	0.60	0.80
L2	0.50	0.70
L4		

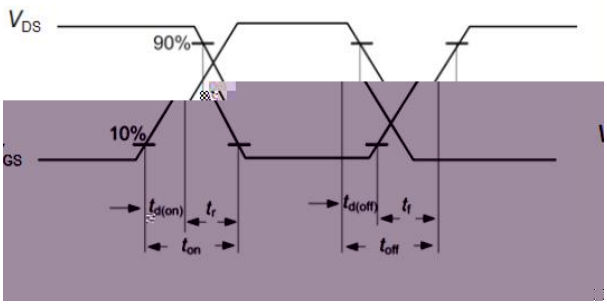


Figure A. Definition of switching times

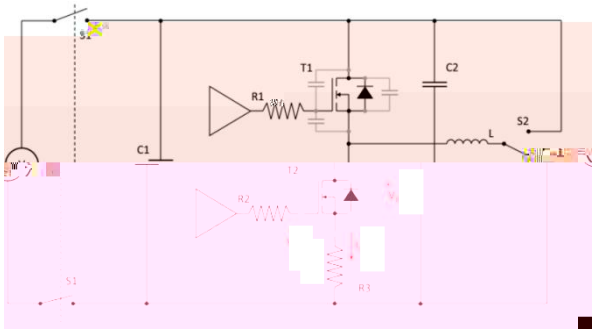


Figure B. Dynamic test circuit

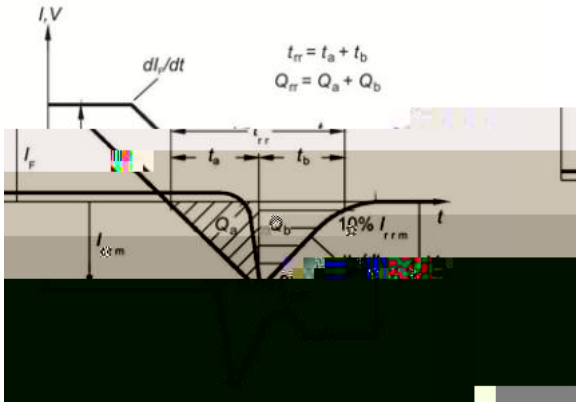


Figure C. Definition of body diode switching characteristics

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		—	—
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1.
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