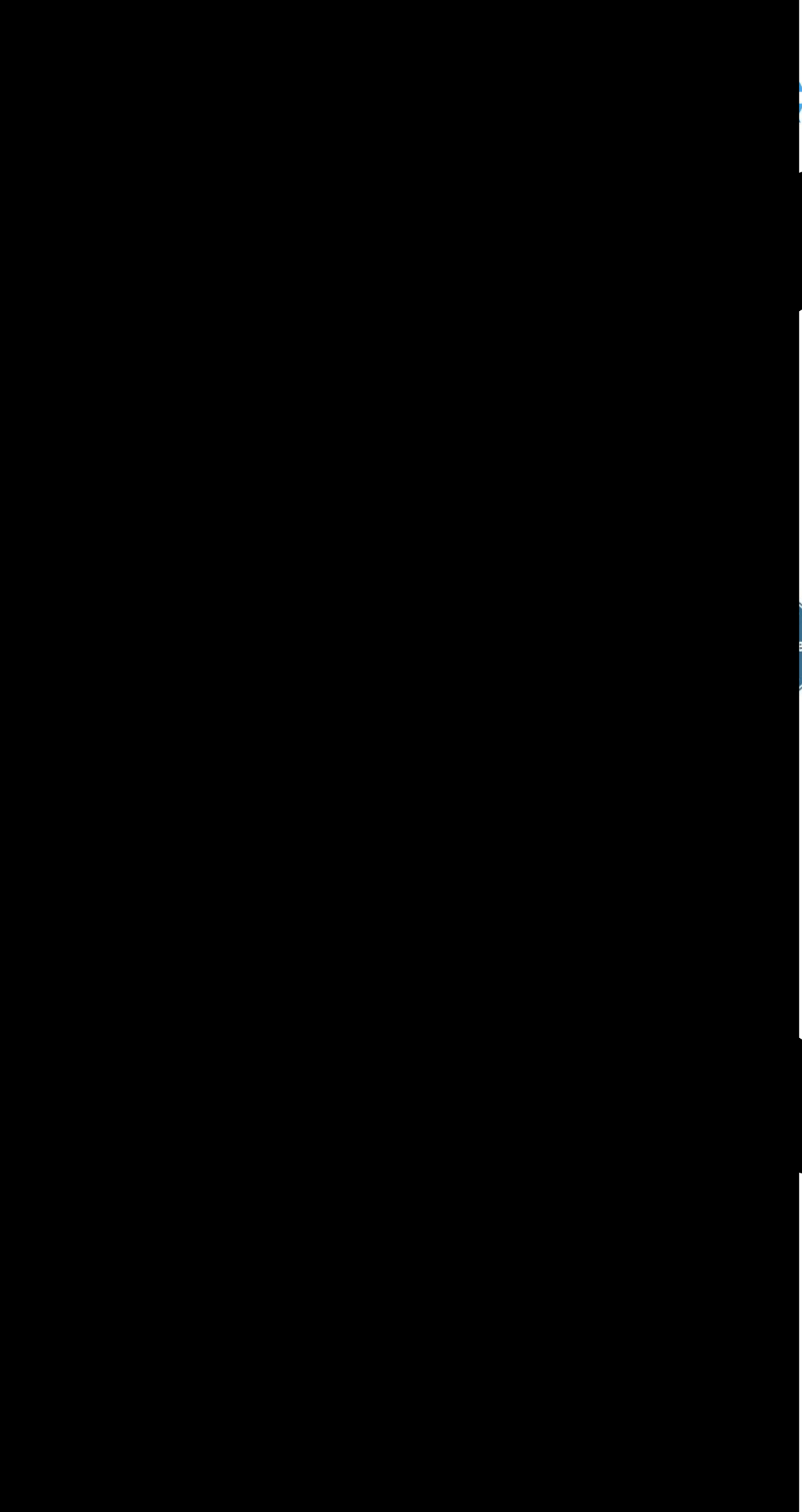


V01_02

2025.12.25

(Tc = 25°C unless otherwise specified)

$V_{DS,max}$	Drain source voltage	1200	V	V_{GS} = 0V, I_D = 100μA	
$V_{GS,max}$	Gate source voltage	-8 /+22	V	Absolute maximum values	Note1
$V_{GSpulse}$	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 operational values	
I_D	Continuous drain current	90	A	V_{GS} = 18V, T_C = 25˚C	Fig.19
		64		V_{GS} = 18V, T_C = 100˚C	
$I_{D(pulse)}$	Pulsed drain current	270	A	Pulse width t_P =100μs limited by $T_{J,max}$	Fig.22
P_D	Power dissipation	385	W	T_C = 25˚C,T_J = 175˚C	Fig.20
T_J ,T_{stg}	Operating Junction and storage temperature	-55 to +175	˚C		
T_L	Soldering temperature	260	˚C	1.6mm (0.063”) from case for 10s	

Note 1 when using MOSFET Body Diode $V_{GS,max}$ = -4 / +22V

$R_{th(j-c)}$	Thermal resistance from junction to case	-	0.31	0.39	°C/W	-	Fig.21

(Tc = 25°C unless otherwise specified)

$V_{(BR)DSS}$	Drain-source breakdown voltage	1200		-	V_{GS} = 0V, I_D = 100μA	
		2.3	2.8	3.6	V_{DS} = V_{GS}, I_D = 11mA	
	Gate threshold voltage				V_{DS} = V_{GS}, I_D = 11mA	Fig.11
		-	2.1	-	T_J = 175°C	
I_{DSS}	Zero gate voltage drain current	-	1	10	μA	V_{DS} = 1200V, V_{GS} = 0V
I_{GS}	Gate source leakage current	-	-	[illegible]	A	V_{GS} = 18V, V_{DS} = 0V
		-	30	45		V_{GS} = 15V, I_D = 40A
		-	49	-		V_{GS} = 15V, I_D = 40A, T_J = 175°C
$R_{DS(on)}$	Drain-source on-state resistance				mΩ	Fig.4,5,6
		-	26	36		V_{GS} = 18V, I_D = 40A
		-	47	-		V_{GS} = 18V, I_D = 40A, T_J = 175°C
		-	30	-		V_{DS} = 20V, I_D = 40A
g_{fs}	Transconductance				S	Fig.7
		-	2 ;			

Q_{gs}	Gate source charge	-	24	-	nC	V_{DS} = 800V, V_{GS} = -4/+18V I_D = 40A	Fig.12
Q_{gd}	Gate drain charge	-	22	-			
Q_g	Gate charge	-	73	-			

(Tc = 25°C unless otherwise specified)

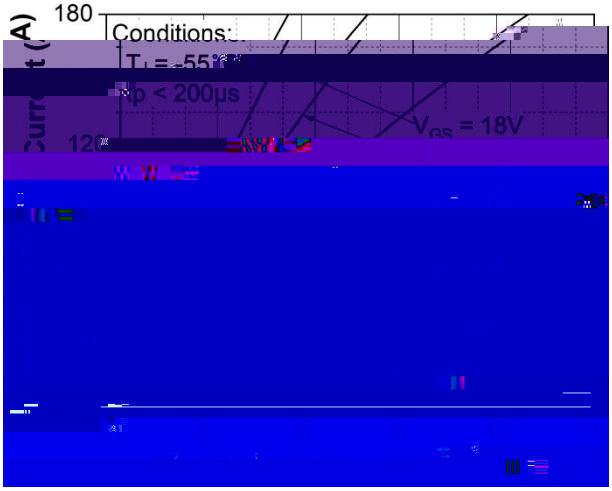


Figure 1. Output characteristics T_J = -55 ºC

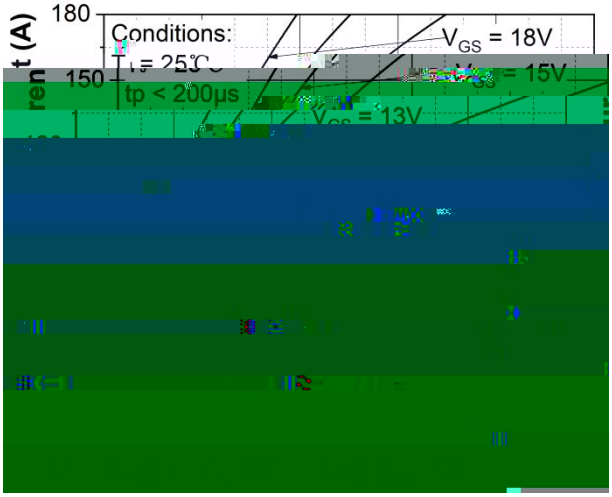


Figure 2. Output characteristics T_J = 25 ºC

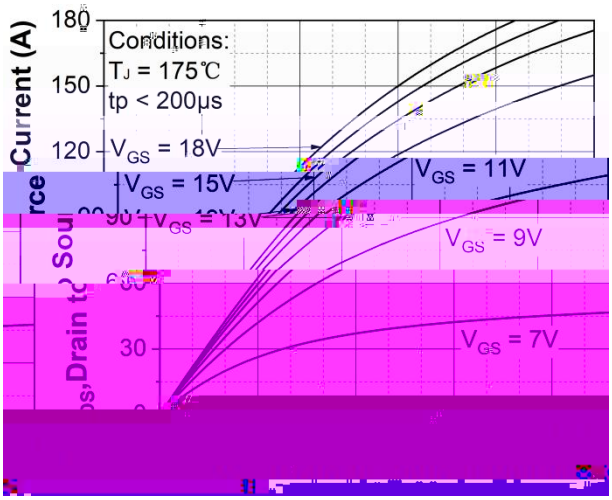


Figure 3. Output characteristics T_J = 175 ºC

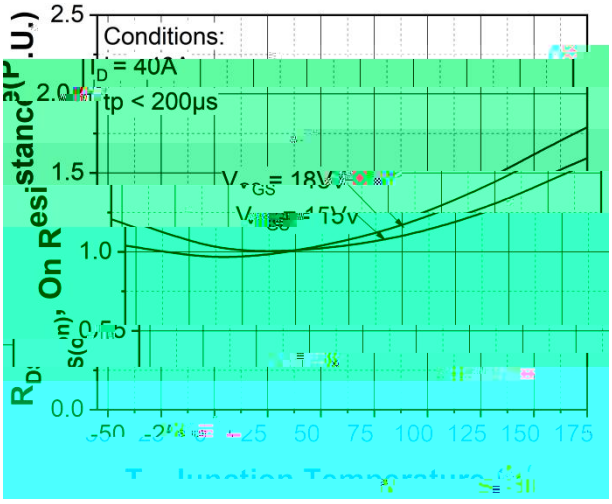


Figure 4. Normalized on-resistance vs. temperature

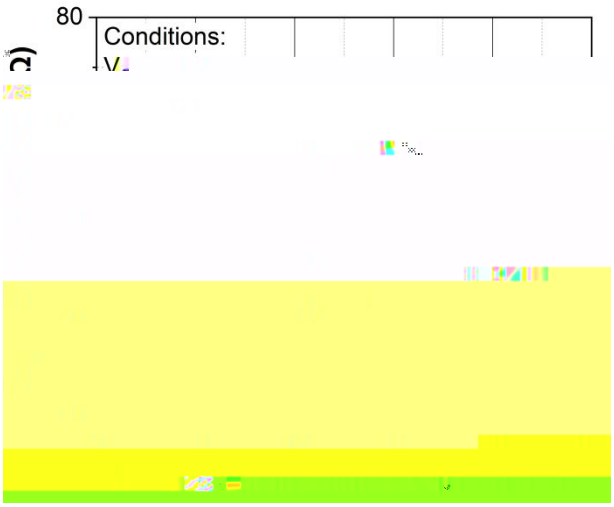


Figure 5. On-resistance vs. drain current for various temperatures

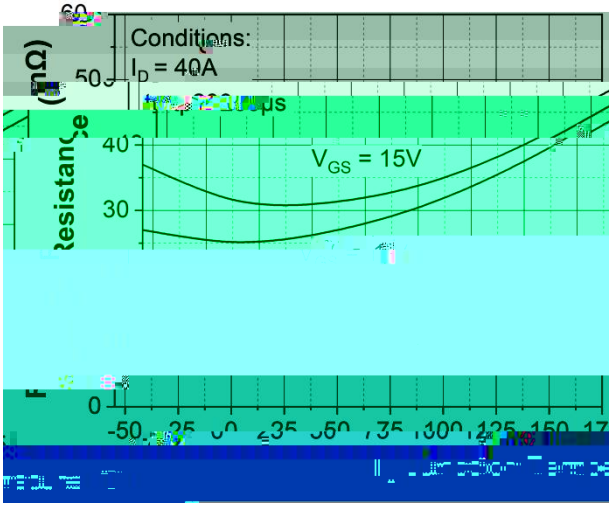


Figure 6. On-resistance vs. temperature for various gate voltages

Figure 7. T

Figure 13.

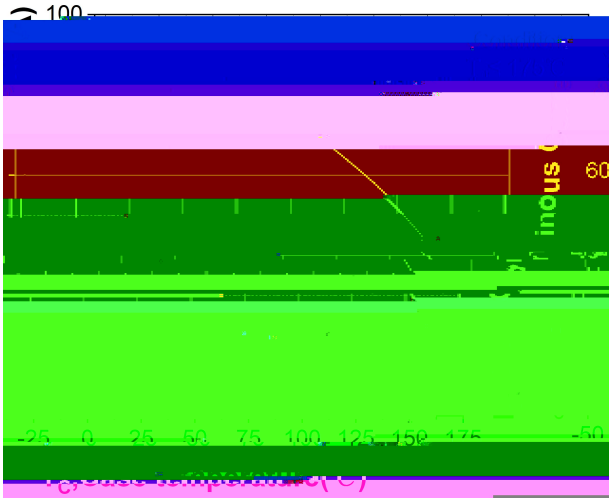


Figure 19. Continuous drain current derating vs. case temperature

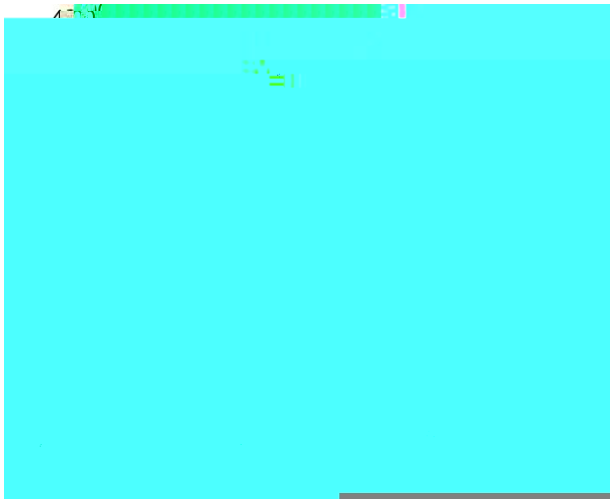


Figure 20. Maximum power dissipation derating vs. case temperature

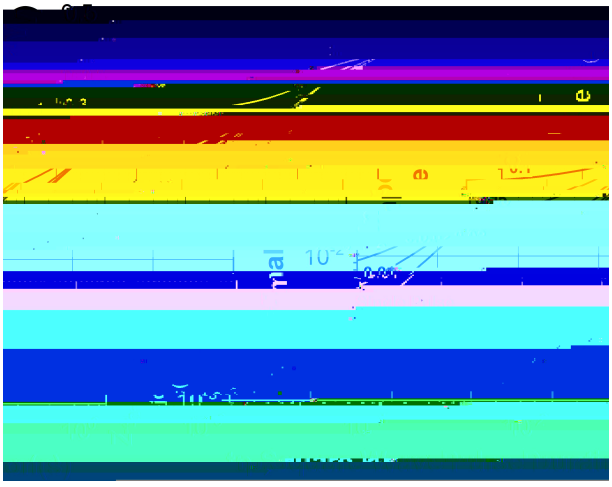


Figure 21. Transient thermal impedance (junction - case)

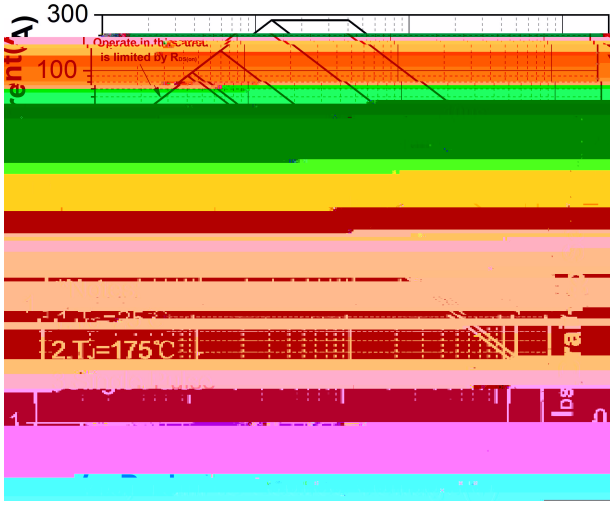


Figure 22. Safe operating area

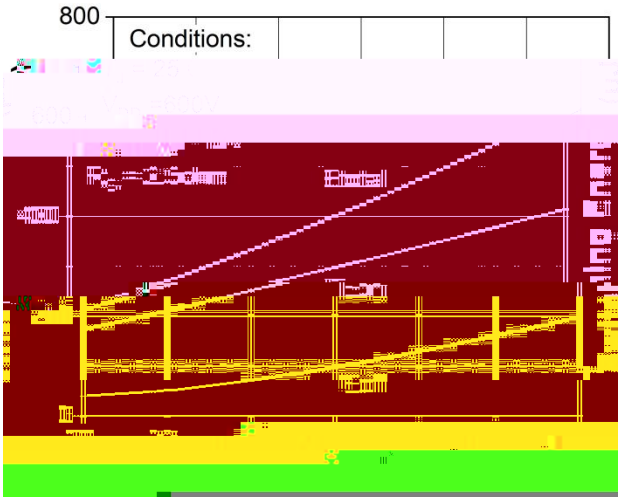


Figure 23. Clamped Inductive switching energy vs. drain current (V_{DD} = 600V)

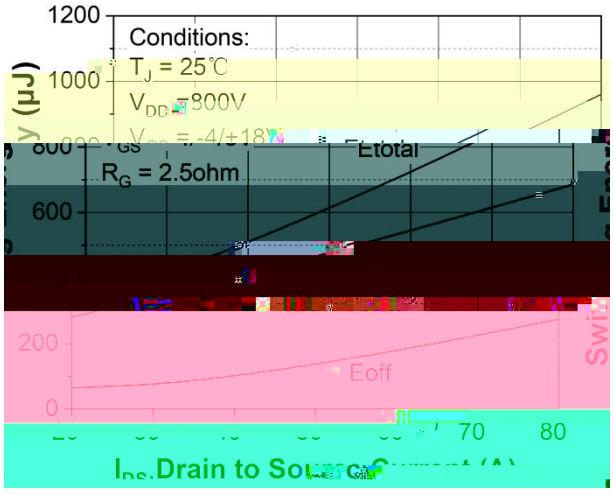
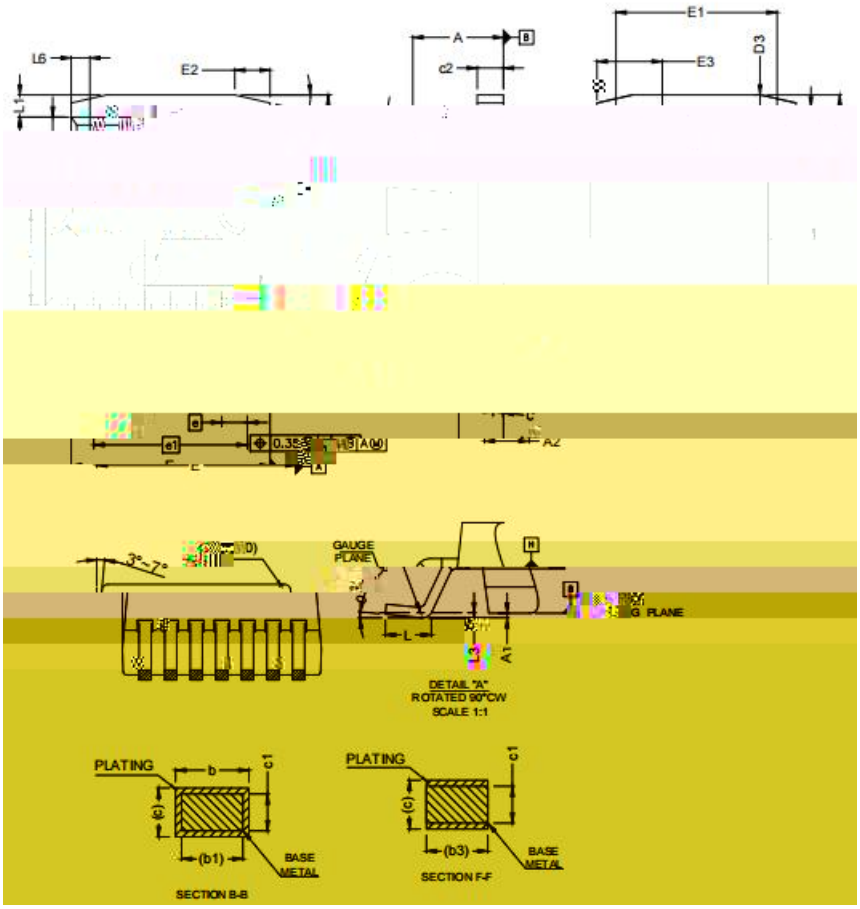


Figure 24. Clamped inductive switching energy vs. drain current (V_{DD} = 800V)

(TO-263-7L-A)



SYMBOL	MIN	MAX	SYMBOL	MIN	MAX
A	4.30		L	1.78	2.79
A1					

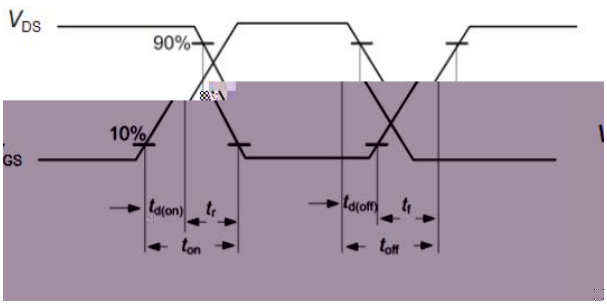


Figure A. Definition of switching times

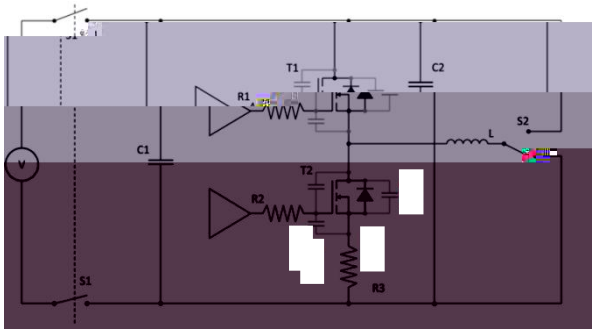


Figure B. Dynamic test circuit

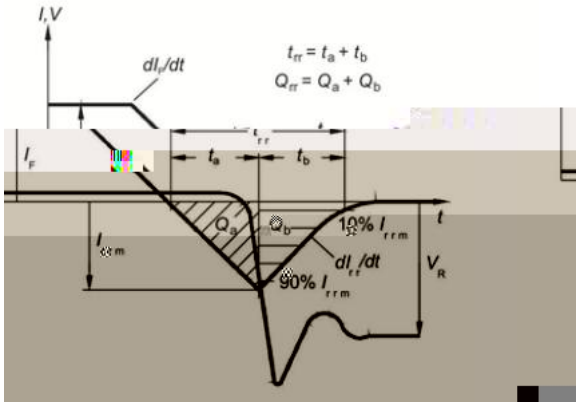


Figure C. Definition of body diode switching characteristics

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		——	——
			——

1.
The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU Directive 2011/65/ EC (RoHS2), as implemented January 2, 2013.

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