- Hi

(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	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	64	A	V_{GS} = 18V, T_C = 25˚C	Fig.19
		45		V_{GS} = 18V, T_C = 100˚C	
I_D(pulse)	Pulsed drain current	210	A	Pulse width t_P =100μs limited by $T_{J,max}$	Fig.22
P_D	Power dissipation	231	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	
T_M	Mounting torque	1 8.8	Nm lbf-in	M3 or 6-32 screw	

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

$R_{th(j-c)}$	Thermal resistance from junction to case	-	0.52	0.65	°C/W	-	Fig.21

Datasheet

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

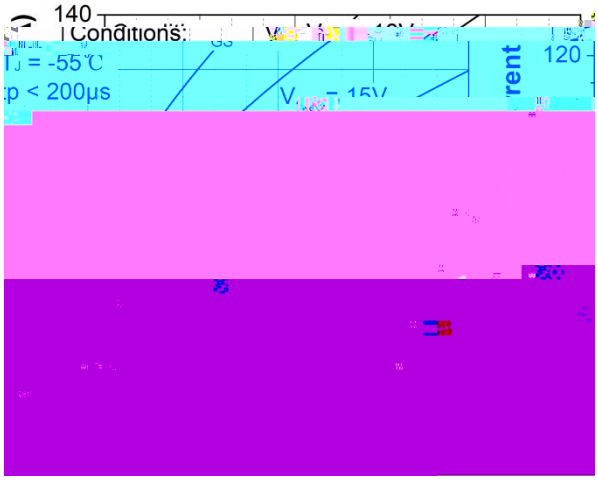


Figure 1. Output characteristics T_J = -55 ºC

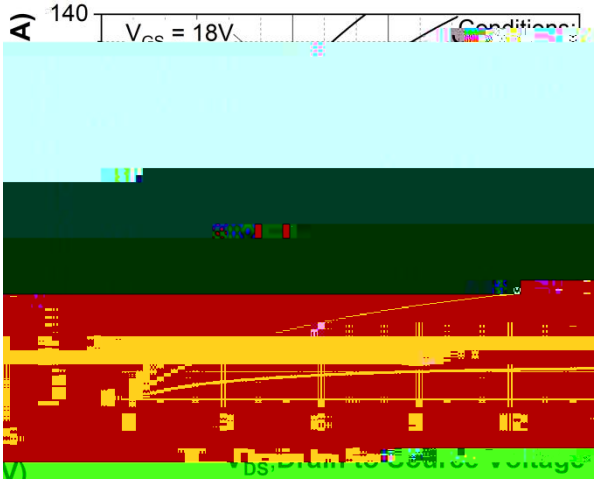


Figure 2. Output characteristics T_J = 25 ºC

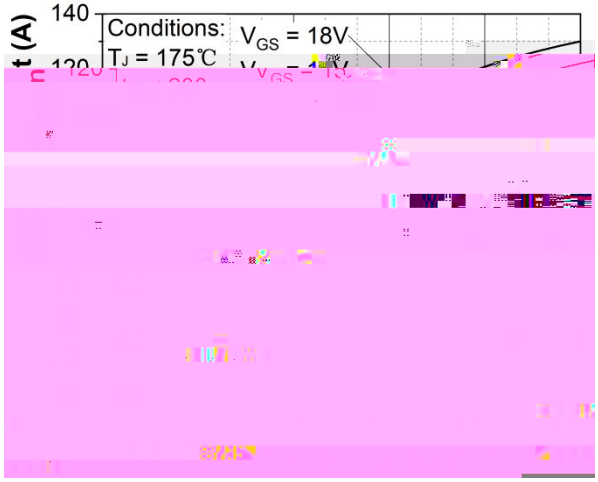


Figure 3. Output characteristics T_J = 175 ºC



Figure 4. Normalized on-resistance vs. temperature

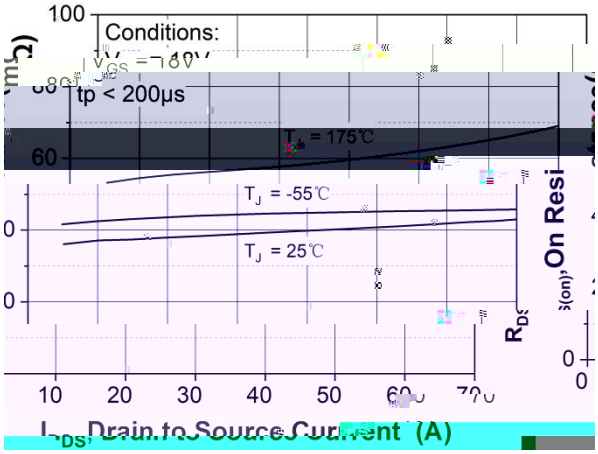


Figure 5. On-resistance vs. drain current for various temperatures

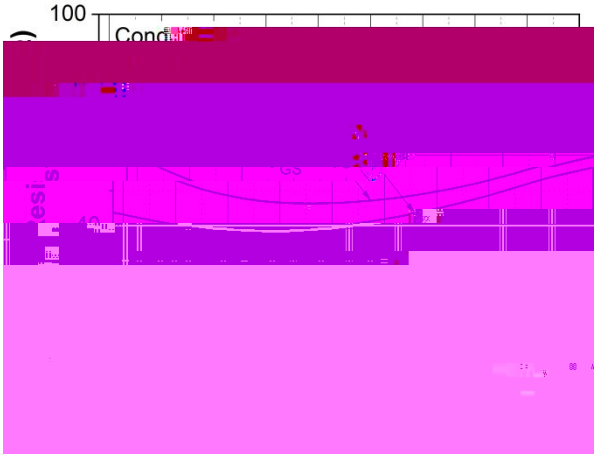


Figure 6. On-resistance vs. temperature for various gate voltages

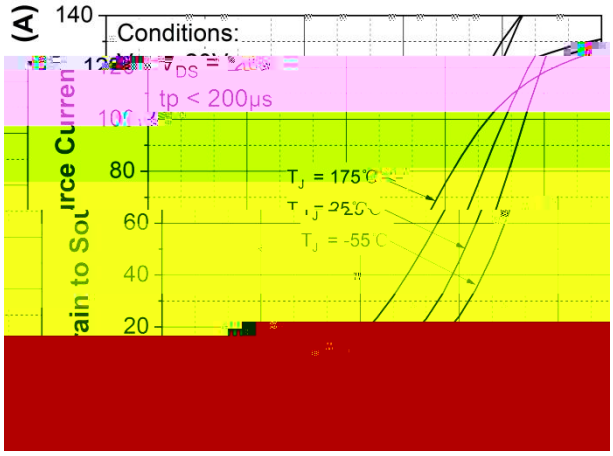


Figure 7. Transfer characteristic for various junction temperatures

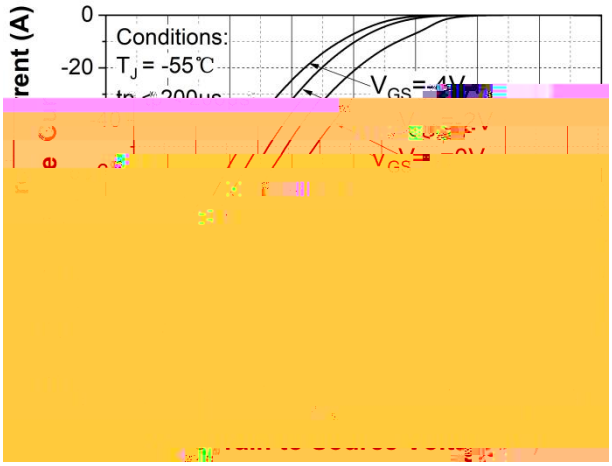


Figure 8. Body diode characteristic at T_J = -55 ºC

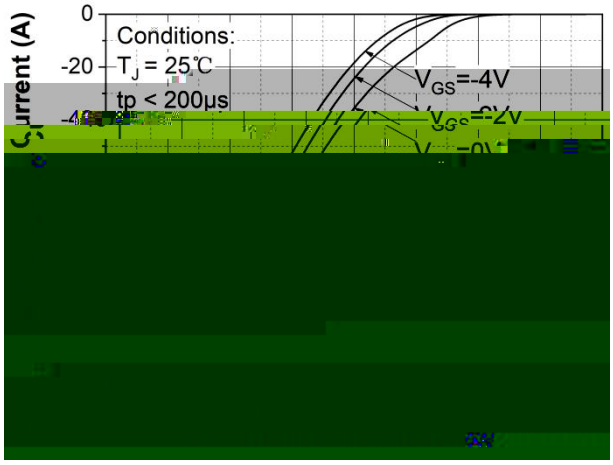


Figure 9. Body diode characteristic at T_J = 25 ºC

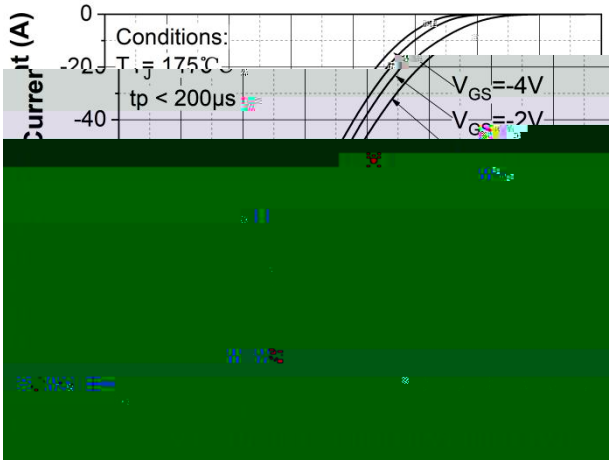


Figure 10. Body diode characteristic at T_J = 175ºC

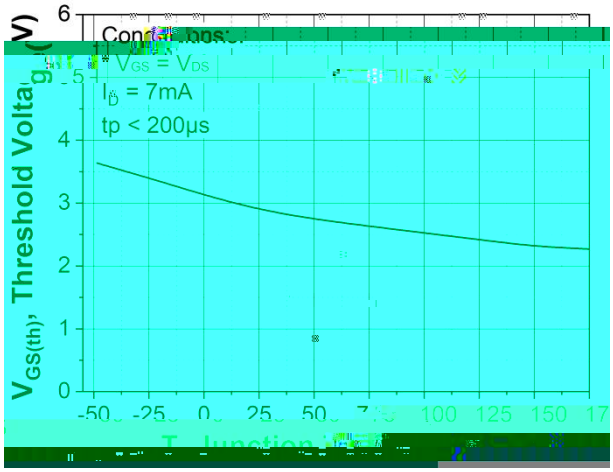


Figure 11. Threshold voltage vs. temperature

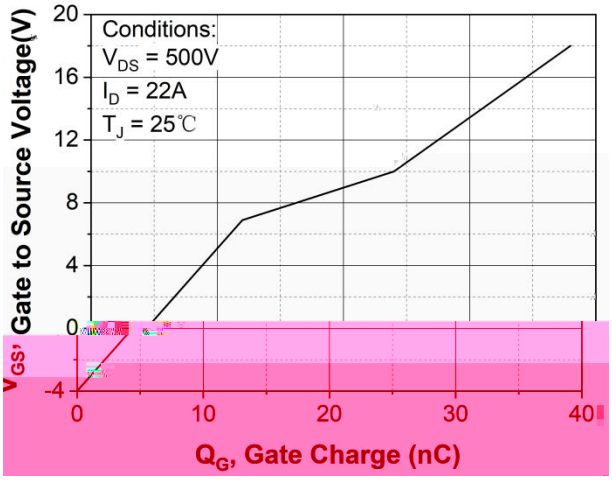


Figure 12. Gate charge characteristic

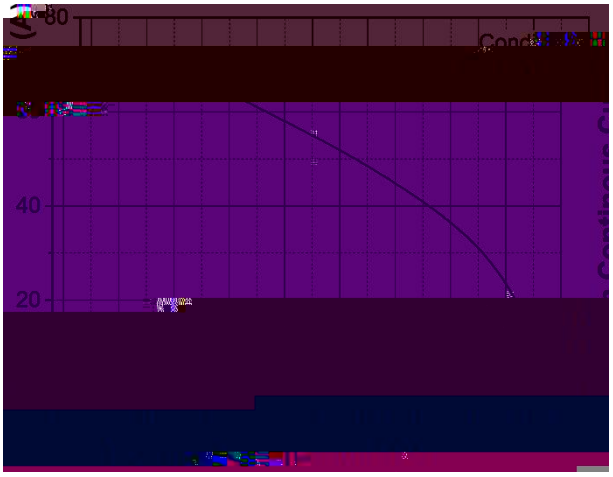


Figure 19. Continuous drain current derating vs. case temperature

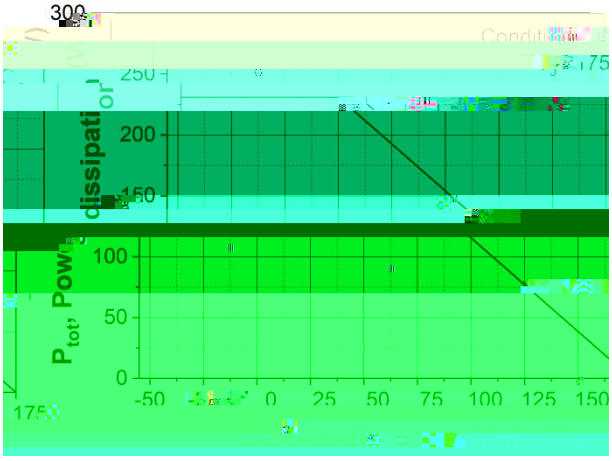


Figure 20. Maximum power dissipation derating vs. case temperature

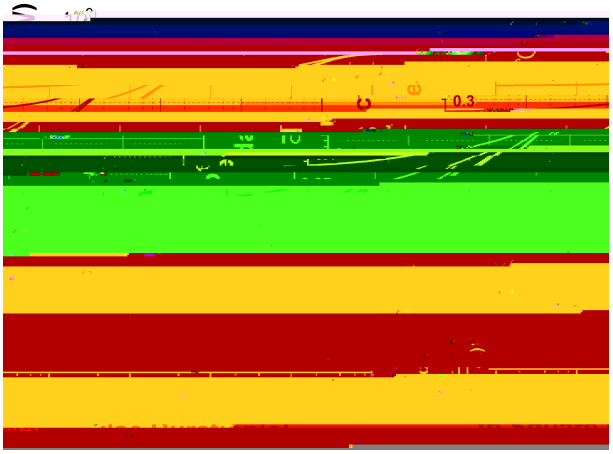


Figure 21. Transient thermal impedance (junction - case)

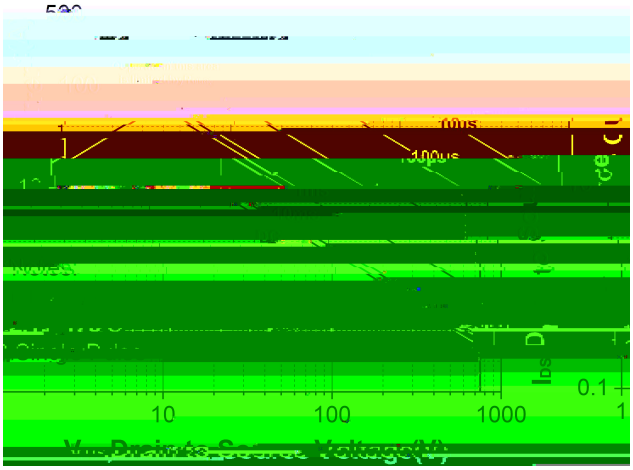


Figure 22. Safe operating area

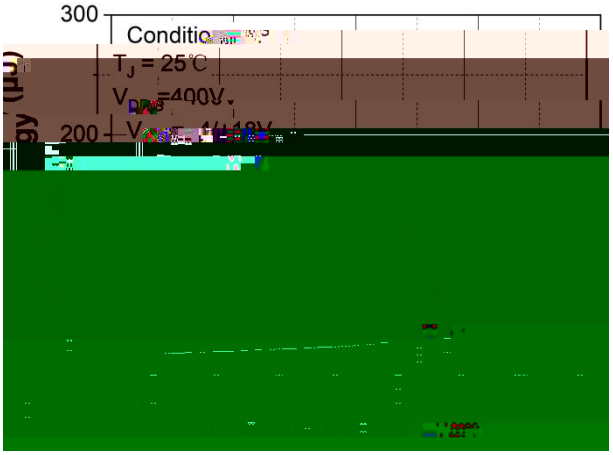


Figure 23. Clamped Inductive switching energy vs. drain current (V_{DD} = 400V)

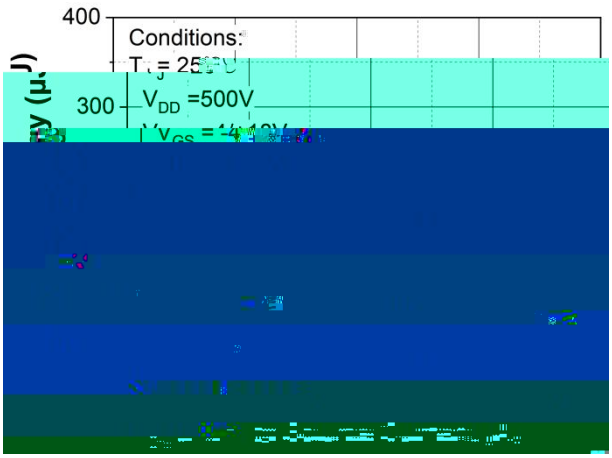


Figure 24. Clamped inductive switching energy vs. drain current (V_{DD} = 500V)

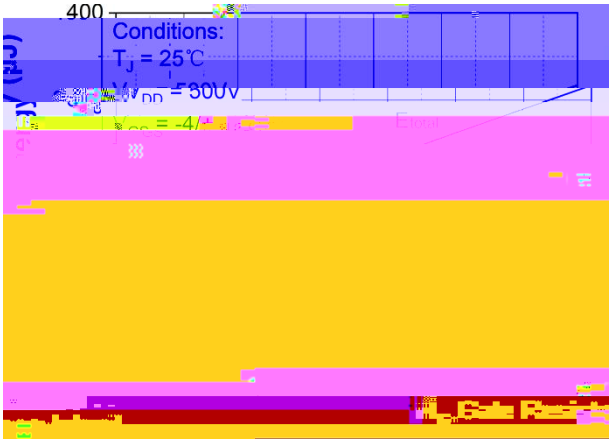


Figure 25. Clamped inductive switching energy vs. R_G (ext)

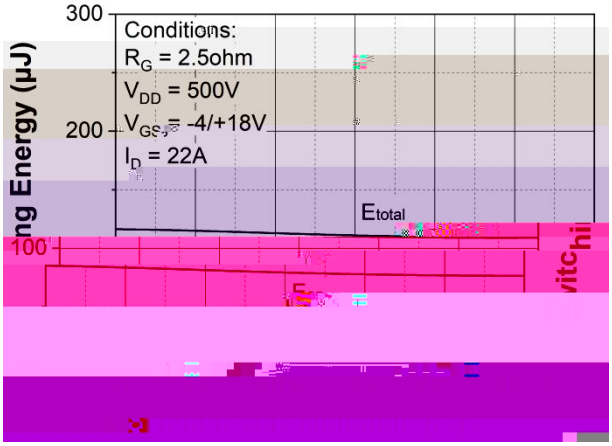


Figure 26. Clamped inductive switching energy vs. temperature

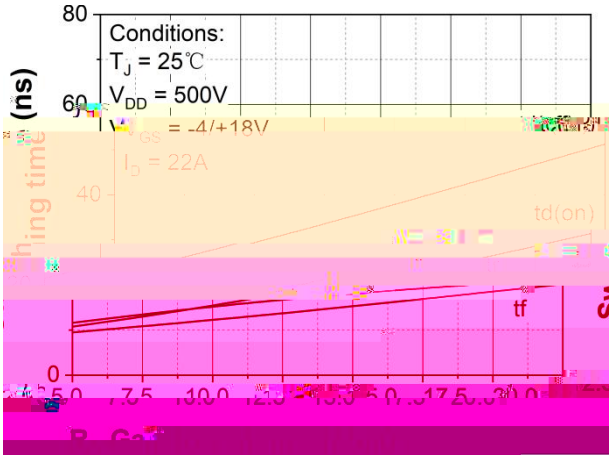


Figure 27. Switching times vs. R_G (ext)

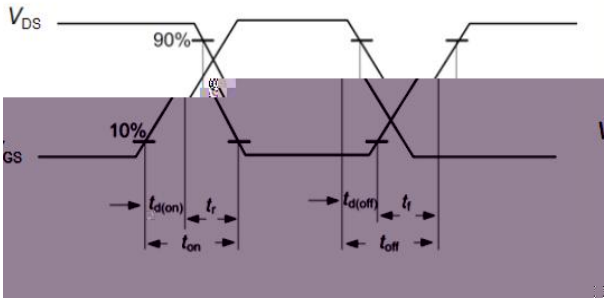


Figure A. Definition of switching times

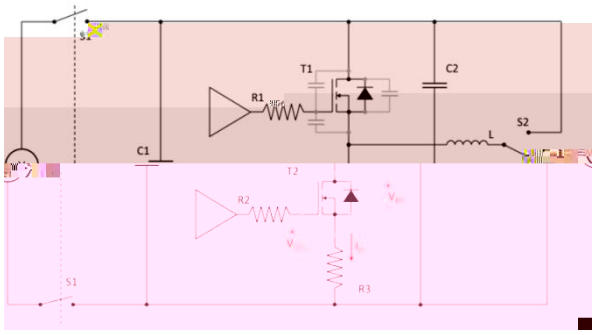


Figure B. Dynamic test circuit

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