N-Channel Enhancement Mode Field Effect Transistor

Product Summary

V_{DS}	100V
I_D	300A
$R_{DS(ON)}$(at V_{GS}=10V)	1.7m
$R_{DS(ON)}$(at V_{GS}=6V)	2.5m

100% EAS Tested

100% V_{DS} Tested

General Description

Split Gate Trench MOSFET technology

Excellent package for heat dissipation

High density cell design for low $R_{DS(ON)}$

Epoxy Meets UL 94 V-0 Flammability Rating

Halogen Free

Moisture Sensitivity Level 1

Applications

Load switch

Battery management

Solar

Absolute Maximum Ratings (T_A=25 unless otherwise noted)

Parameter	Symbol	Limit	Unit

Drain-so5 18.48 reW* Qq54(l)-4(e)-6(t5(VJETQ 1L)36-ETQg4(a)e)-6(E

Electrical Characteristics (T_J=25 unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}= 0V, I_D	100	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V, V_{GS}=0V	-	-	1	
		V_{DS}=100V, V_{GS}=0V, Tj=150℃	-	-	100	
Gate-Body Leakage Current	I_{GSS}	V_{GS}= ±20V, V_{DS}=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D	2	2.8	4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=150A	-	1.35	1.7	
		V_{GS}=10V, I_D=20A	-	1.35	1.7	
		V_{GS}=6V, I_D=20A	-	1.75	2.5	
Diode Forward Voltage	V_{SD}	I_S=150A, V_{GS}=0V	-	0.9	1.2	V

Typical Electrical and Thermal Characteristics Diagrams

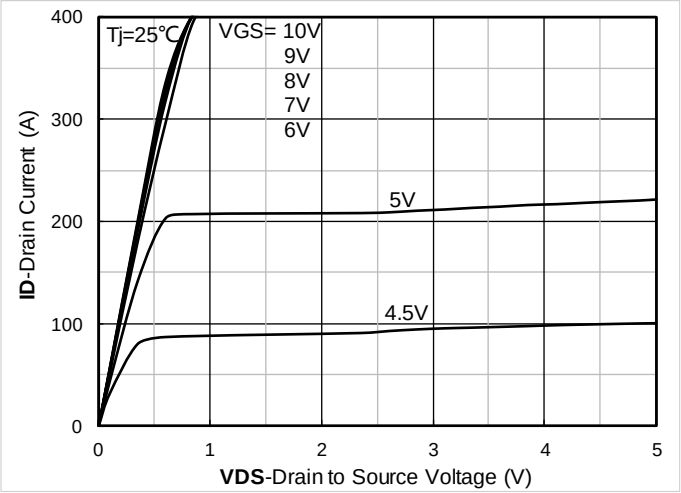

Figure 1. Output Characteristics

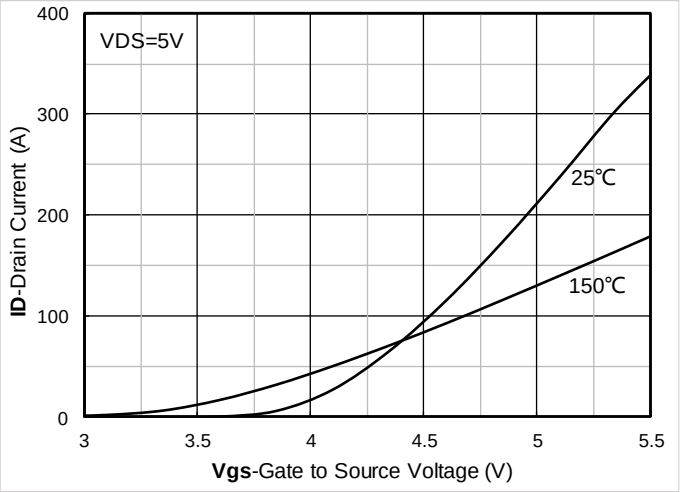

Figure 2. Transfer Characteristics

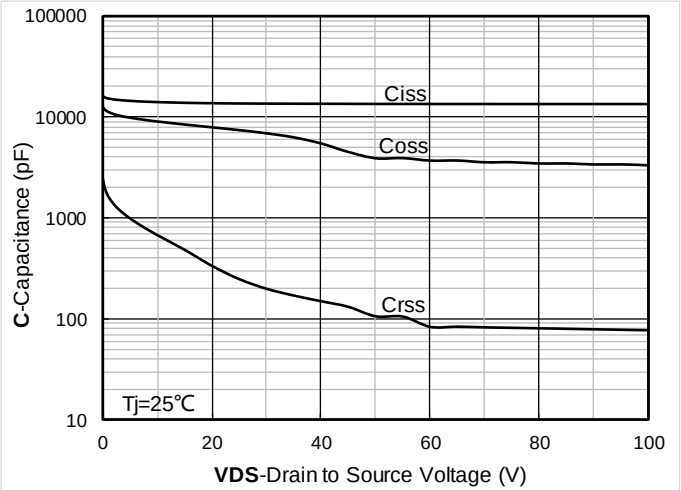

Figure 3. Capacitance Characteristics

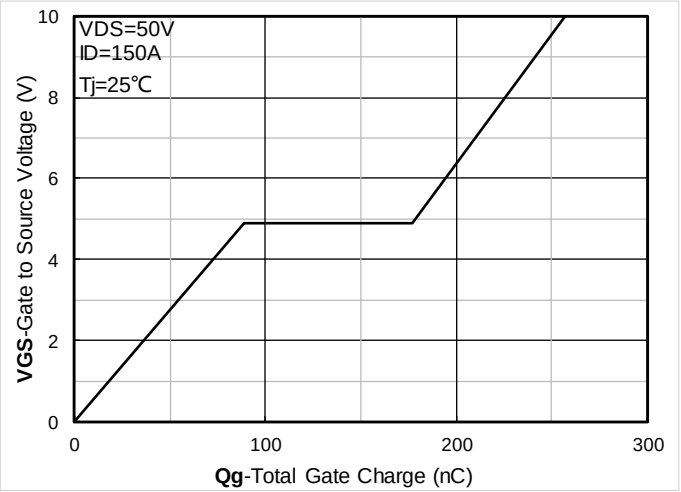

Figure 4. Gate Charge

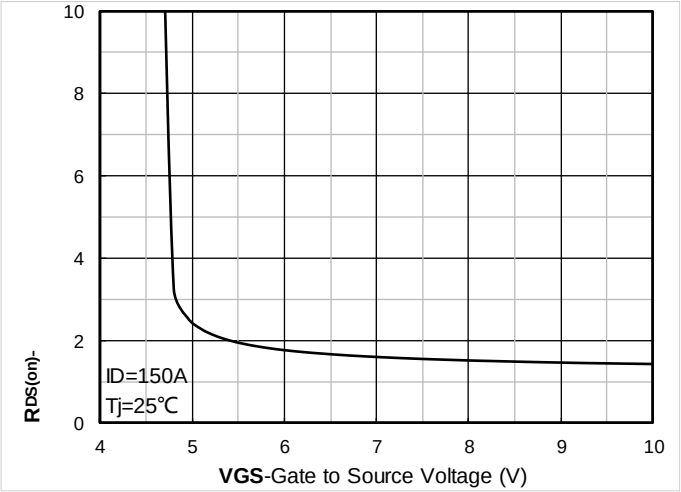

Figure 5. On-Resistance vs Gate to Source Voltage

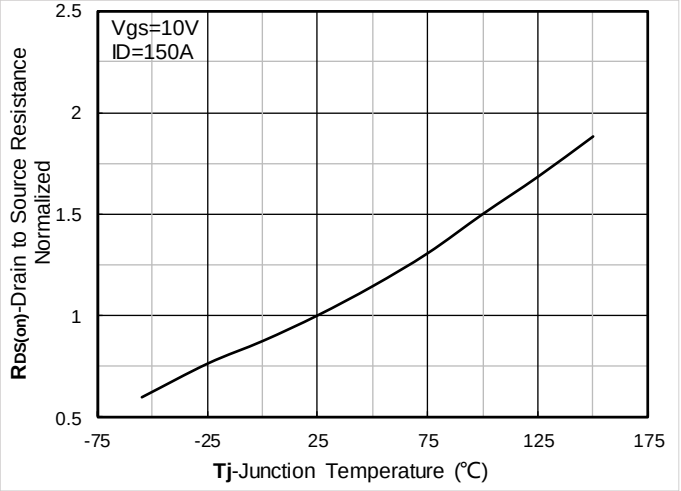

Figure 6. Normalized On-Resistance

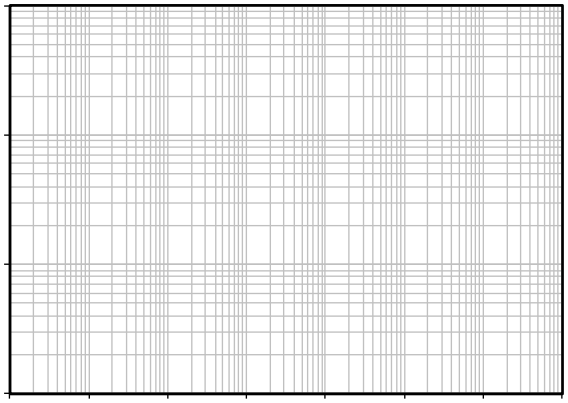

Figure 13. Maximum Transient Thermal Impedance

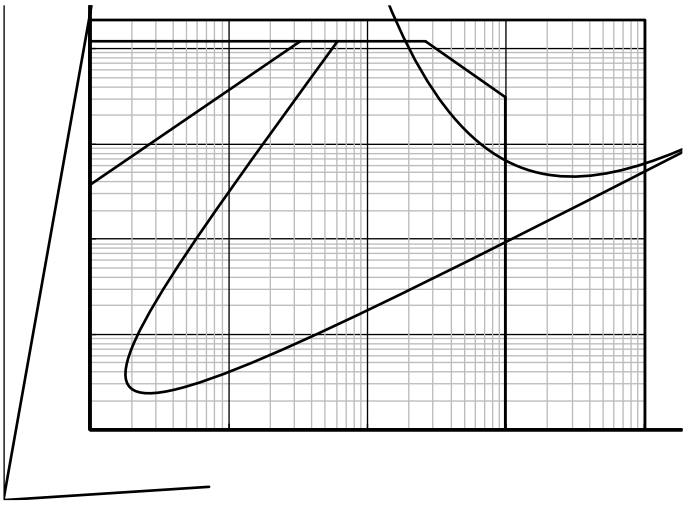

Figure 14. Safe Operation Area

Test Circuits & Waveforms

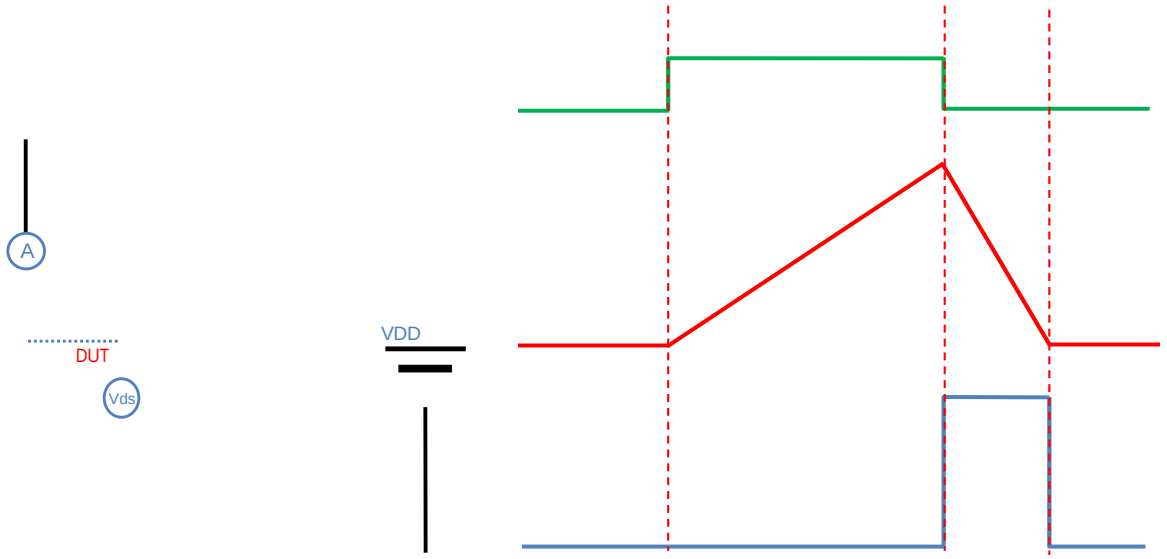

Figure A. Unclamped Inductive Switching (UIS) Test Circuit & Waveform

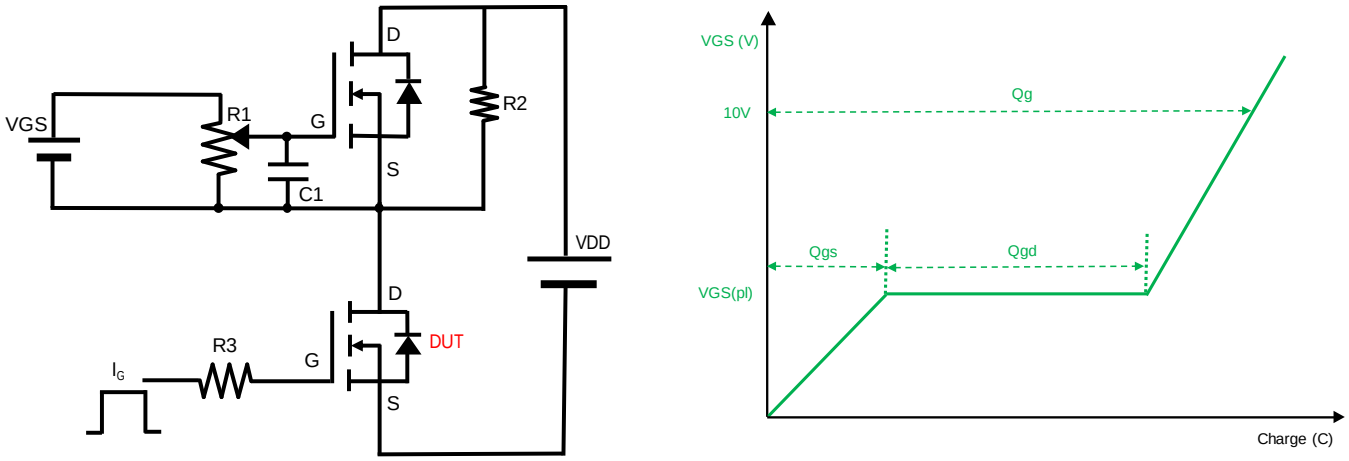

Figure B. Gate Charge Test Circuit & Waveform

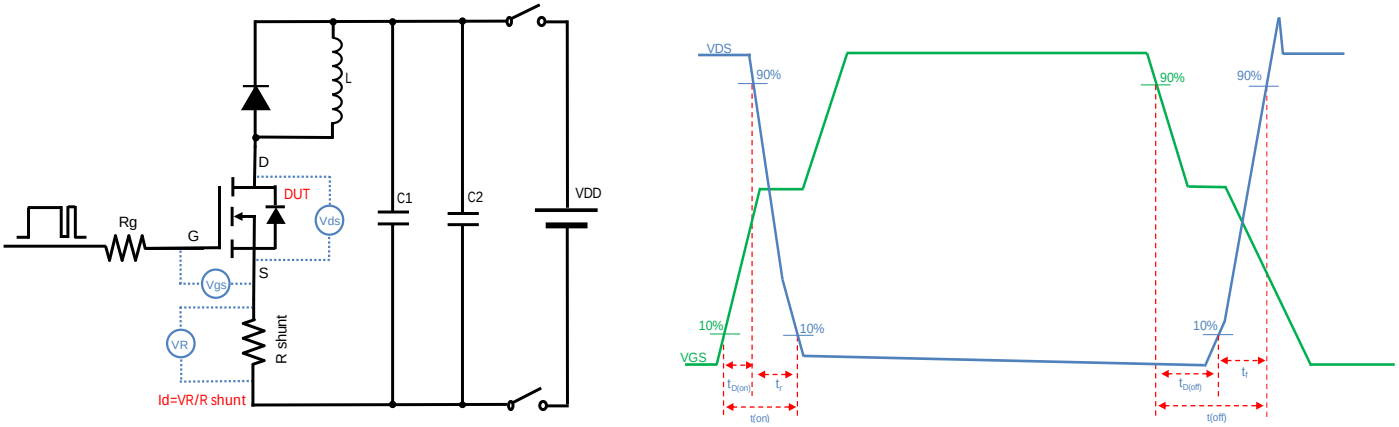

Figure C. Resistive Switching Test Circuit & Waveform

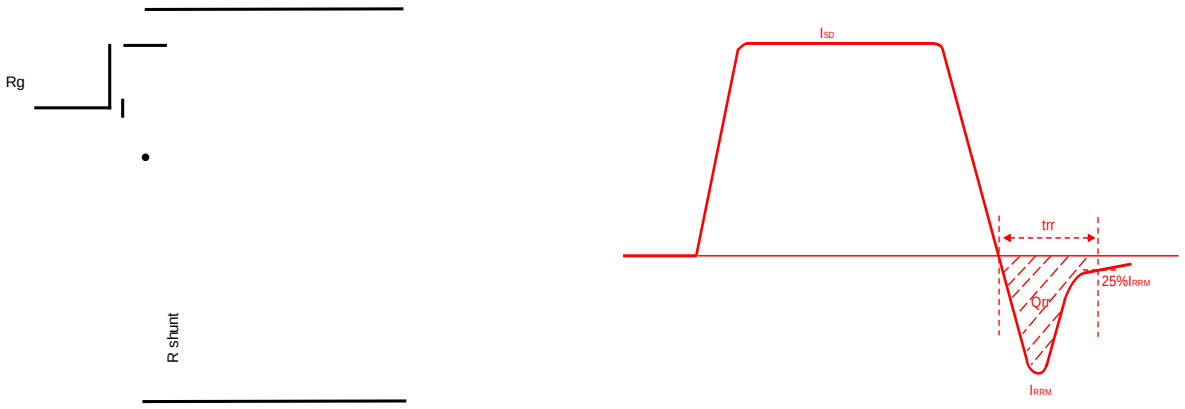

Figure D. Diode Recovery Test Circuit & Waveform

TOLL Package information

SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	2.2	2.3	2.4
A1	1.7	1.8	1.9
b	0.7	0.8	0.9
b1	9.7	9.8	9.9
b2	1.1	1.2	1.3
c	0.4	0.5	0.6
D			

Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.03mm.
3.The pad layout is for reference purposes only.

SUGGESTED SOLDER PAD LAYOUT
TOP VIEW

Disclaimer

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The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with