N-Channel Enhancement Mode Field Effect Transistor

Product Summary

V_{DS}	150V
I_D	30A
$R_{DS(ON)}$(at V_{GS}=10V)	24m
$R_{DS(ON)}$(at V_{GS}=6V)	26m
100% EAS Tested	
100% V_{DS} Tested	

General Description

gate trench MOSFET technology

DS(on)

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	150	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=150V, V_{GS}=0V	-	-	1	
		V_{DS}=150V, 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	2.9	4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=20A	-	18	24	
		V_{GS}=6V, I_D=20A	-	20	26	
Diode Forward Voltage	V_{SD}	I_S=20A, V_{GS}=0V	-	-	1.2	V
Gate resistance	R_G	f=1MHz	-	1	-	
Maximum Body-Diode Continuous Current	I_S		-	-	30	A

Typical Characteristics Diagrams

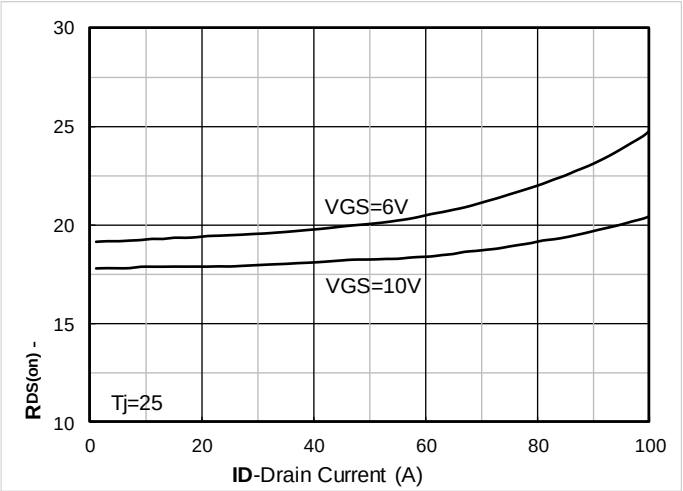


Figure 7. $R_{DS(on)}$ VS Drain Current

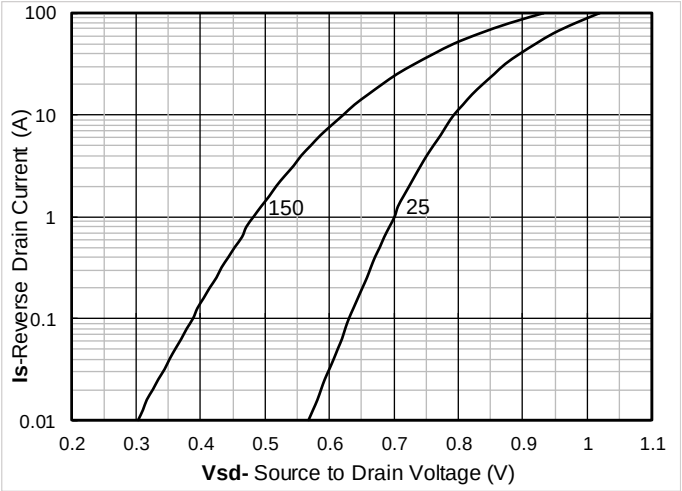


Figure 8. Forward characteristics of reverse diode

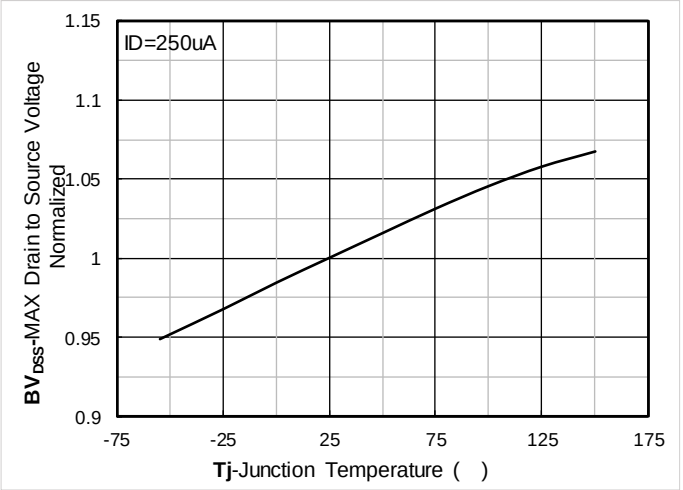


Figure 9. Normalized breakdown voltage

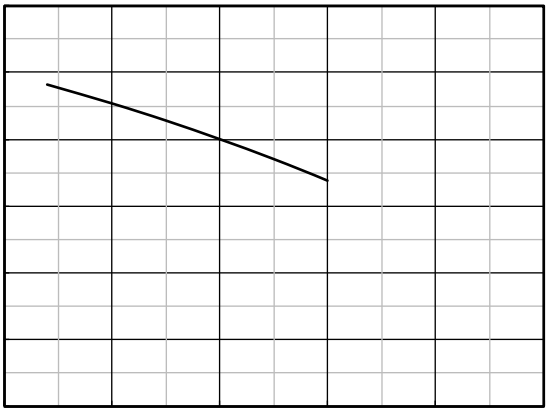


Figure 10. Normalized Threshold voltage

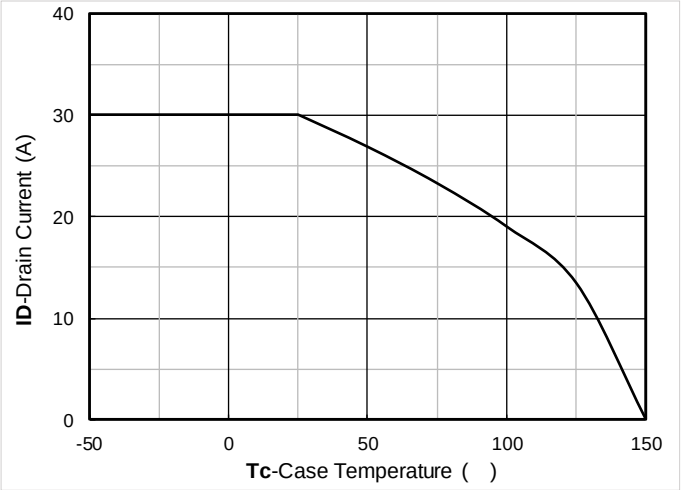


Figure 11. Current dissipation

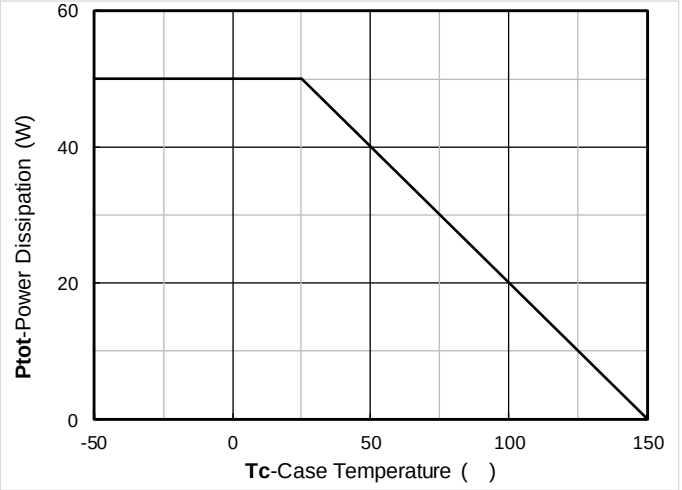


Figure 12. Power dissipation

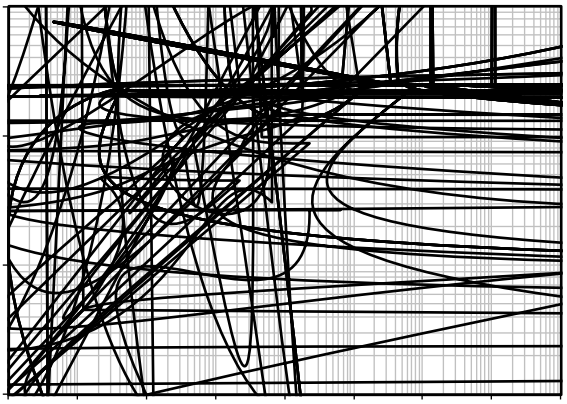


Figure 13. Maximum Transient Thermal Impedance

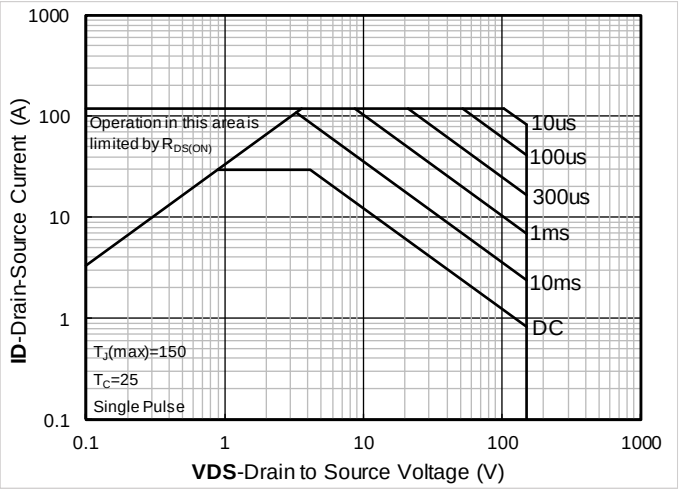


Figure 14. Safe Operation Area

Test Circuits & Waveforms

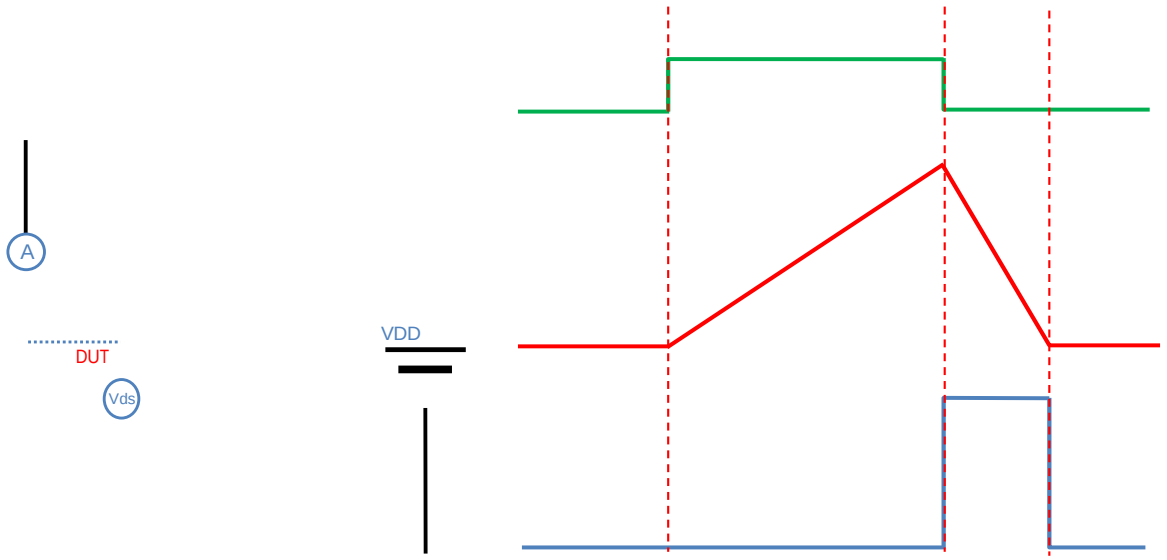


Figure A. Unclamped Inductive Switching (UIS) Test Circuit & Waveform

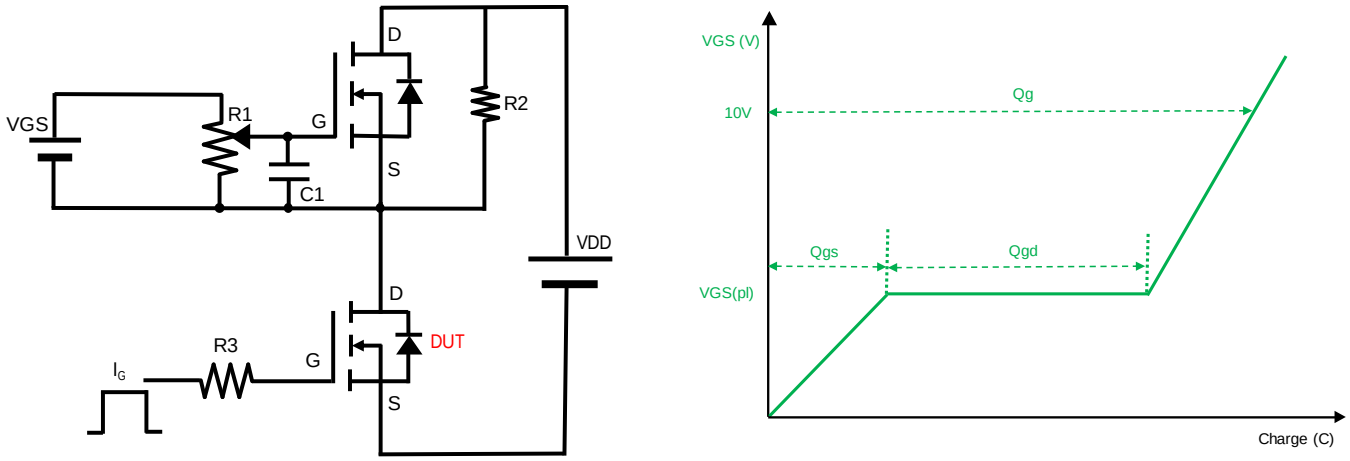


Figure B. Gate Charge Test Circuit & Waveform

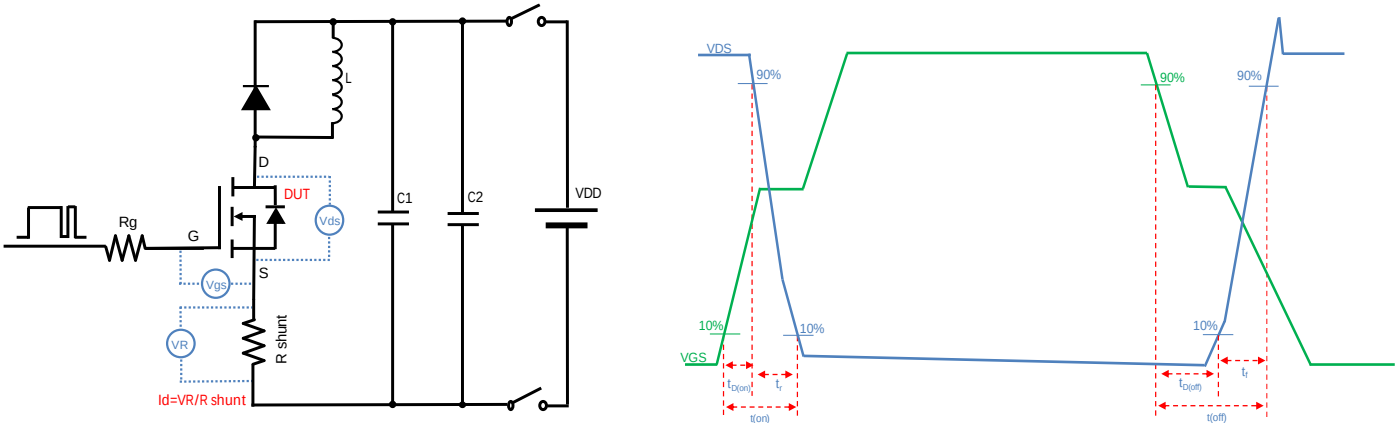


Figure C. Resistive Switching Test Circuit & Waveform

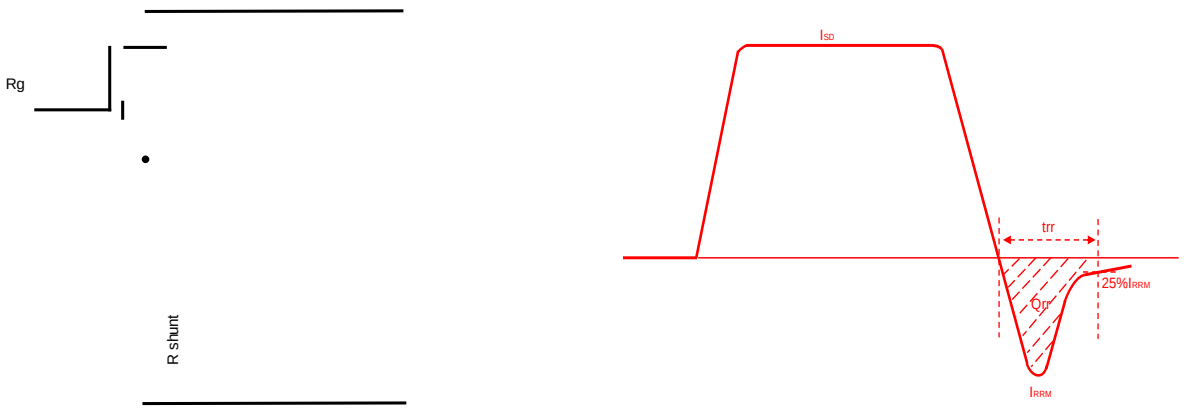
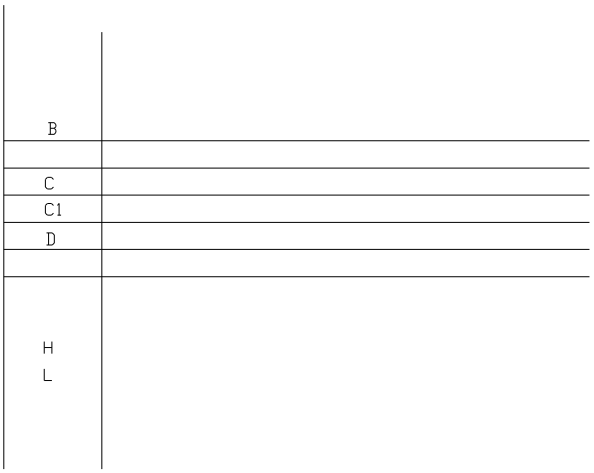


Figure D. Diode Recovery Test Circuit & Waveform

ITO-220AB-B Package information



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