N-Channel Enhancement Mode Field Effect Transistor

Product Summary

V_{DS}	650V
I_D	8A
$R_{DS(ON)}$(at V_{GS}=10V)	580m
100% EAS Tested	
100% V_{DS} Tested	

General Description

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	650	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=650V, V_{GS}=0V	-	-	1	
		V_{DS}=650V, V_{GS}=0V, Tj=150	-	-	100	
Gate-Body Leakage Current	I_{GSS}	V_{GS}= ±30V, V_{DS}=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D	2.8	3.3	3.8	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=4A	-	530	580	m
Diode Forward Voltage	V_{SD}	I_S=8A, V_{GS}=0V	-	-	1.2	V
Gate resistance	R_G	f=1MHz	-	15	-	
Maximum Body-Diode Continuous Current	I_S		-	-	8	A
Dynamic Parameters						
Input Capacitance	C_{iss}	V_{DS}=325V, V_{GS}=0V, f=1MHz	-	465	-	pF

■Typical Electrical and Thermal Characteristics Diagrams

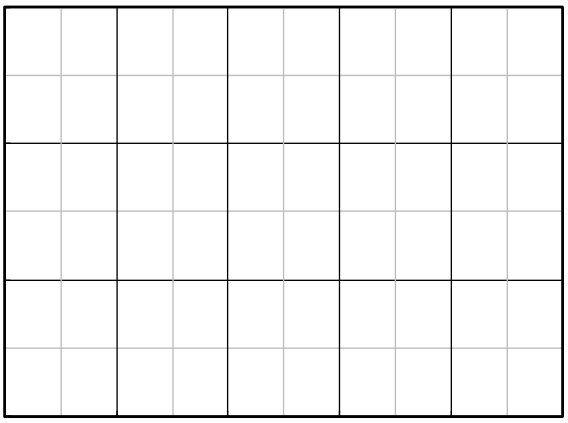

Figure 1. Output Characteristics

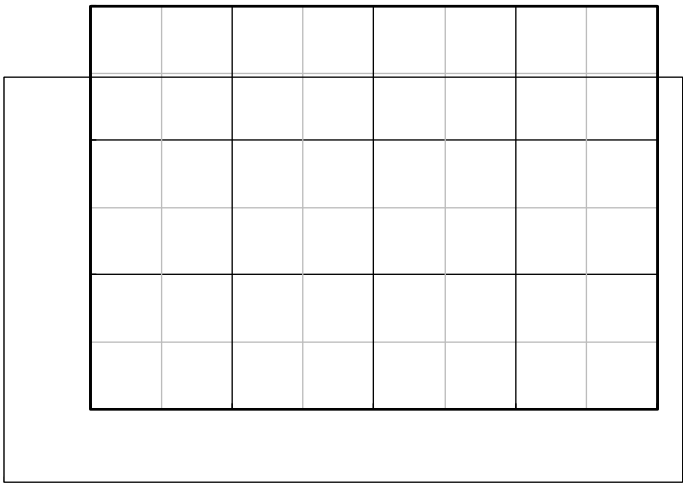

Figure 2. Transfer Characteristics

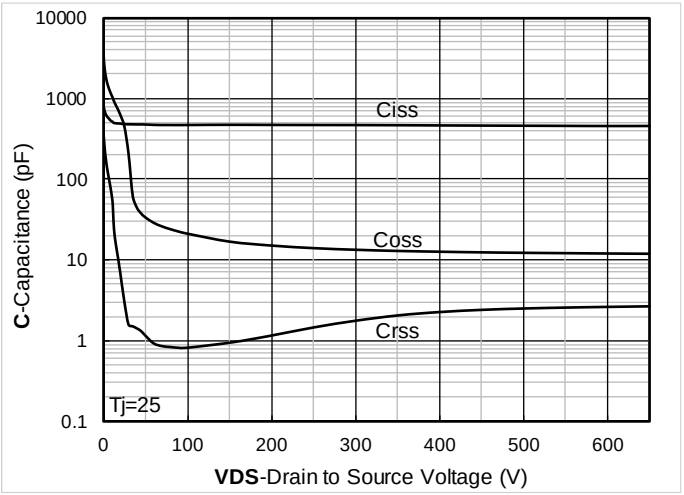

Figure 3. Capacitance Characteristics

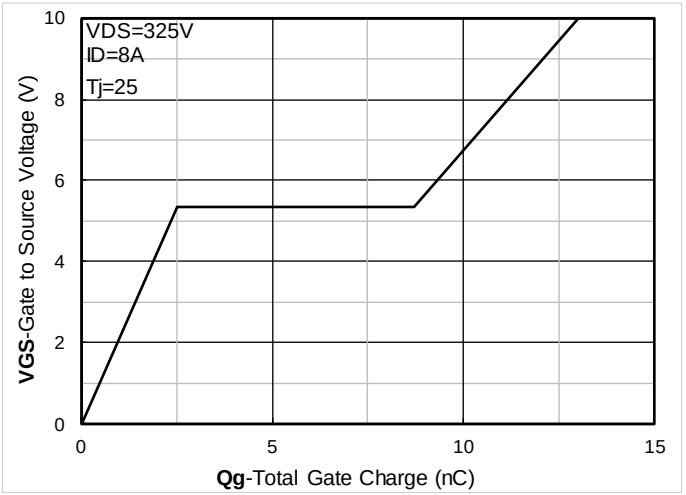

Figure 4. Gate Charge

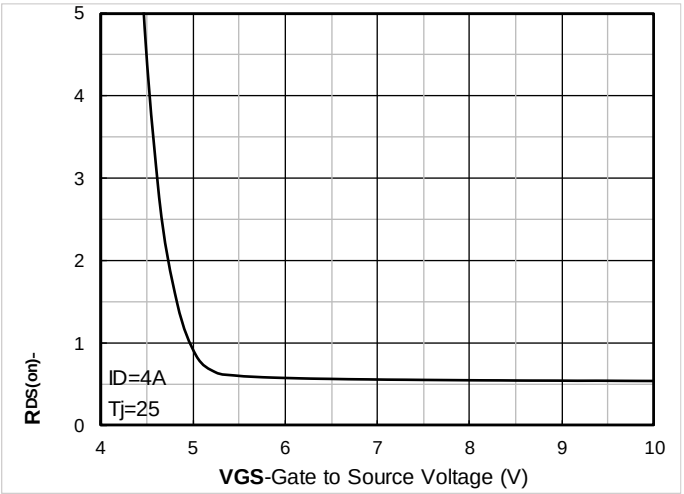

Figure 5. On-Resistance vs Gate to Source Voltage

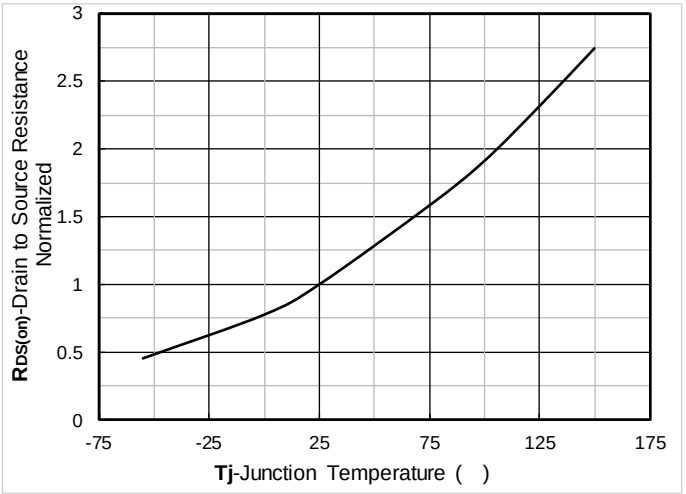

Figure 6. Normalized On-Resistance

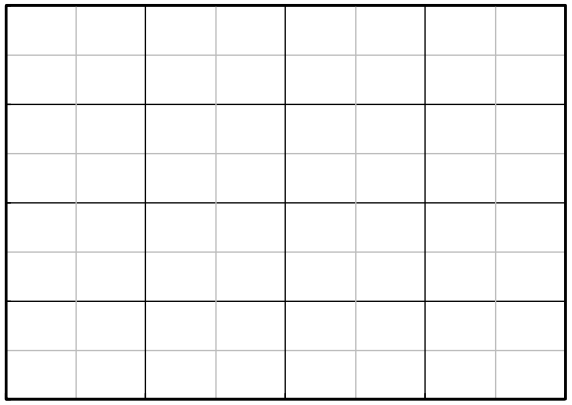

Figure 7. $R_{DS(on)}$ VS Drain Current

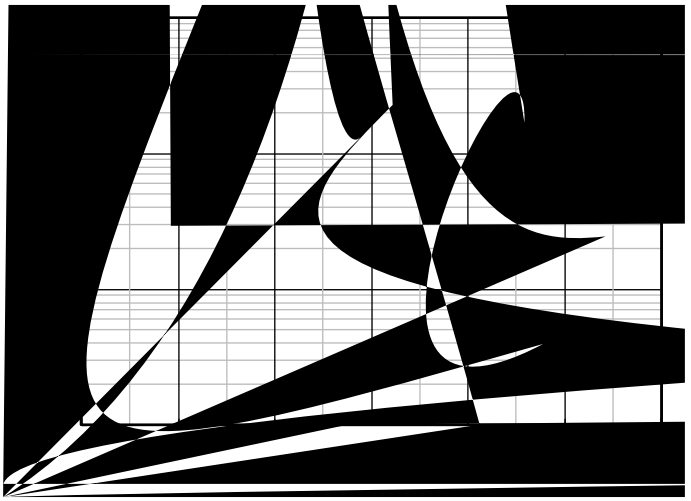

Figure 8. Forward characteristics of reverse diode

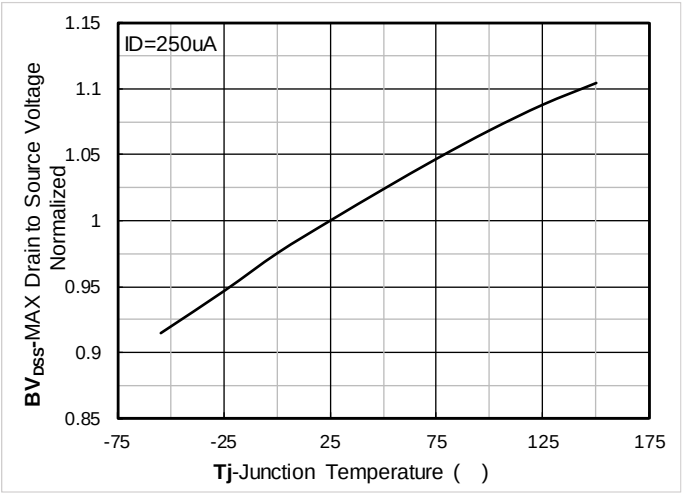

Figure 9. Normalized breakdown voltage

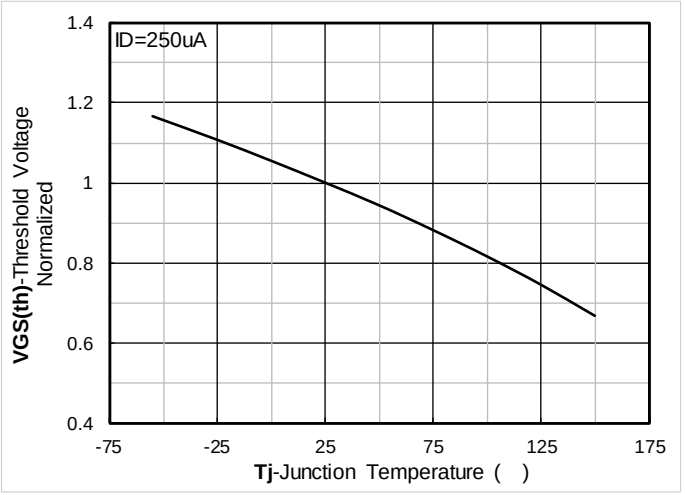

Figure 10. Normalized Threshold voltage

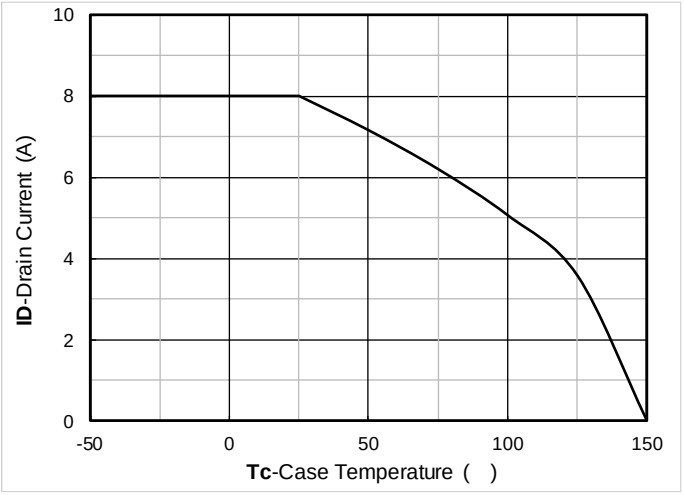

Figure 11. Current dissipation

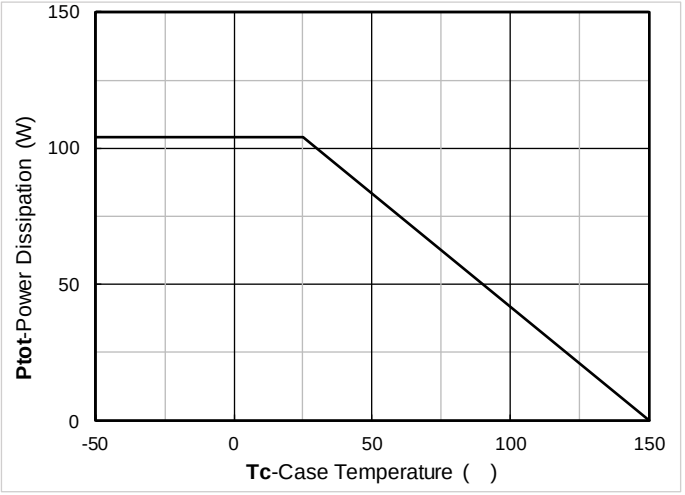

Figure 12. Power dissipation

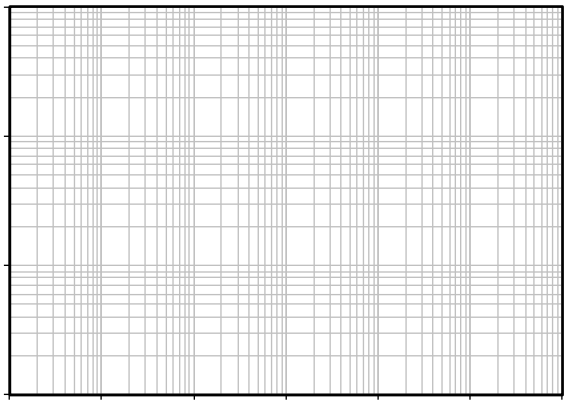

Figure 13. Maximum Transient Thermal Impedance

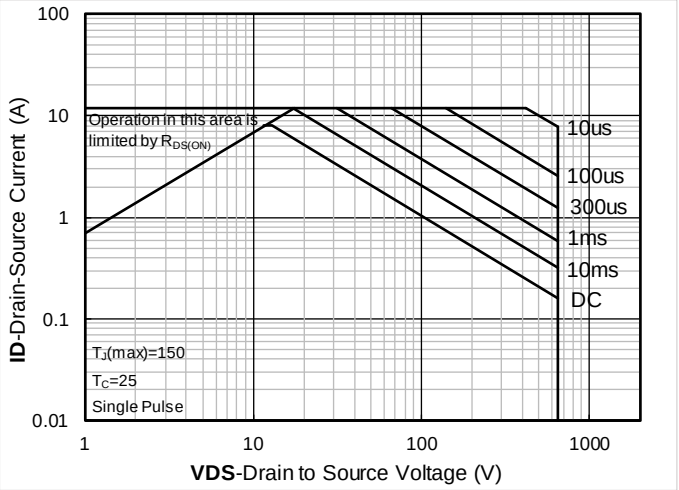

Figure 14. Safe Operation Area

Test Circuits

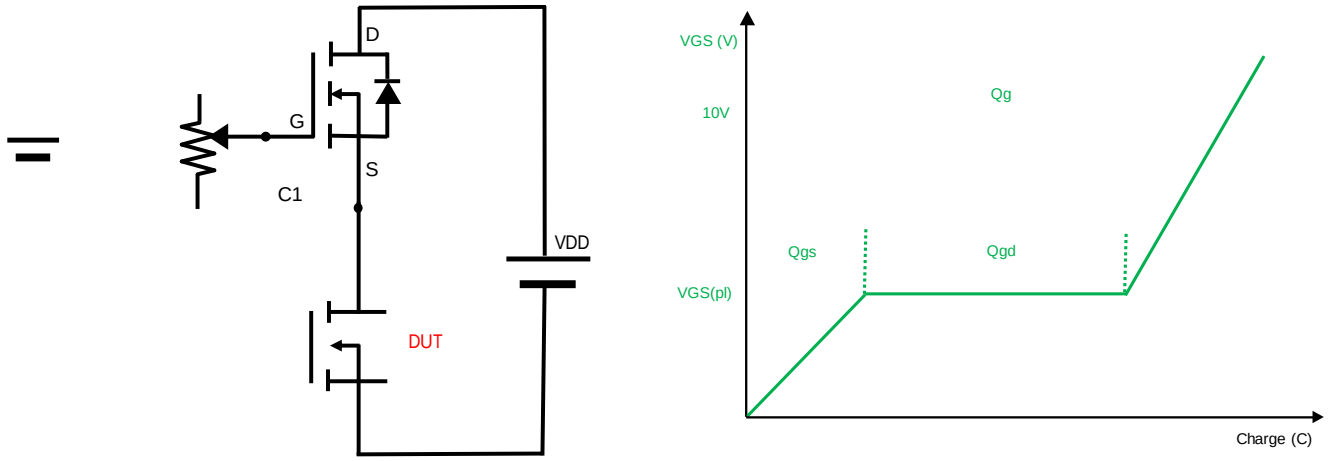

Figure B. Gate Charge Test Circuit & Waveform

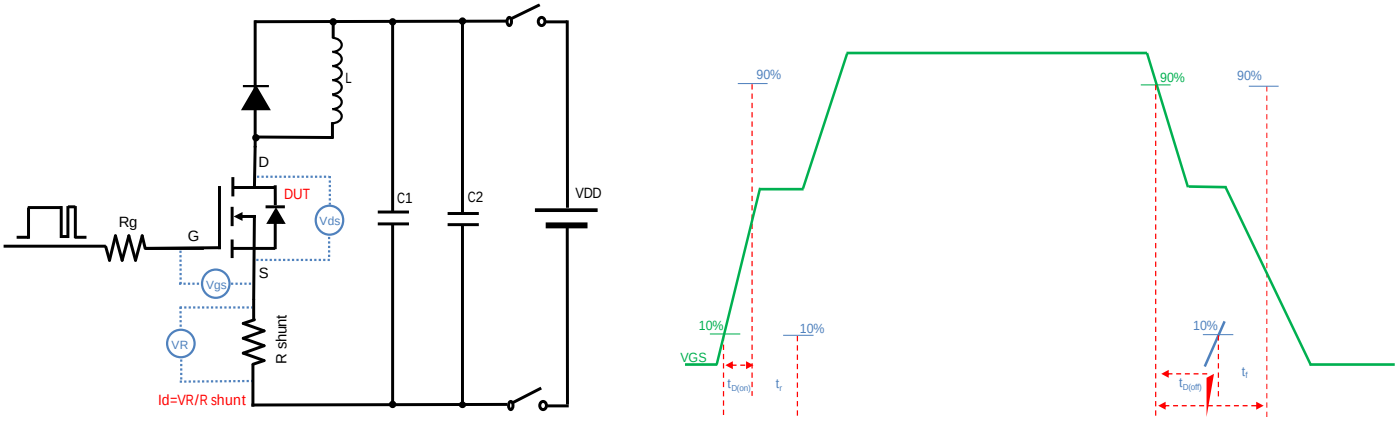

Figure C. Resistive Switching Test Circuit & Waveform

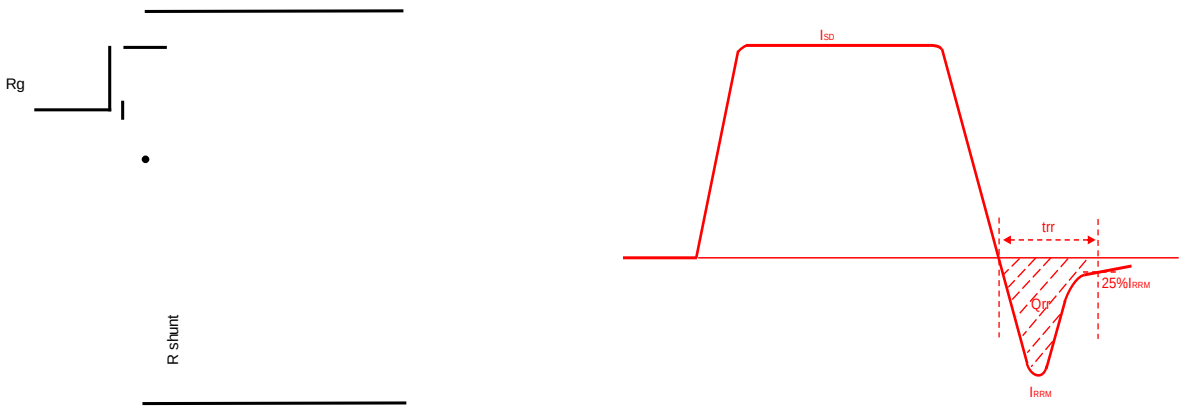

Figure D. Diode Recovery Test Circuit & Waveform

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