N-Channel Enhancement Mode Field Effect Transistor

Product Summary

V_{DS}	30V
I_D	5.6A
$R_{DS(ON)}$ (at V_{GS}=10V)	25mohm
$R_{DS(ON)}$ (at V_{GS}=4.5V)	

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=250	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V,V_{GS}=0V			1	
Gate-Body Leakage Current	I_{GSS1}	V_{GS}= 12V, V_{DS}=0V			100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=250	0.65	0.9	1.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=5.6A		20	25	m
		V_{GS}=4.5V, I_D=5A		23	31	
		V_{GS}=2.5V, I_D=3A		27	45	
Diode Forward Voltage	V_{SD}	I_S=5.6A,V_{GS}=0V			1.2	V
Dynamic Parameters						
Input Capacitance	C_{iss}	V_{DS}=15V,V_{GS}=0V,f=1MHZ		630		pF
Output Capacitance	C_{oss}			55		
Reverse Transfer Capacitance	C_{rss}			71		
Switching Parameters						
Total Gate Charge	Q_g					

V

Typical Performance Characteristics

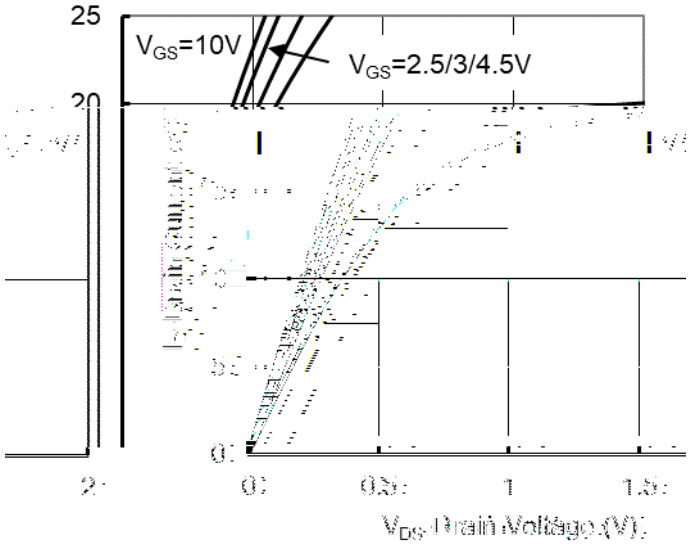


Figure1. Output Characteristics

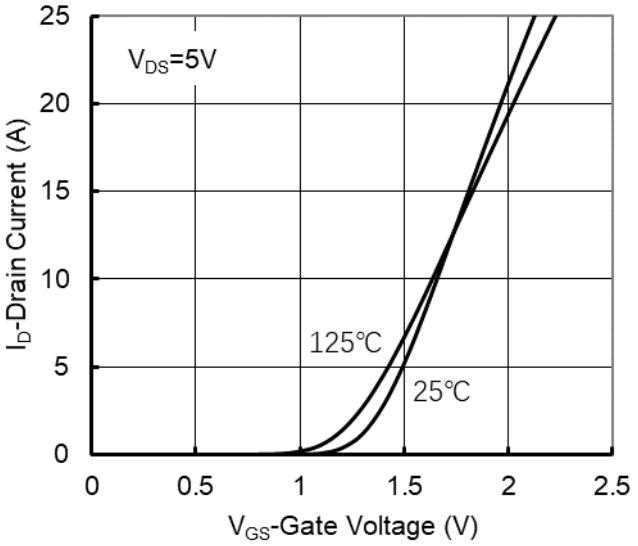


Figure2. Transfer Characteristics

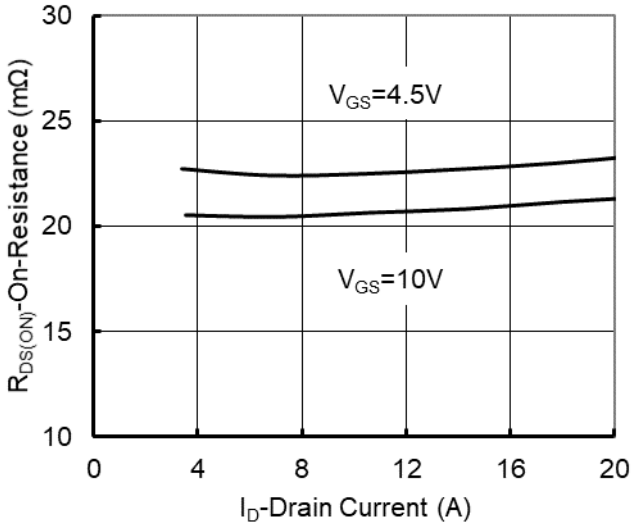


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

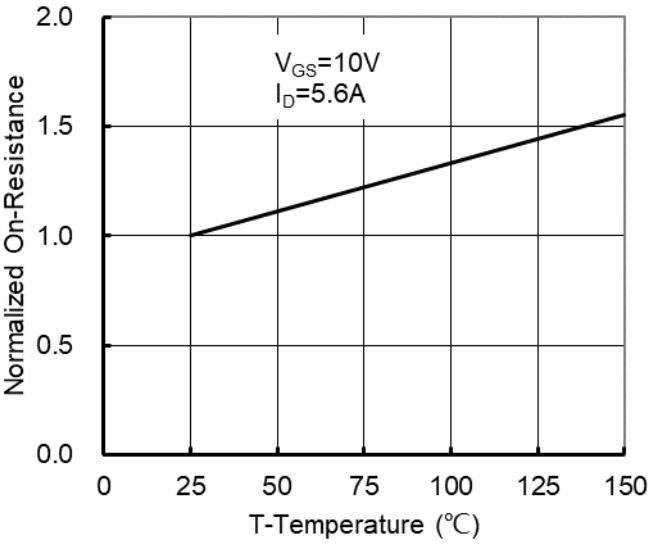


Figure 4: On-Resistance vs. Junction Temperature

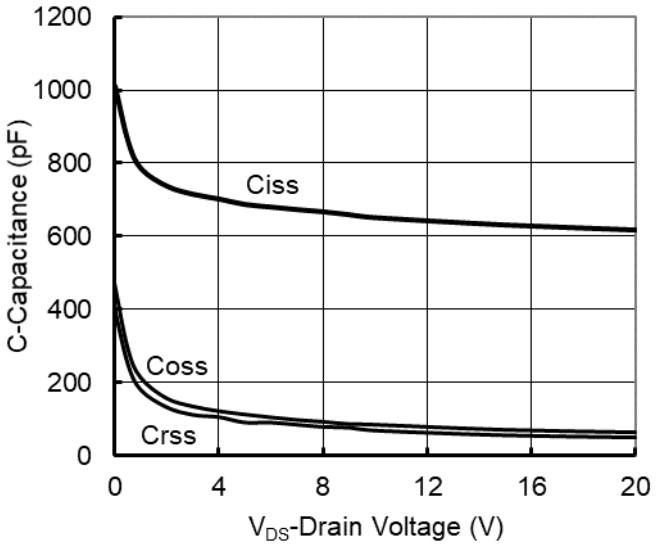


Figure5. Capacitance Characteristics

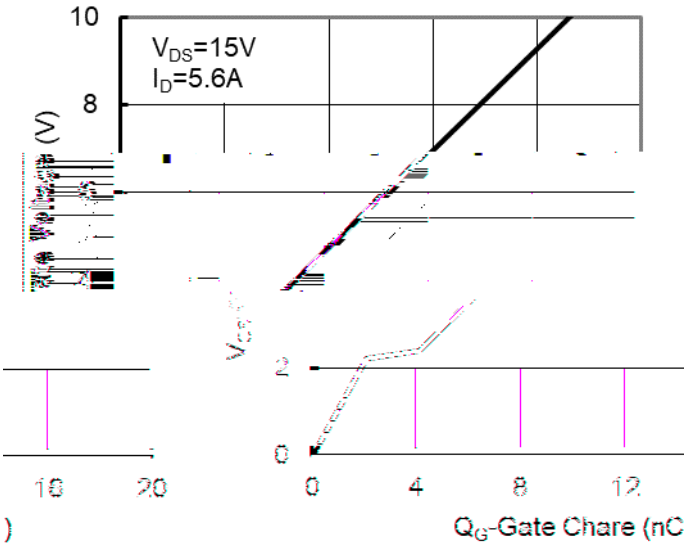


Figure6. Gate Charge

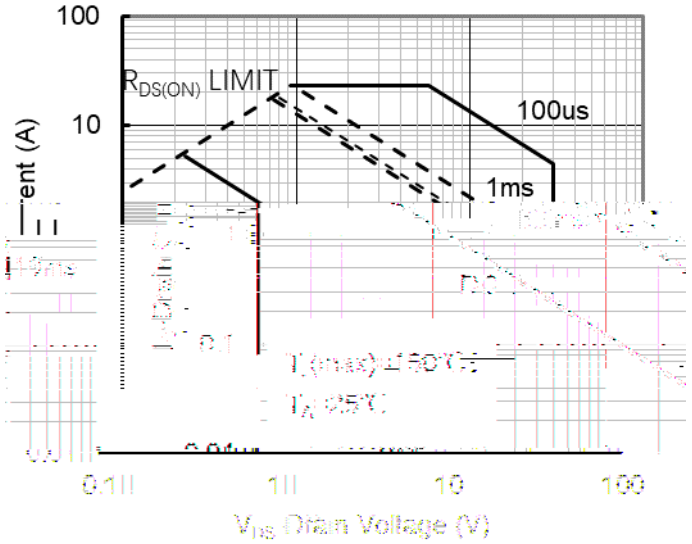


Figure7. Safe Operation Area

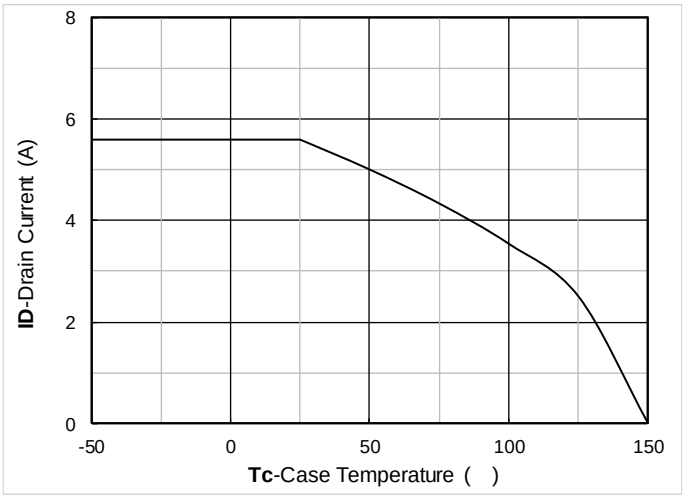
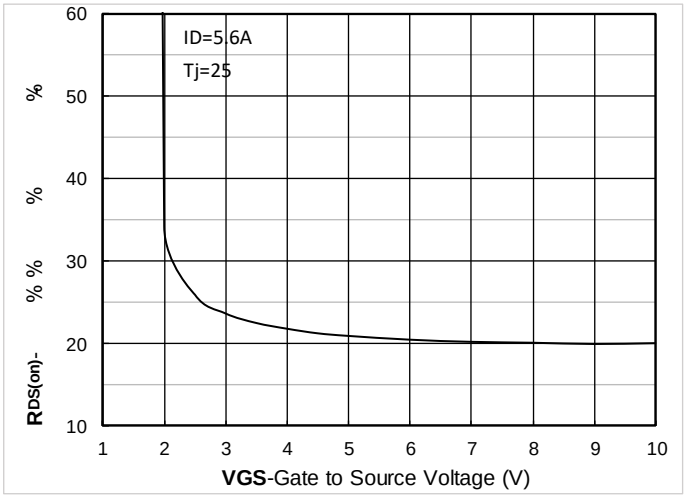


Figure8. Current dissipation



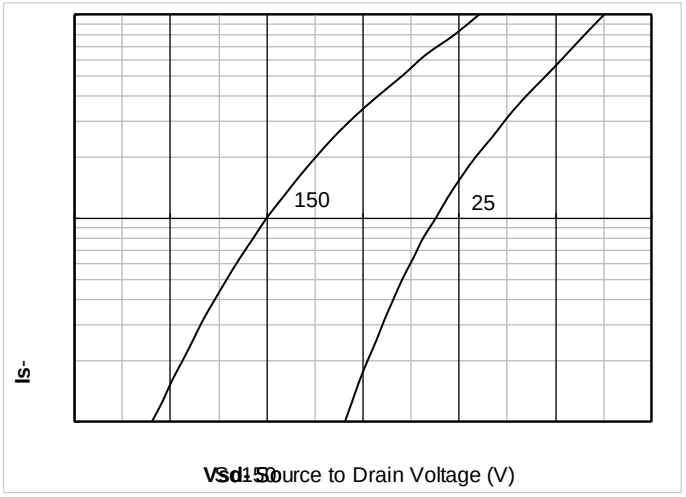


Figure 9. On-Resistance vs Gate to Source Voltage

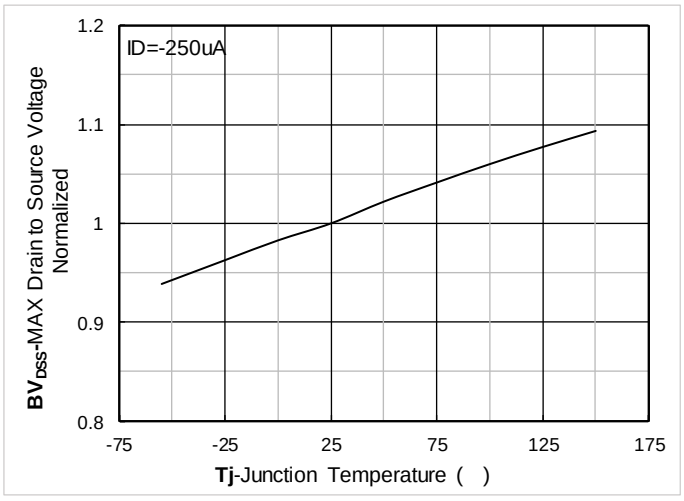


Figure 11. Normalized breakdown voltage

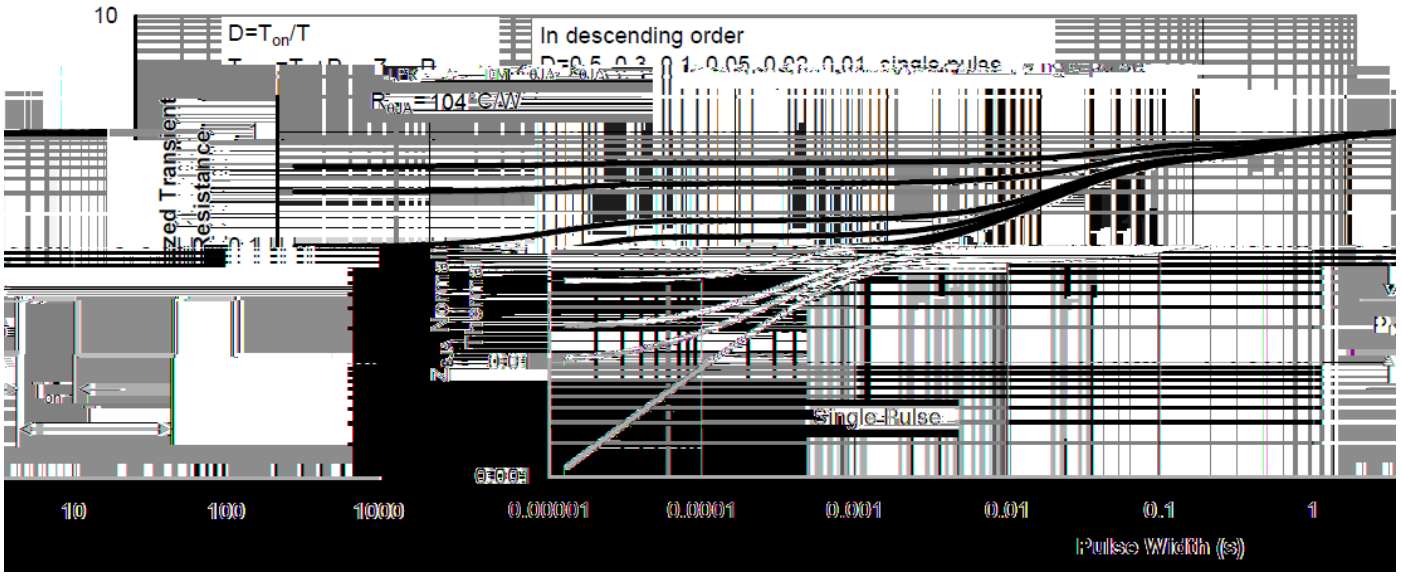
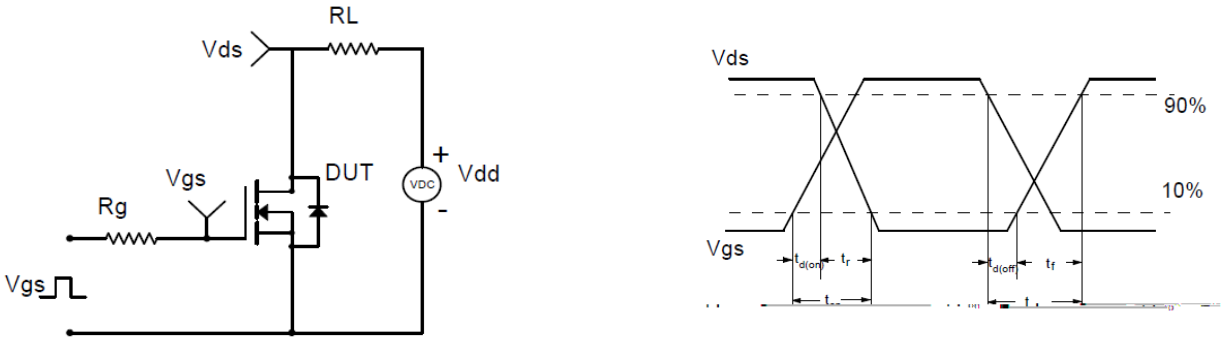
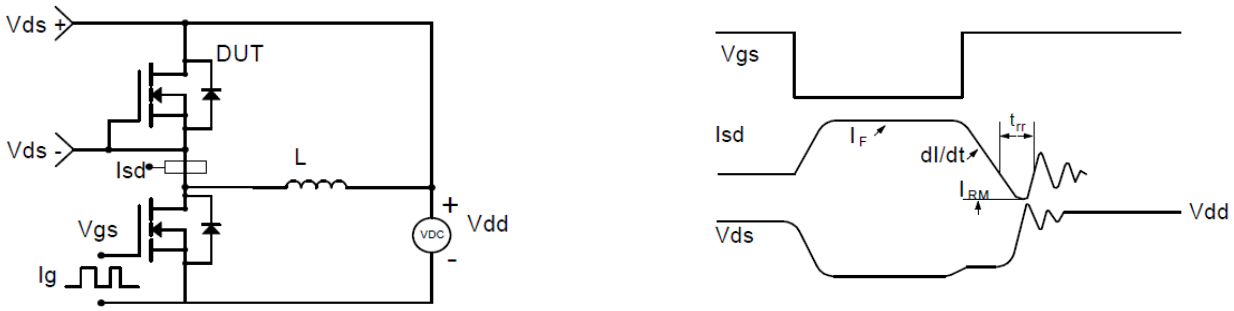


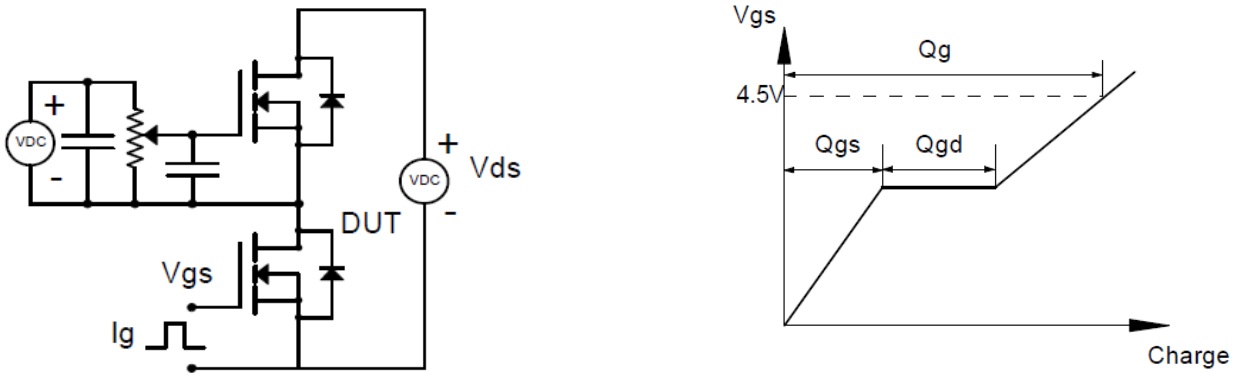
Figure13. Normalized Maximum Transient Thermal Impedance



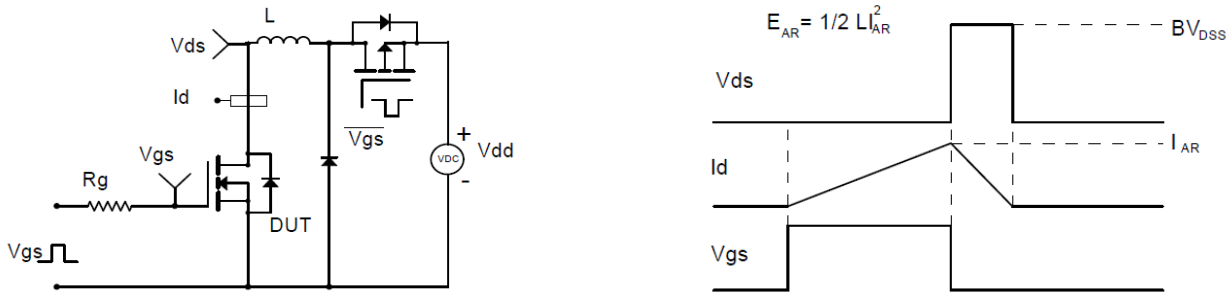
Resistive Switching Test Circuit & Waveforms



Diode Recovery Test Circuit & Waveforms

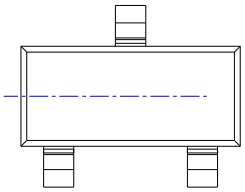


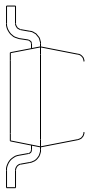
Gate Charge Test Circuit & Waveform

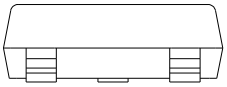


Unclamped Inductive Switching (UIS) Test Circuit & Waveforms

SOT-23 Package information







UNIT mm

NOTE:
1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2.TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3.THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

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