N-Channel and N-Channel Complementary MOSFET

Product Summary

● V_{DS}	50V
● I_D	300mA
● $R_{DS(ON)}$(at V_{GS}=10V)	1100mΩ
● $R_{DS(ON)}$(at V_{GS}=4.5V)	1200mΩ

General Description

- Trench Power MV MOSFET technology
- Voltage controlled small signal switch
- Low input Capacitance
- Fast Switching Speed
- Low Input / Output Leakage
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

Applications

- Battery operated systems
- Solid-state relays
- Direct logic-level interface TTL/CMOS

■ Absolute Maximum Ratings (T_A=25 unless otherwise noted)

Parameter	

■ 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=250μA	50	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=50V, V_{GS}=0V	-	-	1	μA
		V_{DS}=50V, 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=250μA	0.8	1.2	1.6	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=300mA	-	640		

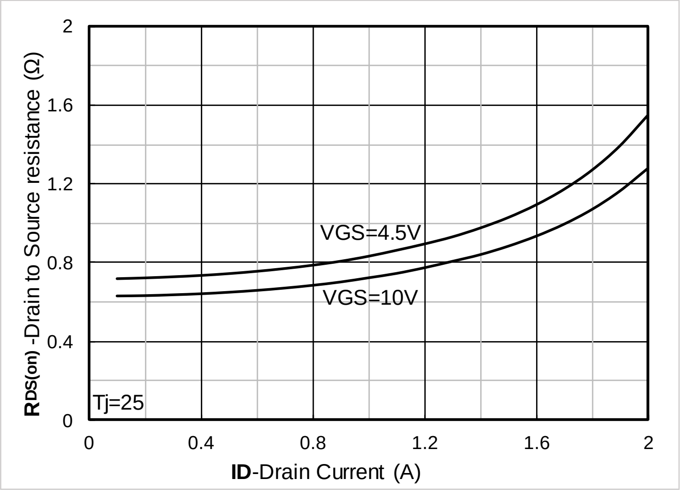

Figure 7. RDS(on) VS Drain Current

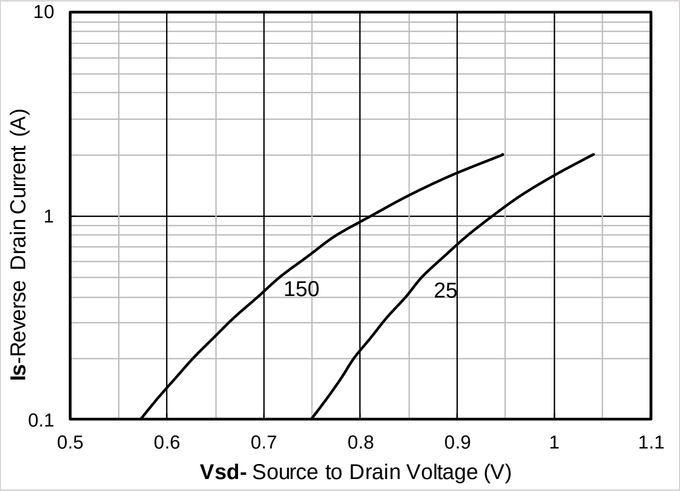

Figure 8. Forward characteristics of reverse diode

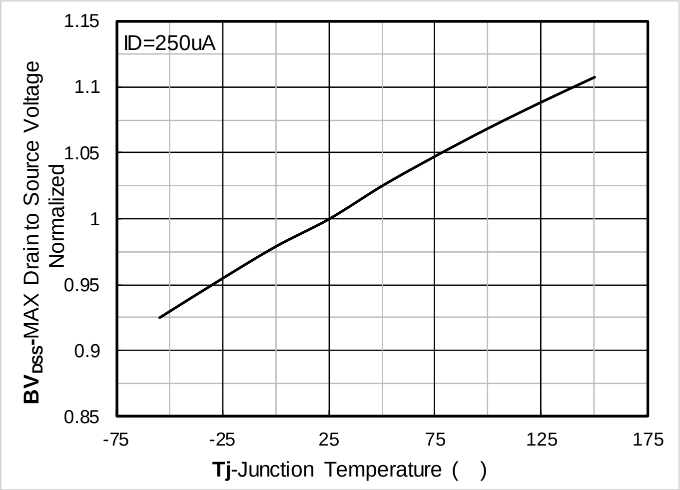

Figure 9. Normalized breakdown voltage

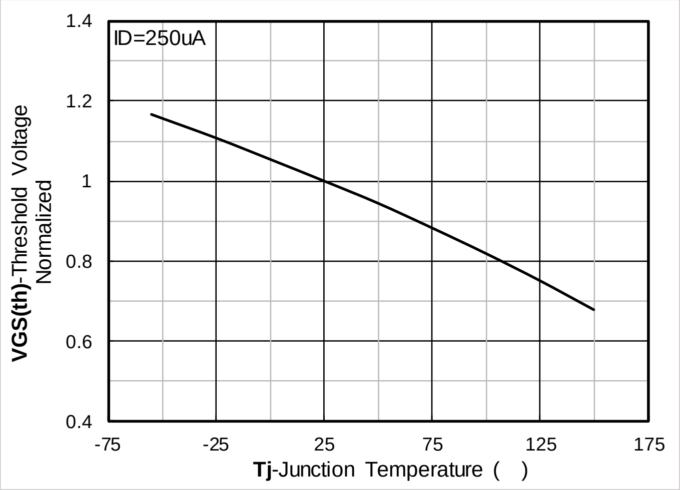

Figure 10. Normalized Threshold voltage

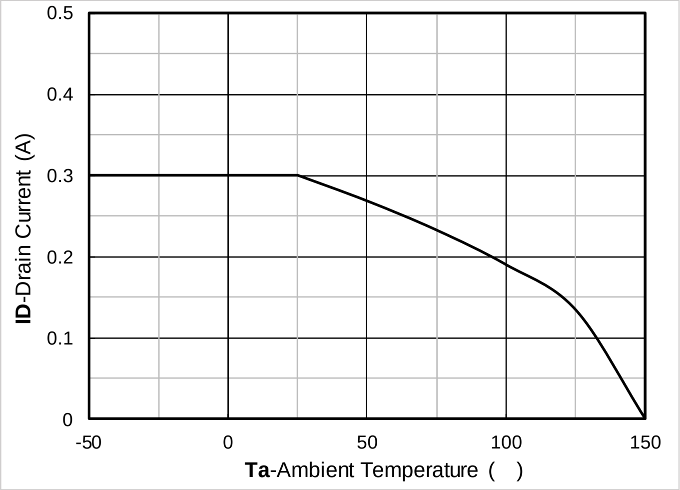

Figure 11. Current dissipation

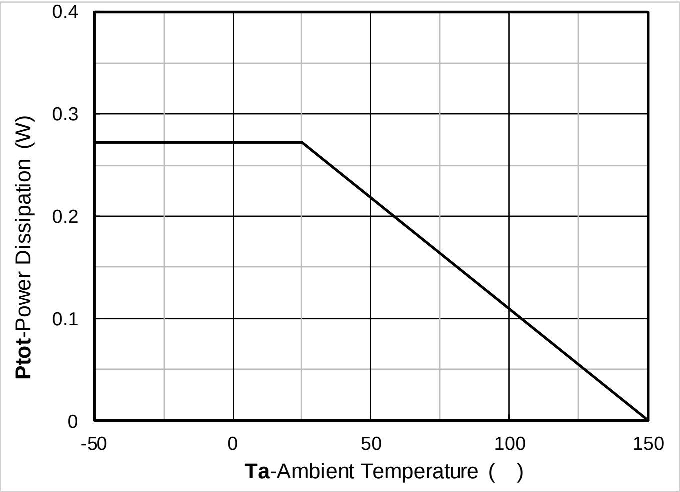

Figure 12. Power dissipation

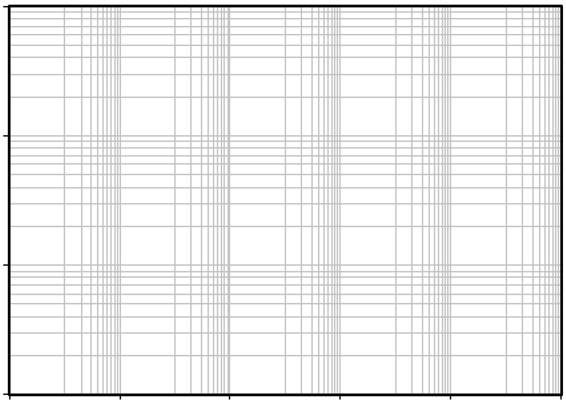

Figure 13. Maximum Transient Thermal Impedance

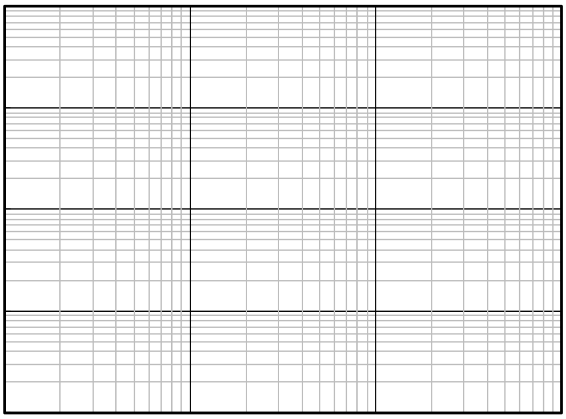

Figure 14. Safe Operation Area

■ Test Circuits & Waveforms

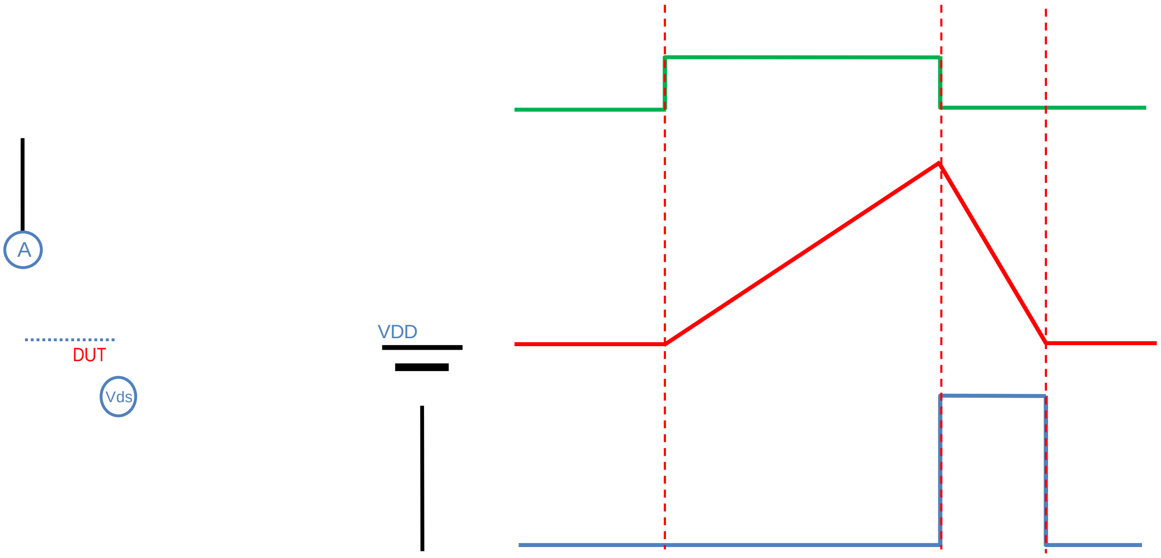

Figure A. Unclamped Inductive Switching (UIS) Test Circuit & Waveform

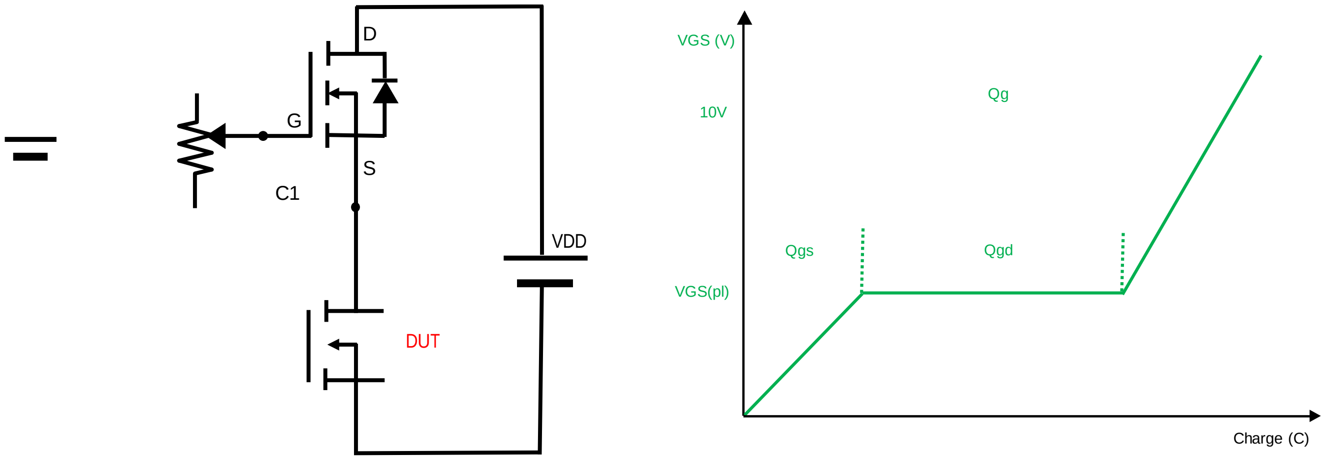

Figure B. Gate Charge Test Circuit & Waveform

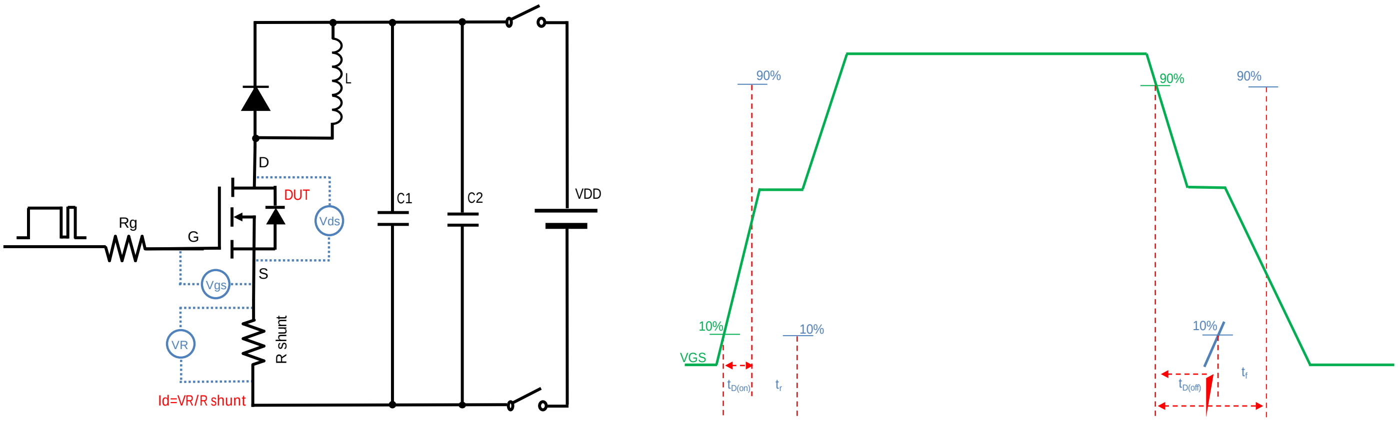

Figure C. Resistive Switching Test Circuit & Waveform

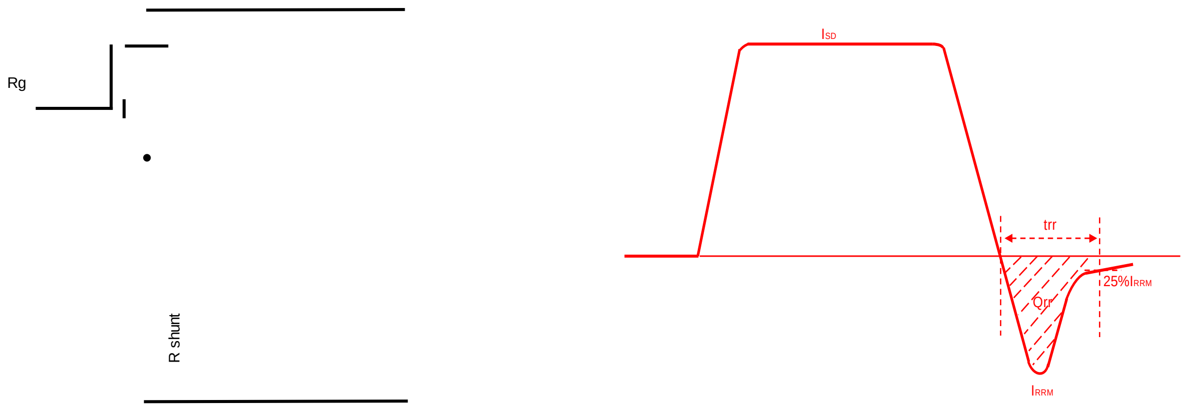

Figure D. Diode Recovery Test Circuit & Waveform