N-Channel Enhancement Mode Field Effect Transistor

Product Summary

- V_{DS} 60V
- I_D 3A
- $R_{DS(ON)}$(at V_{GS}=10V) 85mΩ
- $R_{DS(ON)}$(at V_{GS}=4.5V) 95mΩ

General Description

- Trench Power LV MOSFET technology
- High Speed switching
- Halogen Free
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

Applications

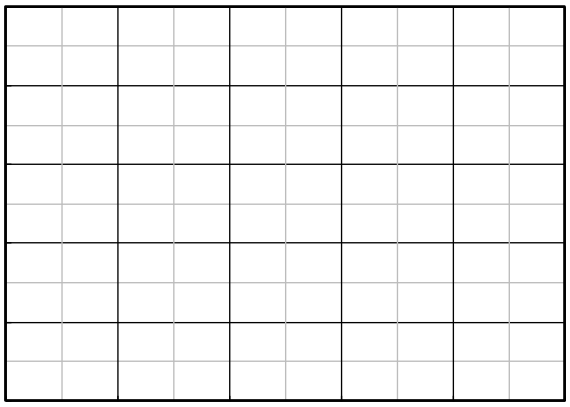
- Power switching application
- PWM application

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

Parameter		Symbol	Limit	Unit
Drain-source Voltage		V_{DS}	60	V
Gate-source Voltage		V_{GS}	±20	V
Drain Current	T_A=25	I_D	3	A
	T_A=100		1.9	
Pulsed Drain Current [A]		I_{DM}	18	A
Total Power Dissipation [B]	T_A=25	P_D	1.2	W
	T_A=100			

■ 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	60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V, V_{GS}=0V	-	-	1	μA
		V_{DS}=60V, 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	0.9	1.35	2	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=3A	-	62	85	mΩ
		V_{GS}=4.5V, I_D=3A	-	70	95	
Diode Forward Voltage	V_{SD}	I_S=3A, V_{GS}=0V	-	0.85	1.2	V
Gate resistance	R					



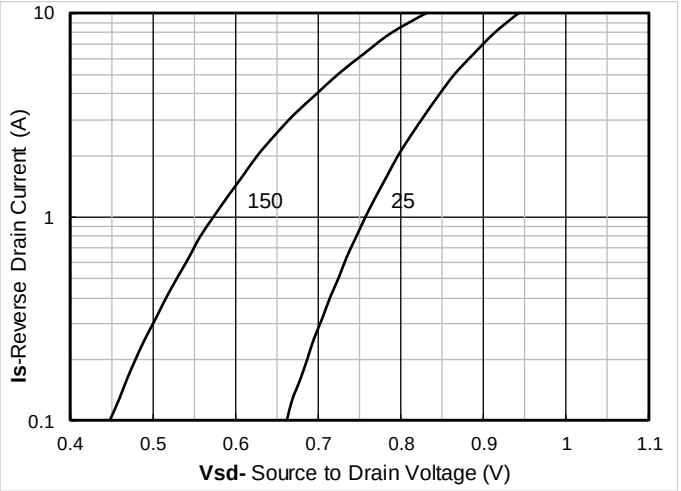


Figure 7. $R_{DS(on)}$

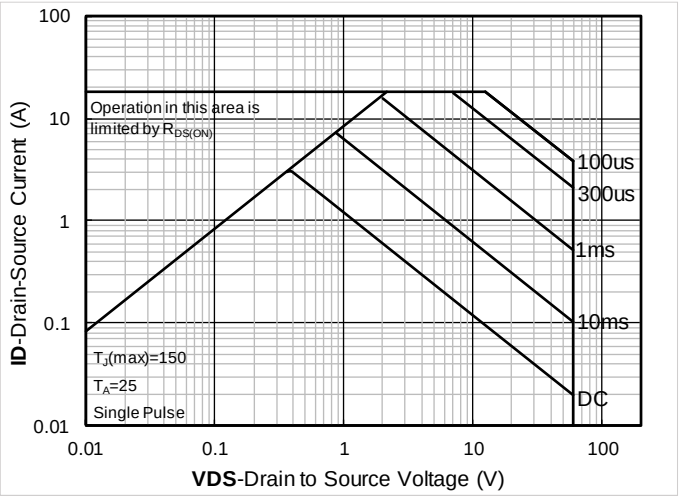


Figure 13. Maximum Transient Thermal Impedance

Figure 14. Safe Operation Area

■ Test Circuits & Waveforms

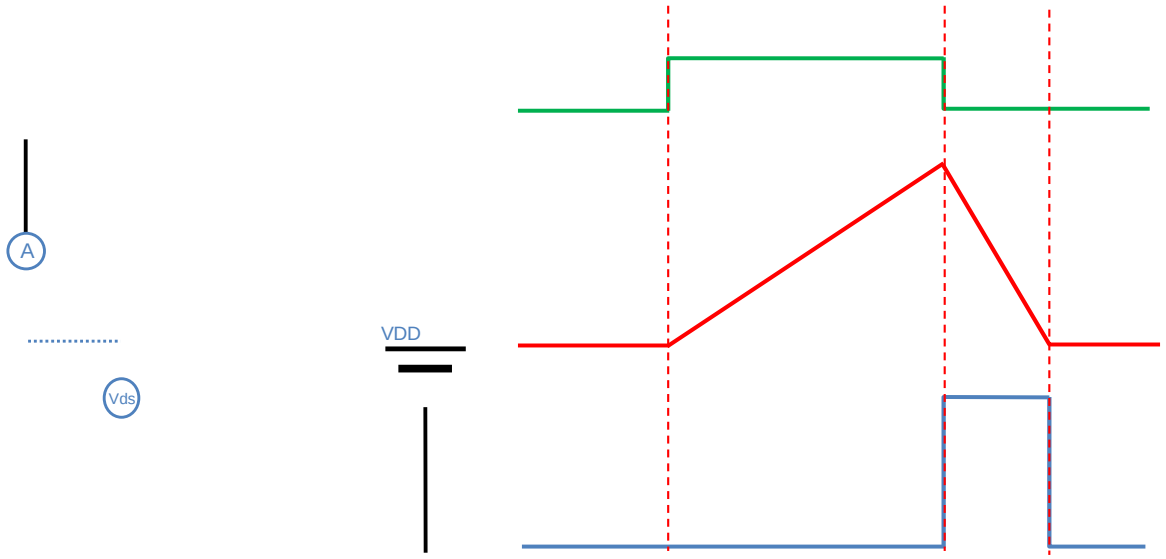


Figure A. Unclamped Inductive Switching (UIS) Test Circuit & Waveform

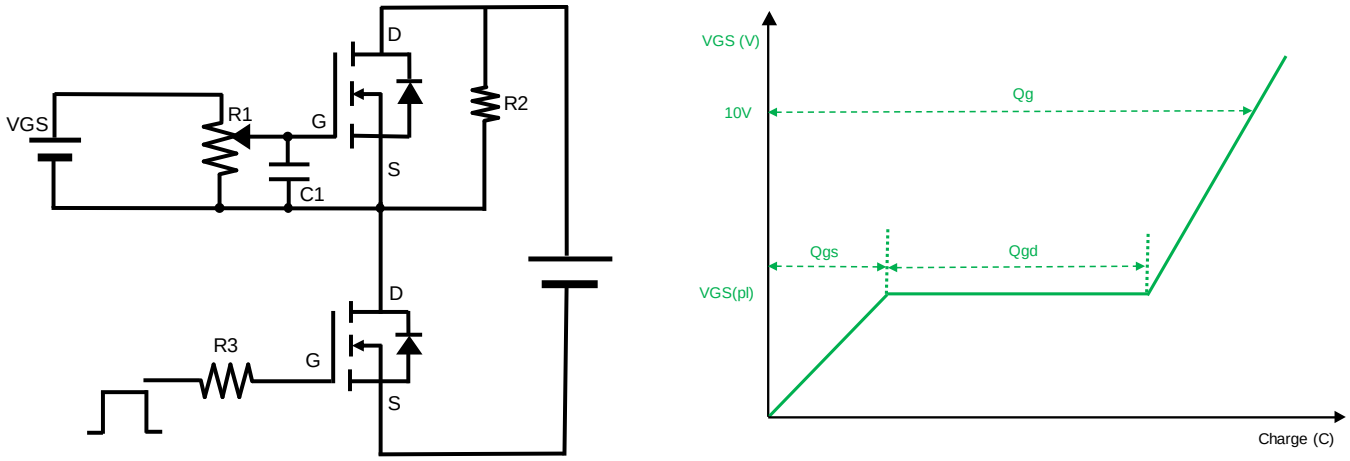


Figure B. Gate Charge Test Circuit & Waveform

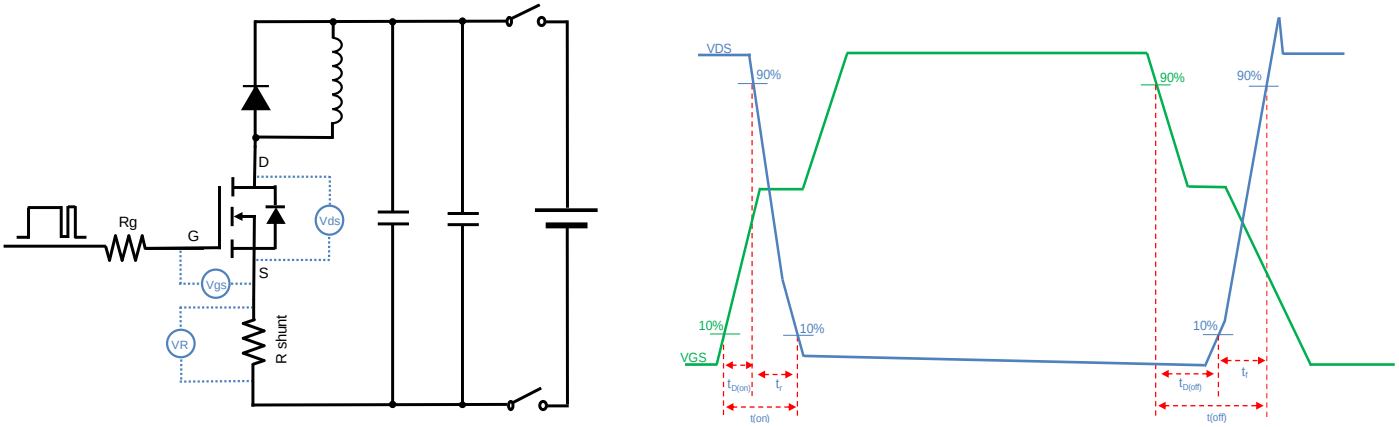


Figure C. Resistive Switching Test Circuit & Waveform

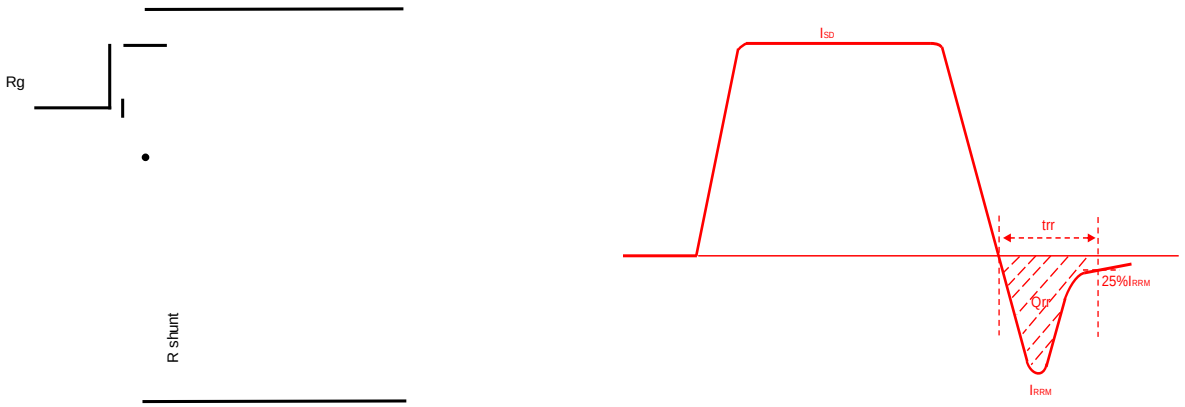
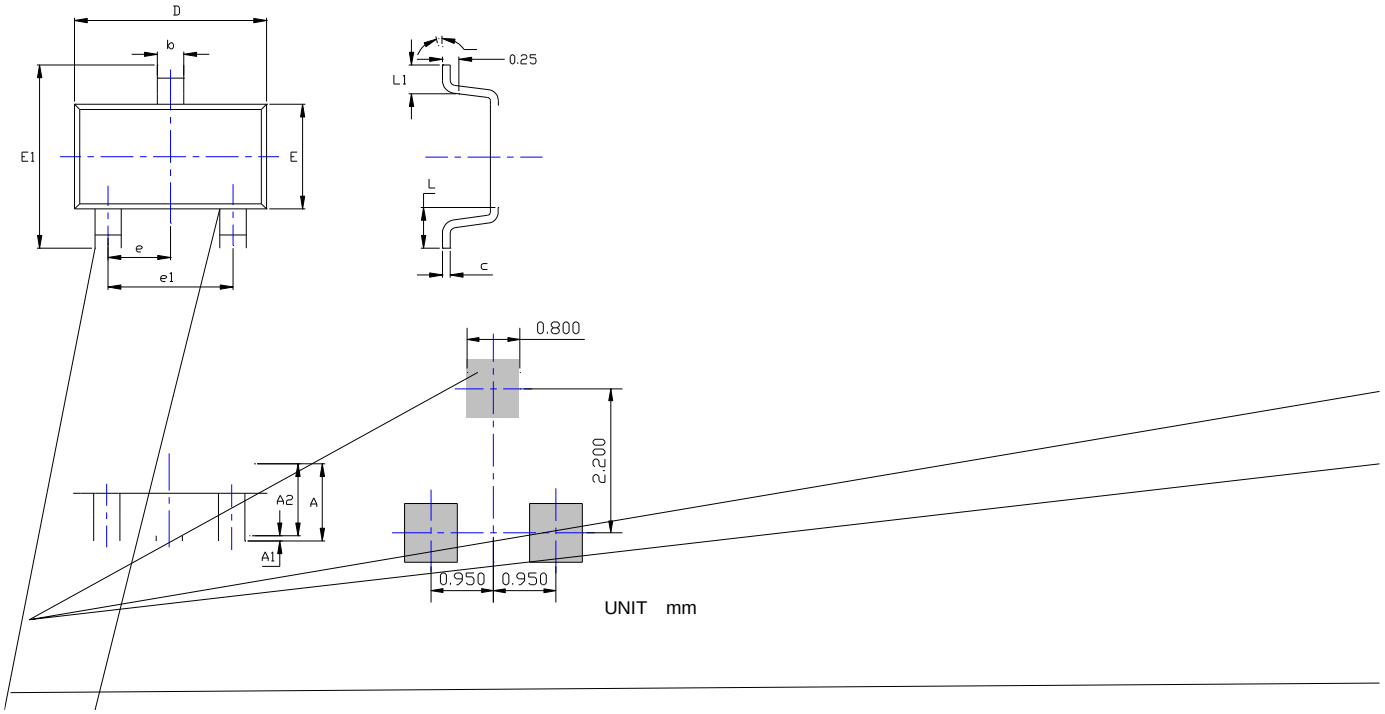


Figure D. Diode Recovery Test Circuit & Waveform

■ SOT-23-3L Package information



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