



N-Channel Enhancement Mode Field Effect Transistor

Product Summary

V_{DS}	30V
I_D	1.1A
$R_{DS(ON)}$ (at $V_{GS}=10V$)	450m
$R_{DS(ON)}$ (at $V_{GS}=4.5V$)	550m
$R_{DS(ON)}$ (at $V_{GS}=2.5V$)	850m

General Description

Trench Power LV MOSFET technology
Excellent package for heat dissipation
High density cell design for low $R_{DS(ON)}$
Moisture Sensitivity Level 1
Epoxy Meets UL 94 V-0 Flammability Rating
Halogen Free

Applications

Power switching application
Uninterruptible power supply
DC-DC convertor

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

Parameter	Symbol	Limit	Unit
Drain-source Voltage	V_{DS}	30	V
Gate-source Voltage	V_{GS}	± 12	V

Trent Tf1 0 0 1 344.35 434.1W* nq

Drain Current



Electrical Characteristics ($T_J=25$ unless otherwise noted)

Parameter	Symbol	
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Typical Electrical and Thermal Characteristics Diagrams

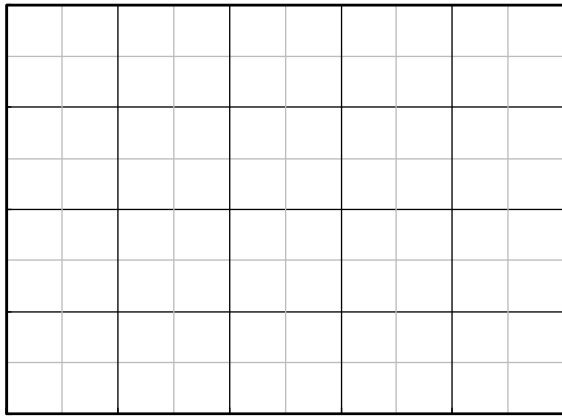


Figure 1. Output Characteristics

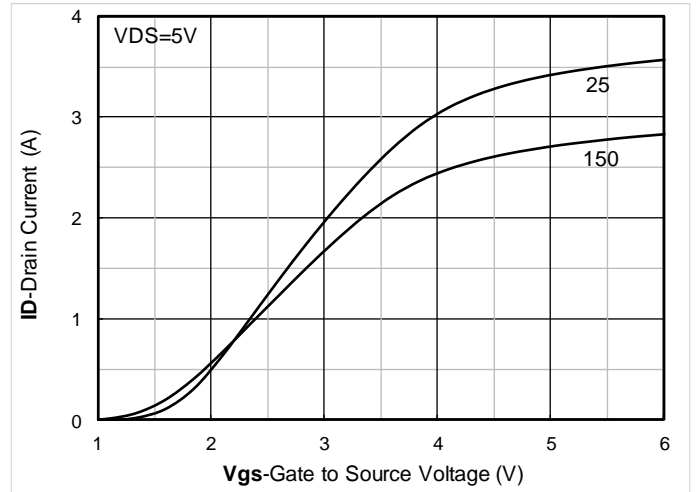


Figure 2. Transfer Characteristics

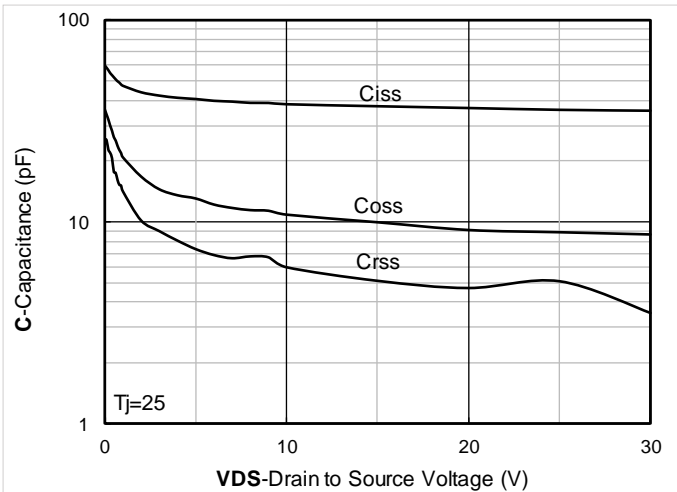


Figure 3. Capacitance Characteristics

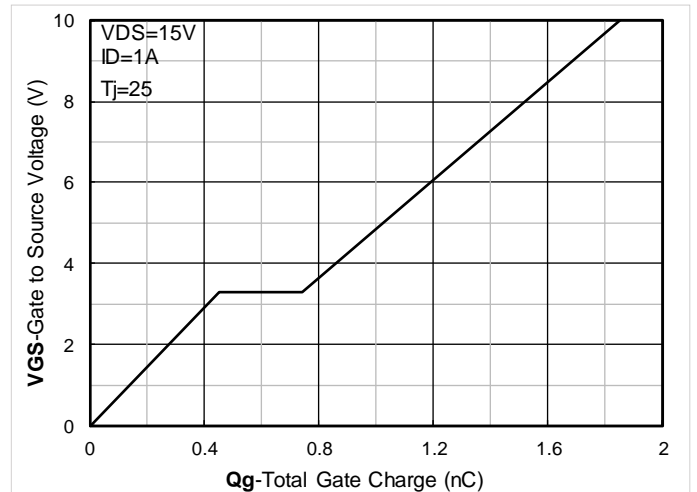


Figure 4. Gate Charge

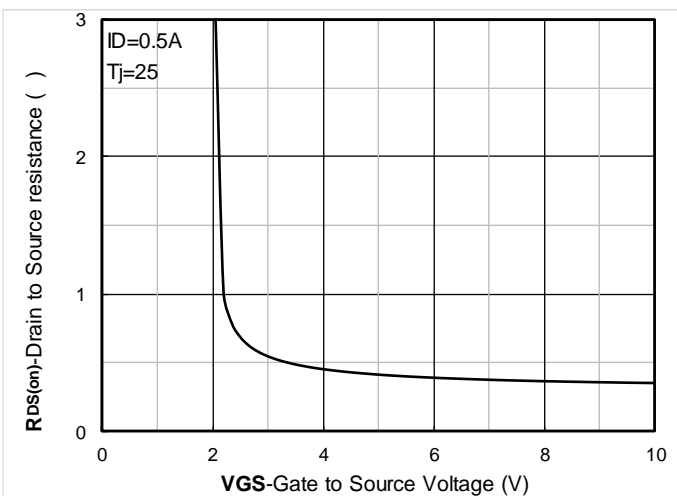


Figure 5. On-Resistance vs Gate to Source Voltage

Figure 6. Normalized On-Resistance

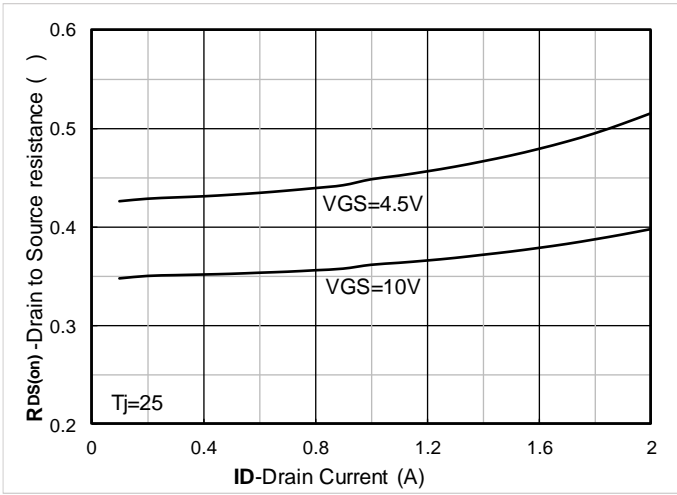


Figure 7. RDS(on) VS Drain Current

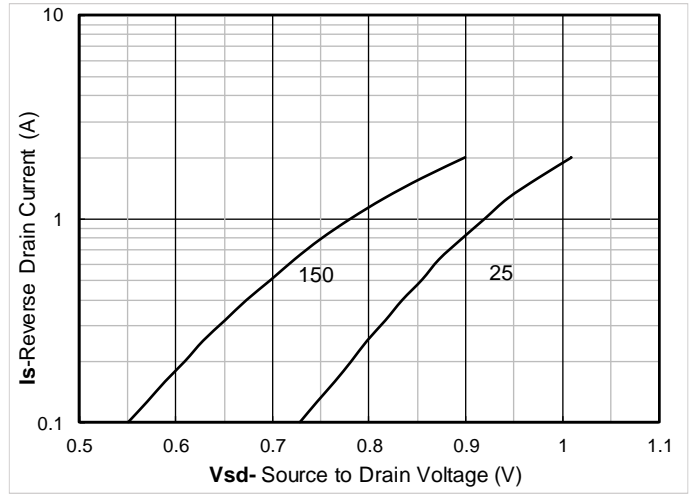


Figure 8. Forward characteristics of reverse diode

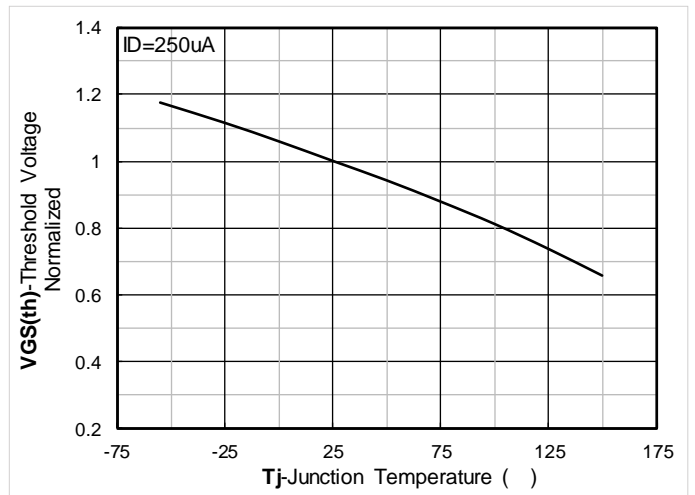


Figure 9. Normalized breakdown voltage

Figure 10. Normalized Threshold voltage

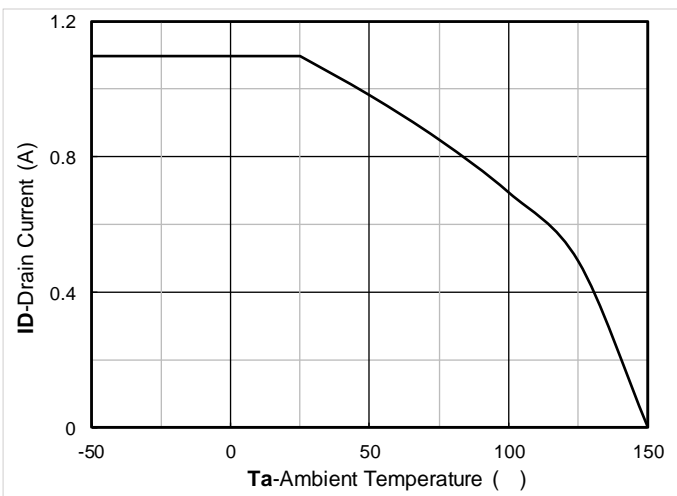


Figure 11. Current dissipation

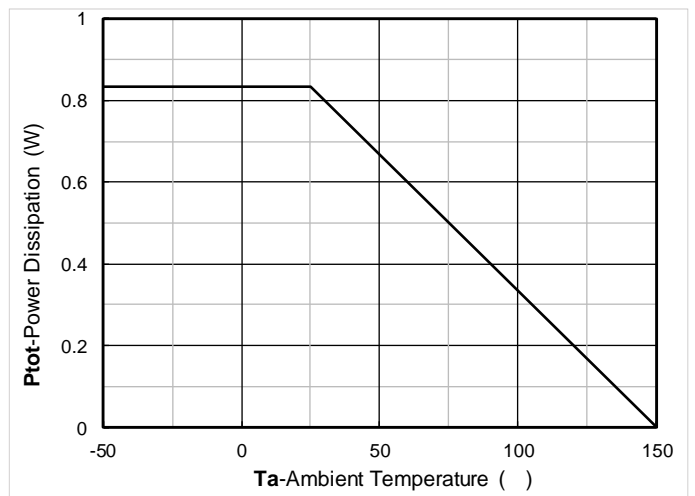


Figure 12. Power dissipation

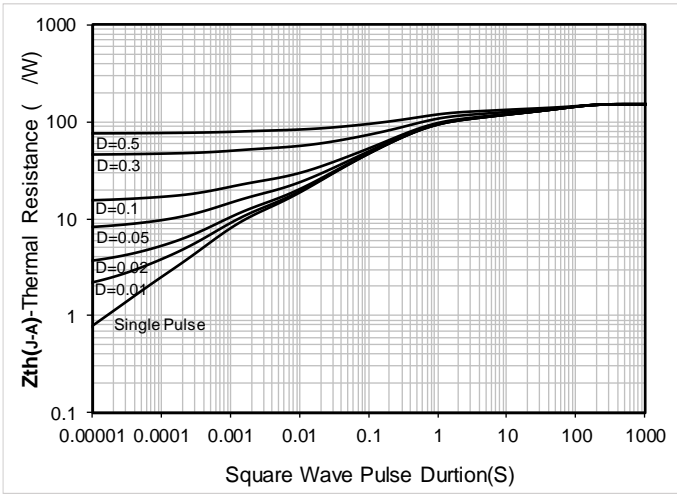


Figure 13. Maximum Transient Thermal Impedance

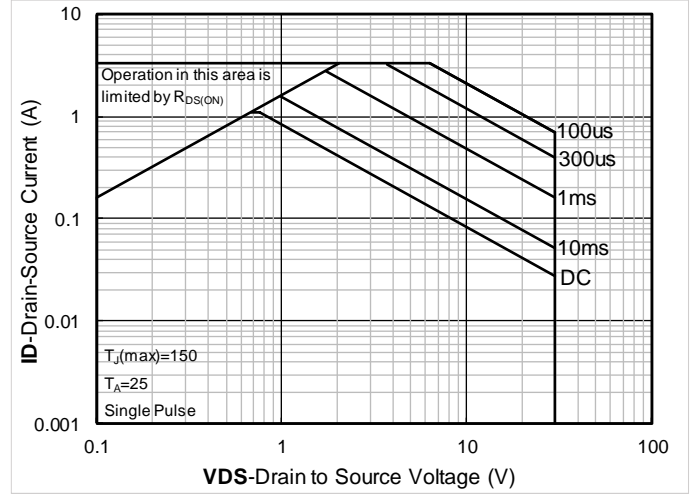


Figure 14. Safe Operation Area

Test Circuits & Waveforms

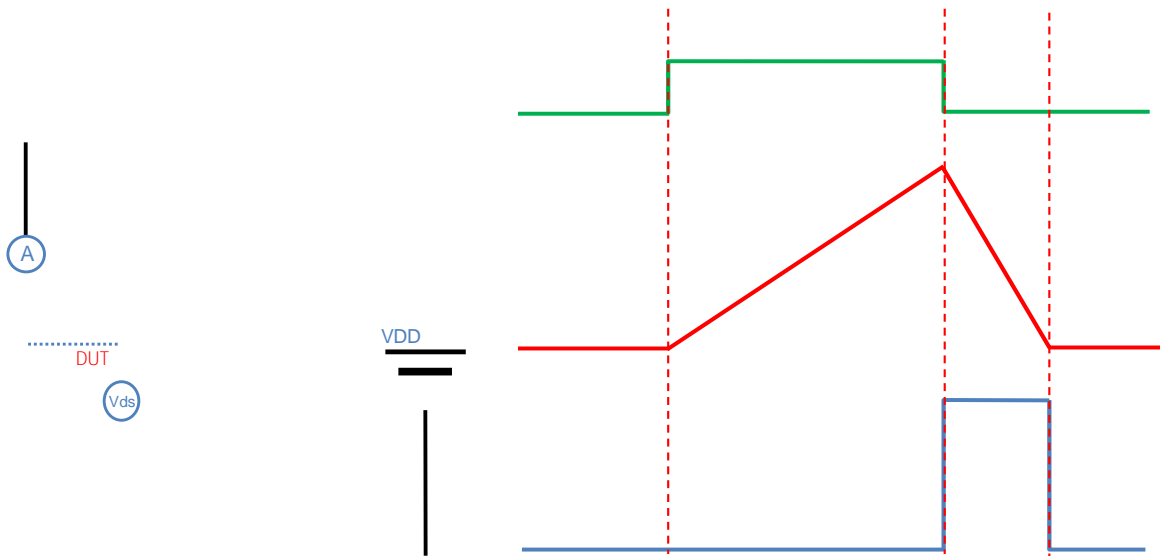


Figure A. Unclamped Inductive Switching (UIS) Test Circuit & Waveform

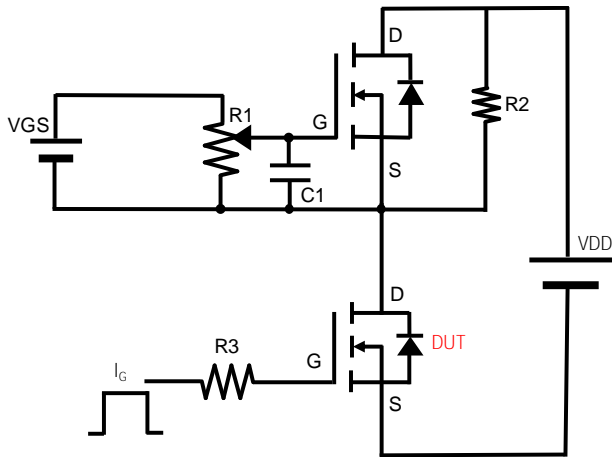


Figure B. Gate Charge Test Circuit & Waveform

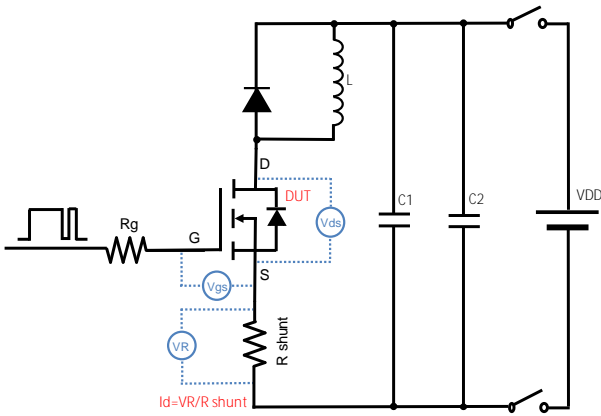


Figure C. Resistive Switching Test Circuit & Waveform

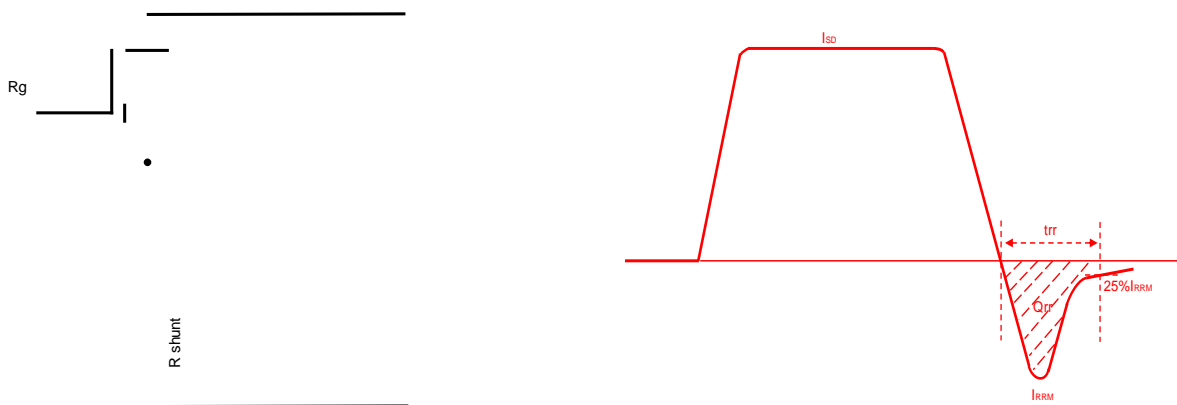
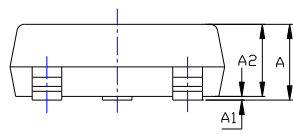
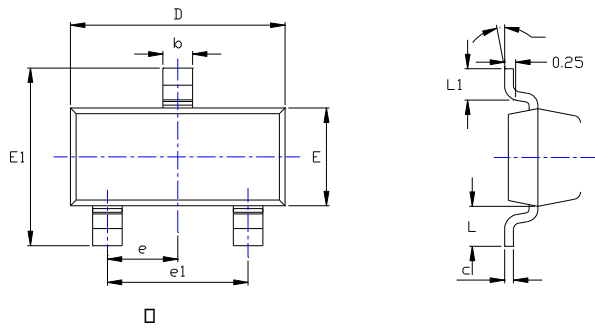


Figure D. Diode Recovery Test Circuit & Waveform



SOT-23 Package information



UNIT mm





YJL3099AJ

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