# N-Channel Enhancement Mode Field Effect Transistor

## 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 | | Symbol | Limit | Unit |
|---|---|---|---|---|
| Drain-source Voltage | | $V_{DS}$ | 50 | V |
| Gate-source Voltage | | $V_{GS}$ | ±20 | V |
| Drain Current | $T_A$=25 | $I_D$ | 300 | mA |
| | $T_A$=100 | | 189 | |

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

| Parameter | Symbol | Conditions | Min | Typ | Max | U/P 4eW |
|---|---|---|---|---|---|---|

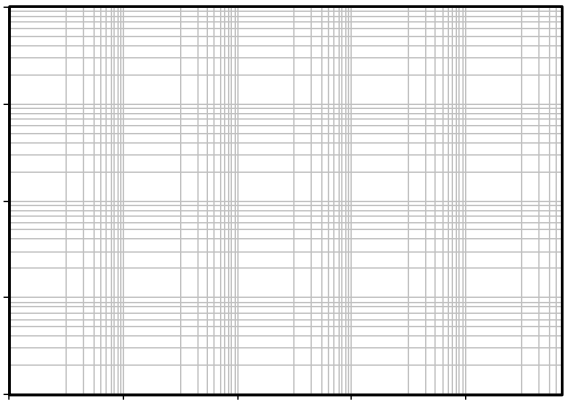

Figure 13. Maximum Transient Thermal Impedance

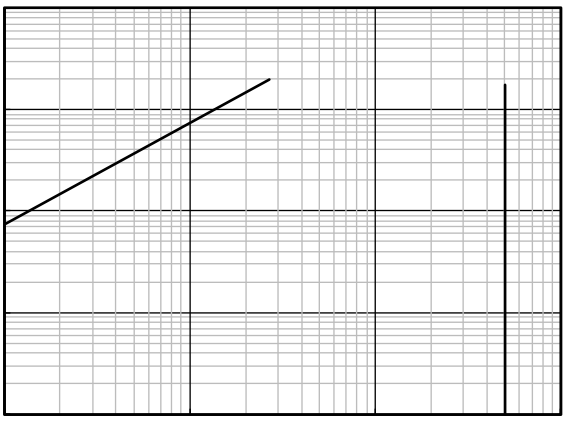

Figure 14. Safe Operation Area

## ■ Test Circuits & Waveforms

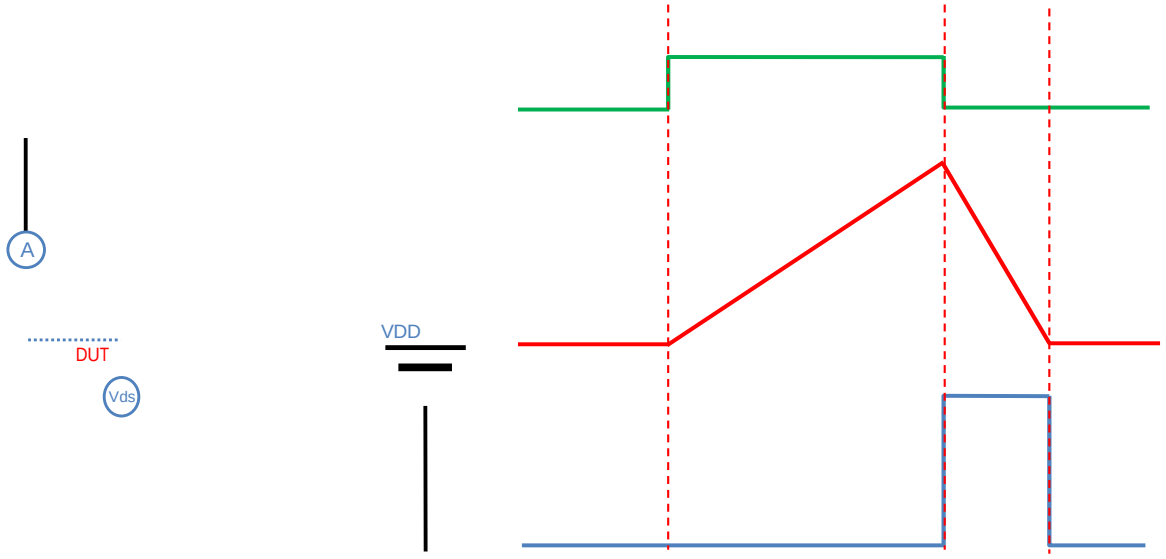


Figure A. Unclamped Inductive Switching (UIS) Test Circuit & Waveform

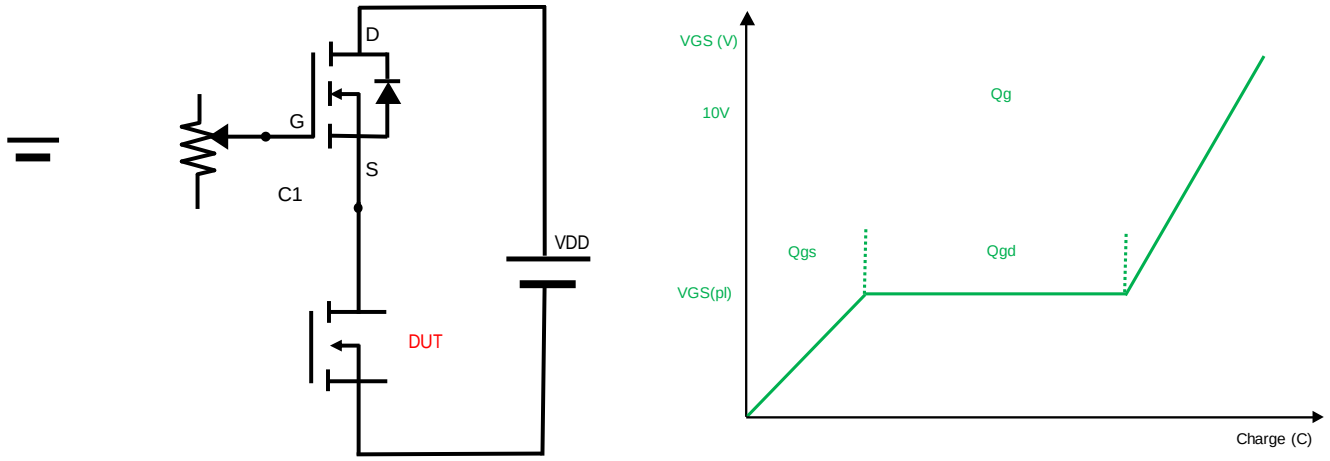


Figure B. Gate Charge Test Circuit & Waveform

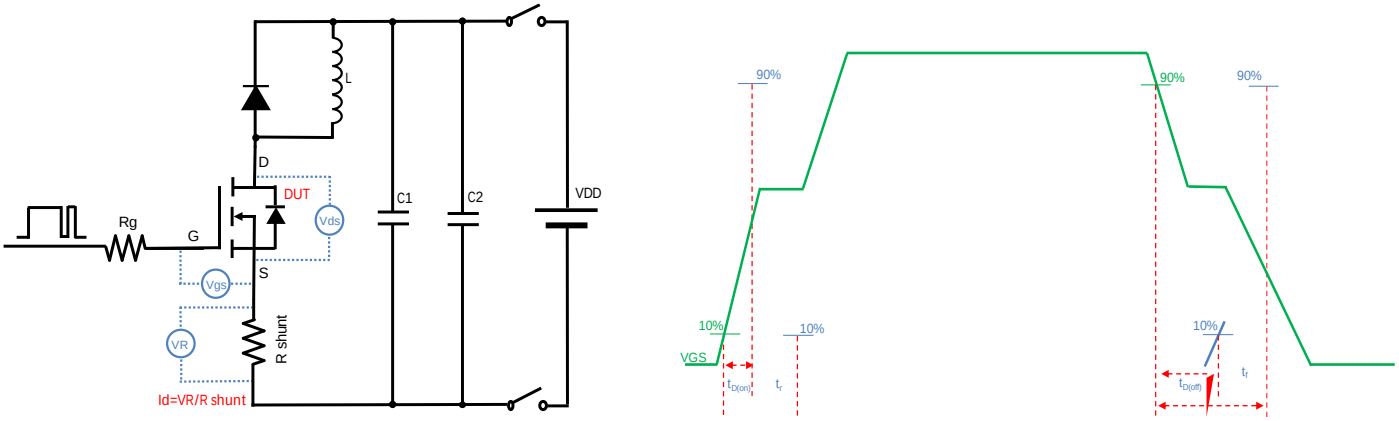


Figure C. Resistive Switching Test Circuit & Waveform

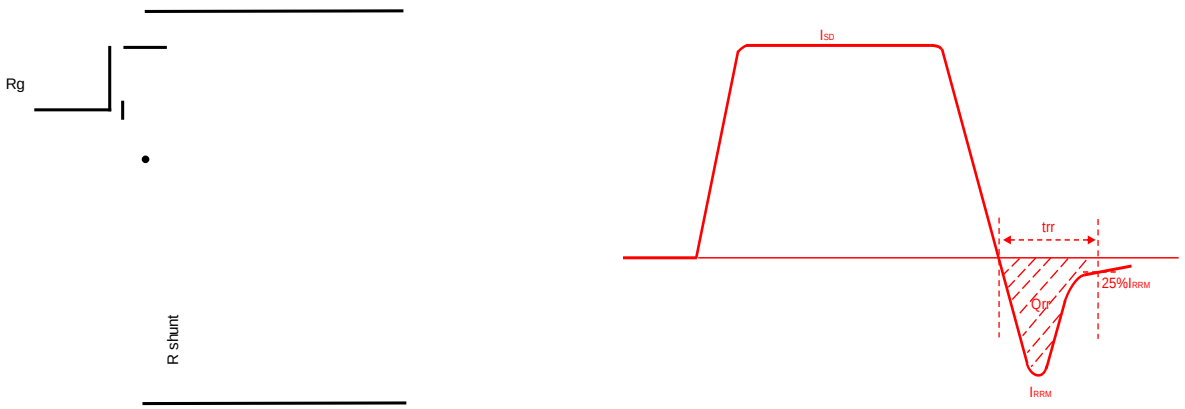


Figure D. Diode Recovery Test Circuit & Waveform

■ **SOT-523**

## Disclaimer

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