# P-Channel Enhancement Mode Field Effect Transistor

## Product Summary

| | |
|---|---|
| DS | -30V |
| D | -4.4A |
| DS(ON)( at $V_{GS}$=-10V) | 55mohm |
| DS(ON)( at $V_{GS}$=-4.5V) | 66mohm |
| DS(ON)( at $V_{GS}$=-2.5V) | 94mohm |

## General Description

7 3 4 6 - ,
High density cell design for Low $R_{DS(ON)}$
High Speed switching
4 3
, 4 3 -0 Flammability Rating
/ alogen Free

## Applications

Battery protection
Power management
Load switch

**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 |
| Drain Current | $T_A$=25 | $I_D$ | -4.4 | A |
| | $T_A$=70 | | -3.5 | |
| Pulsed Drain Current [A] | | $I_{DM}/I_{SM}$ | -27 | A |
| Total Power Dissipation | $T_A$=25 | $P_D$ | 1.2 | W |
| | $T_A$=70 | | 0.8 | W |
| Thermal Resistance Junction-to-Ambient [B] | | $R_{JA}$ | 104 | / W |
| Junction and Storage Temperature Range | | $T_J$ ,$T_{STG}$ | -55 +150 | |

**Ordering Information** (Example)

| PREFERED P/N | PACKING CODE | Marking | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|---|
| YJL3401A | F2 | 3401. | 3000 | 30000 | 120000 | 7 reel |

**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 | | | | |

## Typical Performance Characteristics

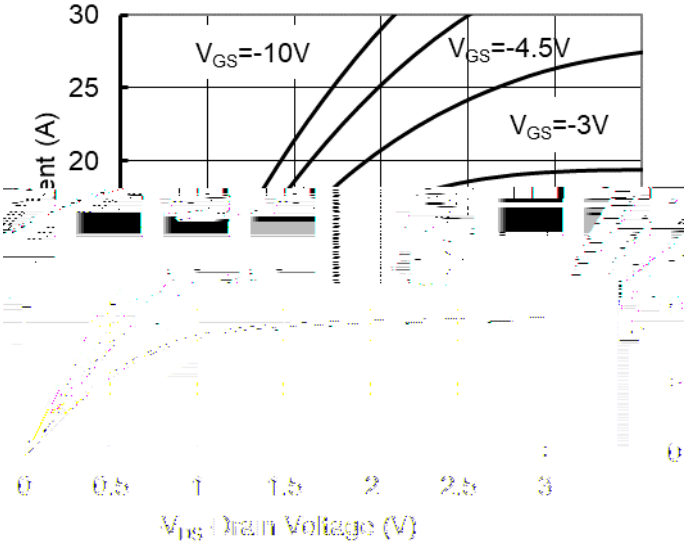



**Figure1. Output Characteristics**

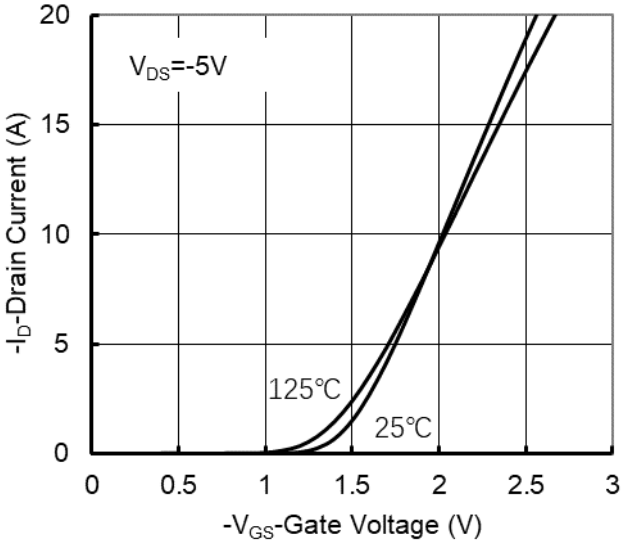



**Figure2. Transfer Characteristics**

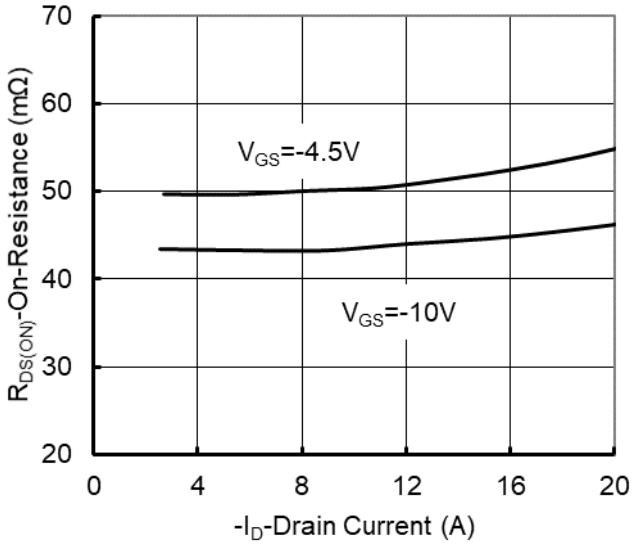



**Figure 3: On-Resistance vs. Drain Current and Gate Voltage**

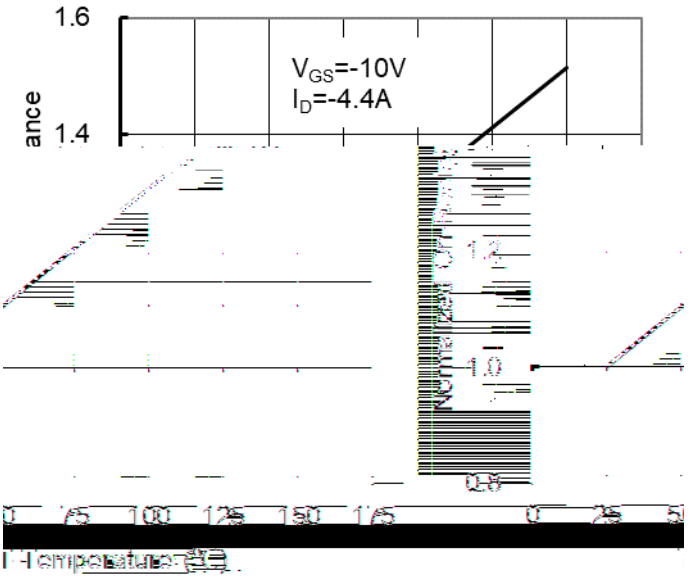



**Figure 4: On-Resistance vs. Junction Temperature**

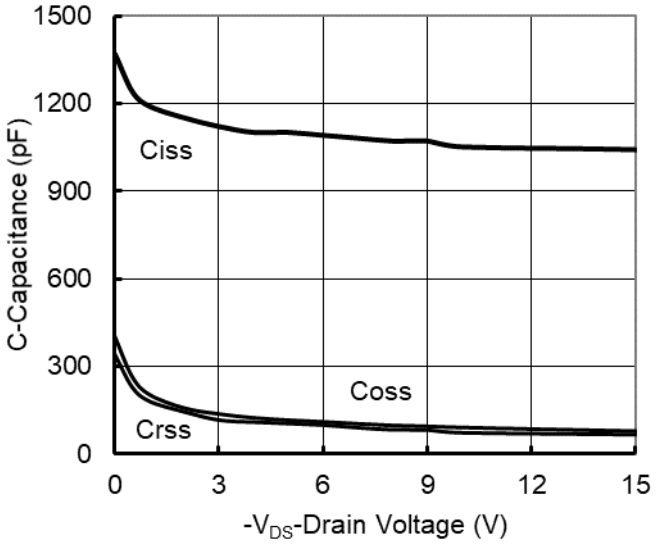



**Figure5. Capacitance Characteristics**

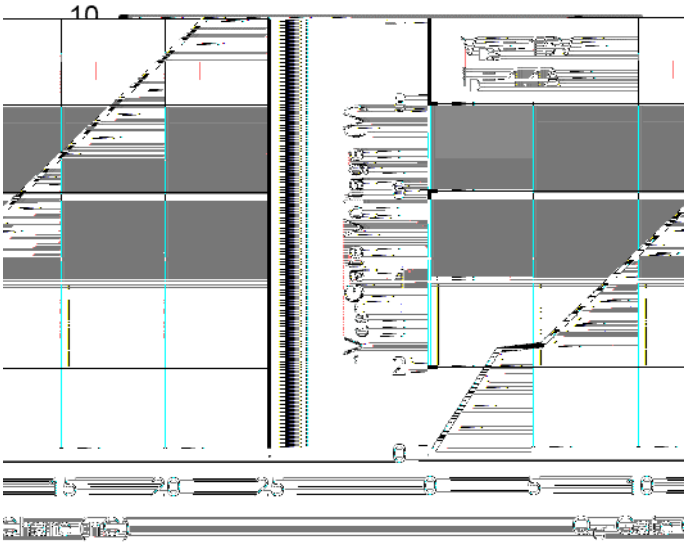


**Figure6. Gate Charge**

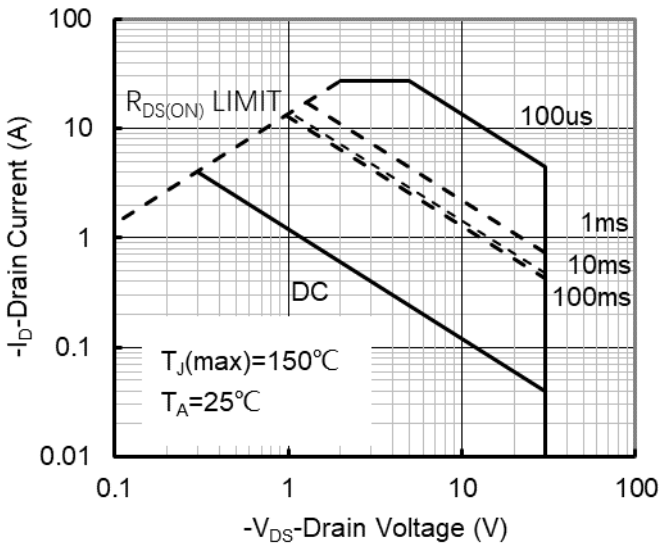



**Figure7. Safe Operation Area**

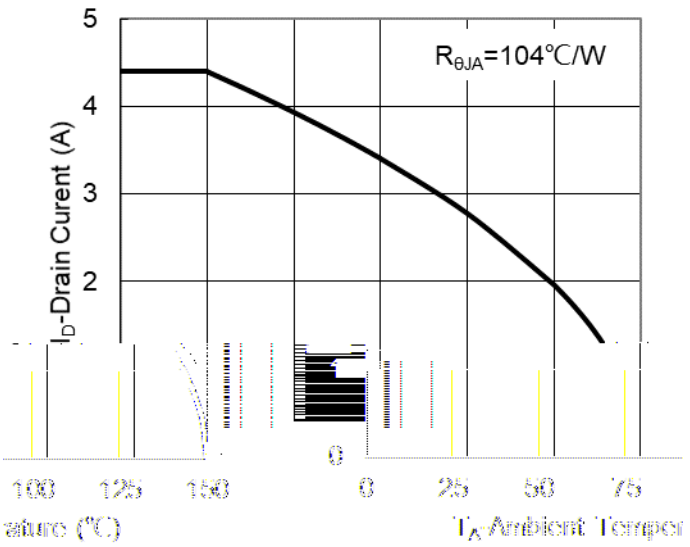



**Figure8. Maximum Continuous Drain Current vs Ambient Temperature**

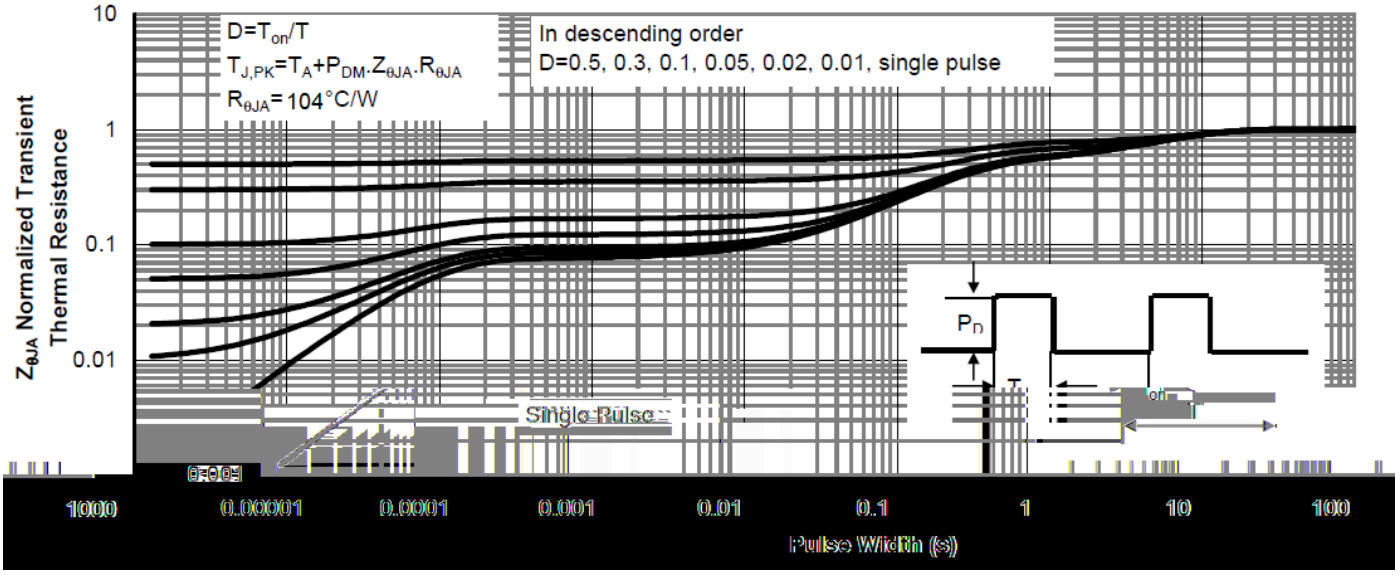
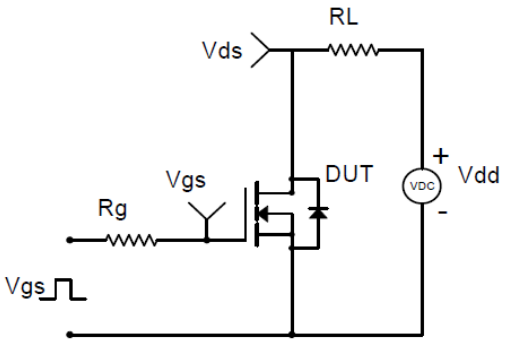
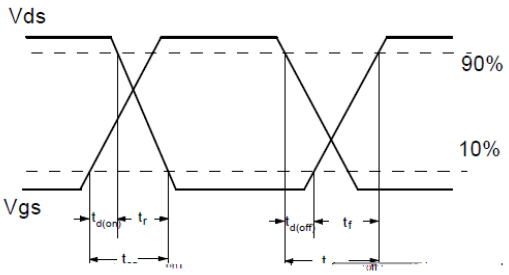
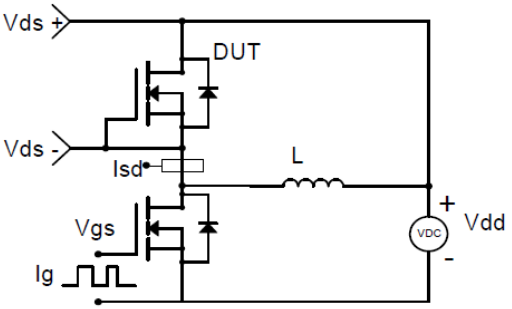


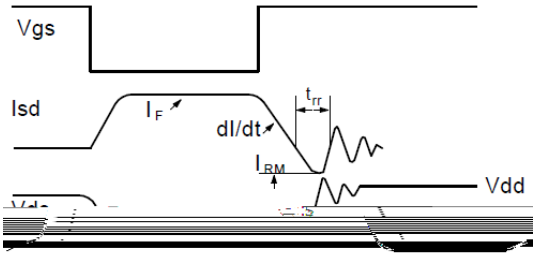

**Figure9. Normalized Maximum Transient Thermal Impedance**



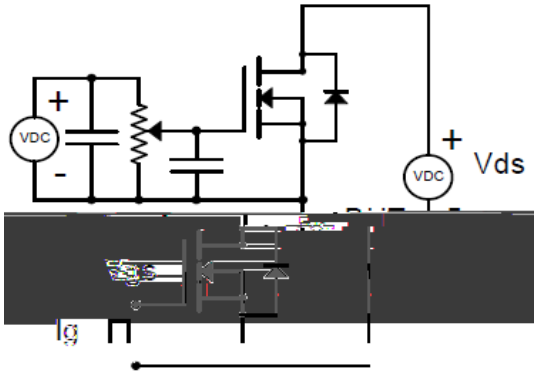



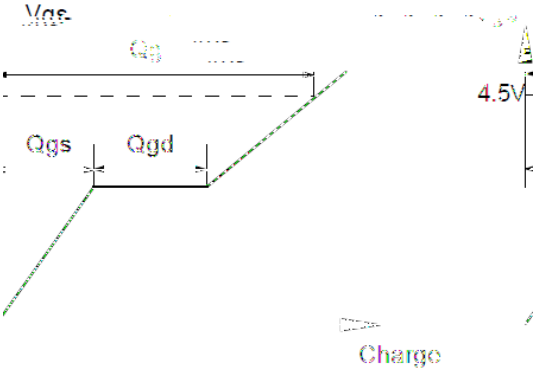

**Resistive Switching Test Circuit & Waveforms**



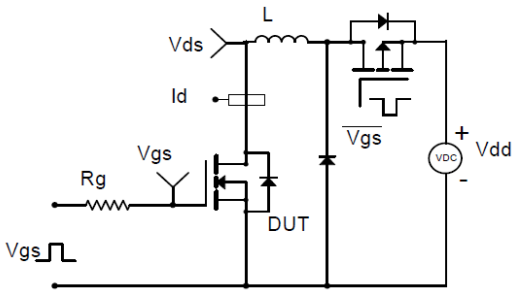



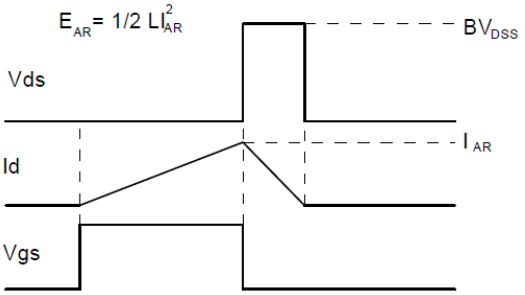

**Diode Recovery Test Circuit & Waveforms**



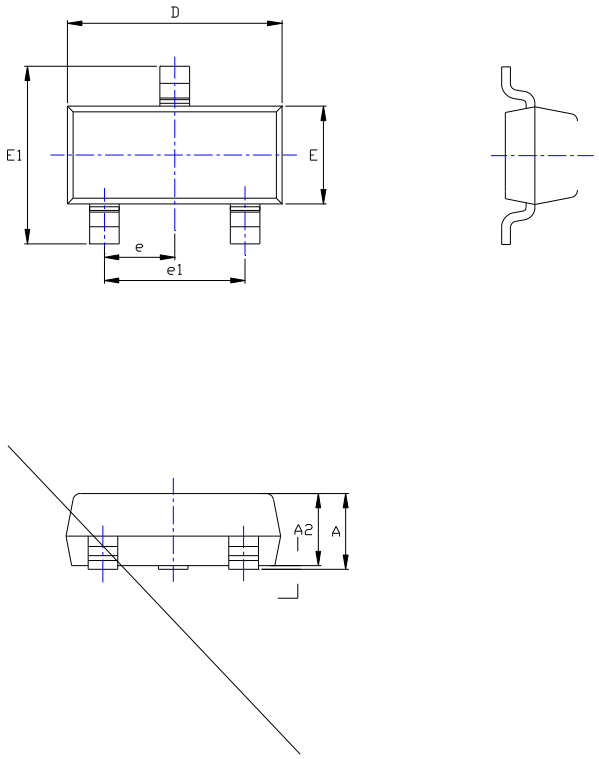

**Gate Charge Test Circuit & Waveform**




**Unclamped Inductive Switching (U28.56 116.06 532.92 50.28 reW*n /P #MC37.66 Tm0 g0 C**

## SOT-23 Package Information




UNIT mm

## Disclaimer

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