



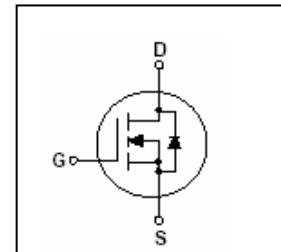
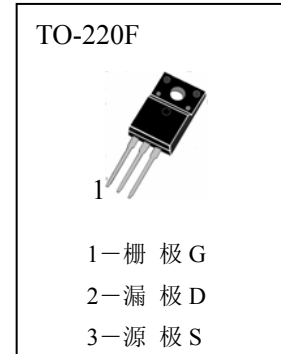
■ 主要用途

高速开关应用。

■ 极限值 ( $T_a=25^\circ\text{C}$ )

- $T_{stg}$ ——贮存温度.....  $-55\sim 150^\circ\text{C}$
- $T_j$ ——结温.....  $150^\circ\text{C}$
- $V_{DSS}$ ——漏极—源极电压.....  $600\text{V}$
- $V_{GS}$ ——栅极—源极电压.....  $\pm 30\text{V}$
- $I_D$ ——漏极电流 ( $T_c=25^\circ\text{C}$ ) .....  $9.5\text{A}$
- $I_{DM}$ ——漏极电流 (脉冲) (注 1) .....  $38\text{A}$
- $P_D$ ——耗散功率 ( $T_c=25^\circ\text{C}$ ) .....  $50\text{W}$

■ 外形图及引脚排列



■ 电参数 ( $T_a=25^\circ\text{C}$ )

| 参数符号          | 符号说明         | 最小值 | 典型值  | 最大值       | 单位                 | 测试条件   |
|---------------|--------------|-----|------|-----------|--------------------|--|
| $BV_{DSS}$    | 漏—源极击穿电压     | 600 |      |           | V                  | $I_D=250\mu\text{A}, V_{GS}=0$   |
| $I_{DSS}$     | 零栅压漏极电流      |     |      | 1.0       | $\mu\text{A}$      | $V_{DS}=600\text{V}, V_{GS}=0$   |
| $I_{GSS}$     | 栅极泄漏电流       |     |      | $\pm 100$ | nA                 | $V_{GS}=\pm 30\text{V}, V_{DS}=0$  |
| $V_{GS(th)}$  | 栅—源极开启电压     | 2.0 |      | 4.0       | V                  | $V_{DS}=V_{GS}, I_D=250\mu\text{A}$  |
| $R_{DS(on)}$  | 漏—源极导通电阻     |     |      | 0.75      | $\Omega$           | $V_{GS}=10\text{V}, I_D=5\text{A}$   |
| $C_{iss}$     | 输入电容         |     | 1570 | 2040      | pF                 | } $V_{DS}=25\text{V}, V_{GS}=0, f=1\text{MHz}$                             |
| $C_{oss}$     | 输出电容         |     | 166  | 215       | pF                 |  |
| $C_{rss}$     | 反向传输电容       |     | 18   | 24        | pF                 |  |
| $T_d(on)$     | 导通延迟时间       |     | 23   | 55        | ns                 |  |
| $T_r$         | 上升时间         |     | 69   | 150       | ns                 | } $V_{DD}=300\text{V}, I_D=9.5\text{A}$<br>$R_G=25\Omega$ (注 2)            |
| $T_d(off)$    | 断开延迟时间       |     | 144  | 300       | ns                 |  |
| $T_f$         | 下降时间         |     | 77   | 165       | ns                 |  |
| $Q_g$         | 栅极总电荷        |     | 44   | 57        | nC                 | } $V_{DS}=480\text{V},$<br>$V_{GS}=10\text{V},$<br>$I_D=9.5\text{A}$ (注 2) |
| $Q_{gs}$      | 栅极—源极电荷      |     | 6.7  |           | nC                 |  |
| $Q_{gd}$      | 栅极—漏极电荷      |     | 18.5 |           | nC                 |  |
| $I_S$         | 源极—漏极二极管正向电流 |     |      | 9.5       | A                  | } $I_S=9.5\text{A}, V_{GS}=0$  |
| $V_{SD}$      | 源极—漏极二极管导通电压 |     |      | 1.4       | V                  |  |
| $R_{th(j-c)}$ | 热阻           |     |      | 2.5       | $^\circ\text{C/W}$ | 结到外壳   |

\*注 1: 漏极电流受最大结温限制。

\*注 2: 脉冲测试, 宽度 $\leq 300\mu\text{S}$ , 占空比 $\leq 2\%$



■ 典型特性曲线

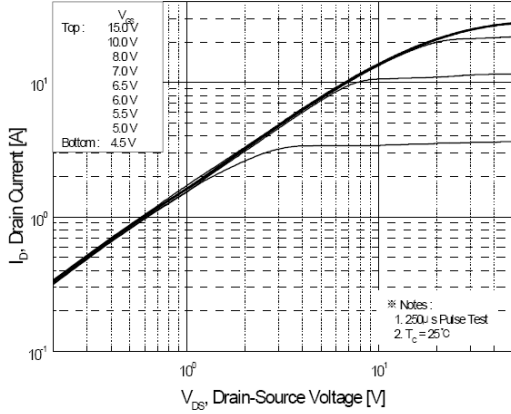


Figure 1. On-Region Characteristics

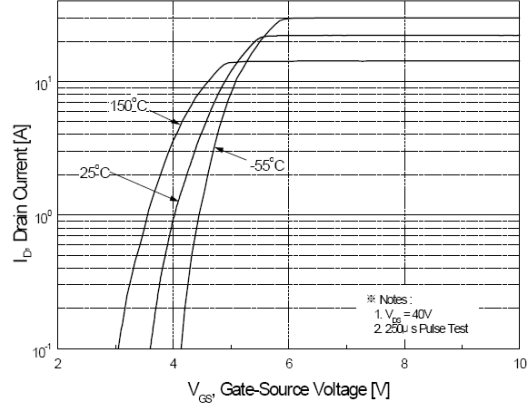


Figure 2. Transfer Characteristics

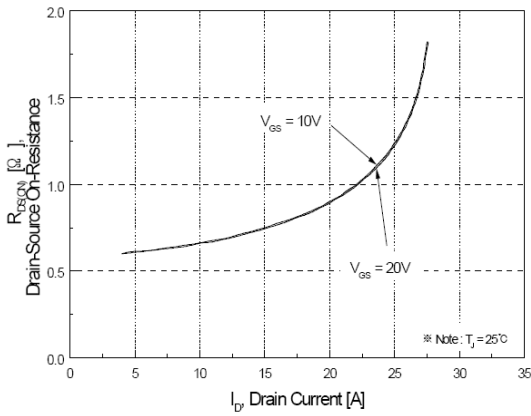


Figure 3. On-Resistance Variation vs Drain Current and Gate Voltage

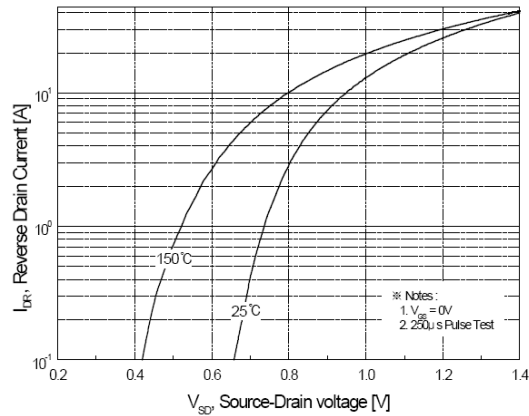


Figure 4. Body Diode Forward Voltage Variation with Source Current and Temperature

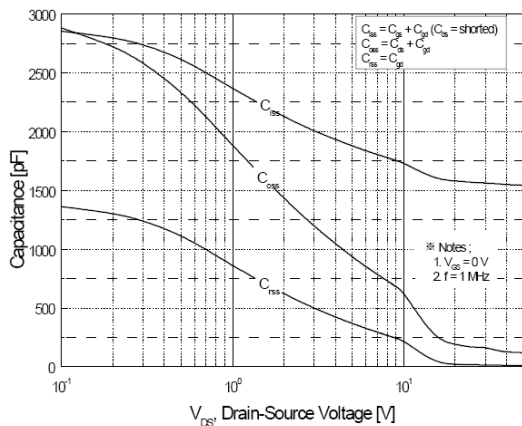


Figure 5. Capacitance Characteristics

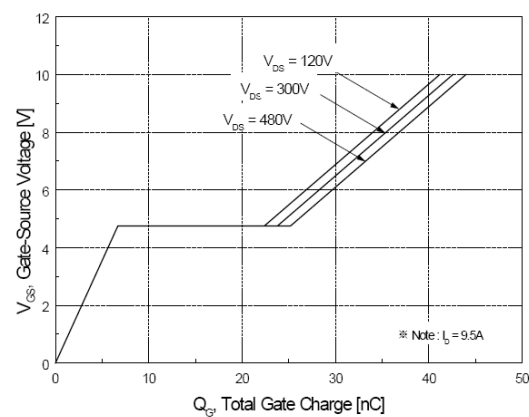


Figure 6. Gate Charge Characteristics



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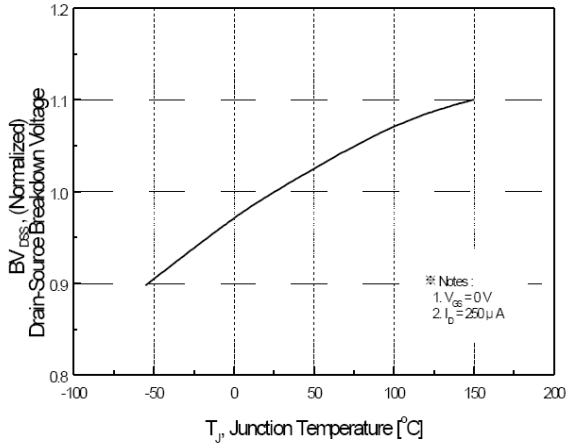


Figure 7. Breakdown Voltage Variation vs Temperature

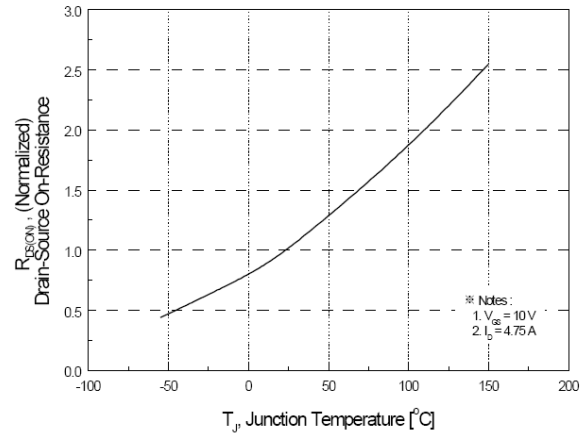


Figure 8. On-Resistance Variation vs Temperature

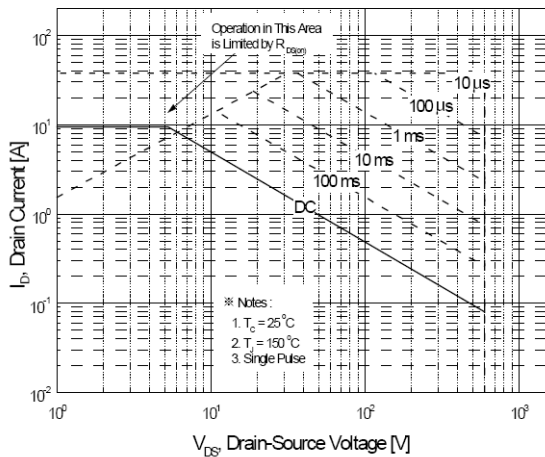


Figure 9. Maximum Safe Operating Area

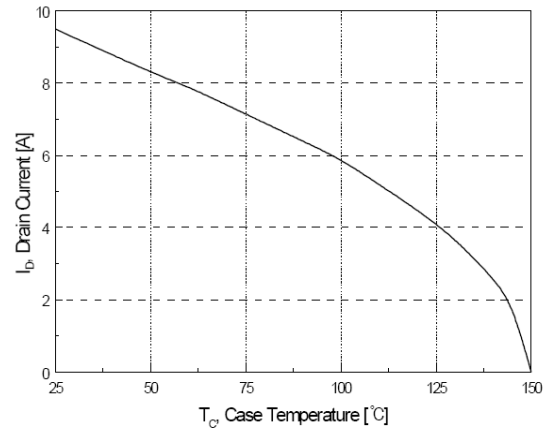


Figure 10. Maximum Drain Current vs Case Temperature

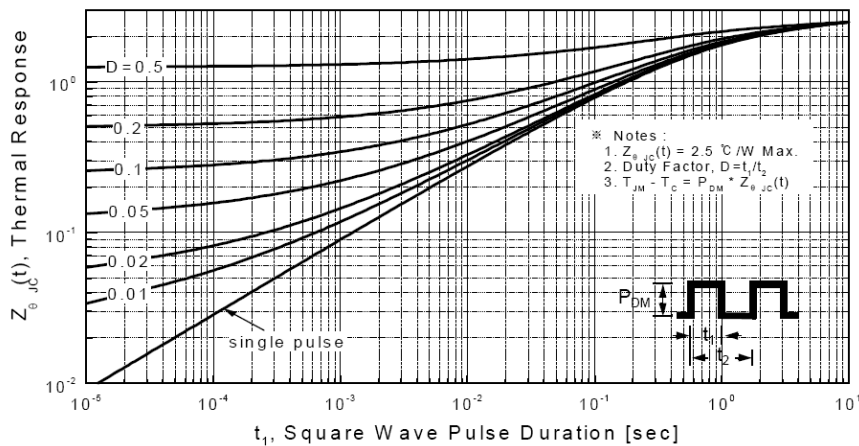


Figure 11. Transient Thermal Response Curve



■ 典型特性曲线

Fig 12. Gate Charge Test Circuit & Waveform

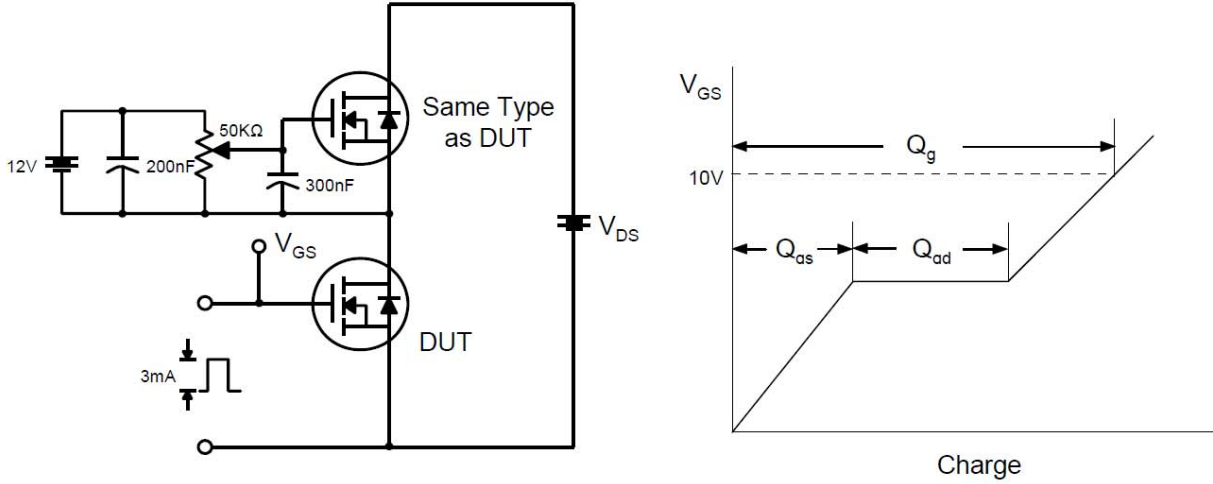


Fig 13. Resistive Switching Test Circuit & Waveforms

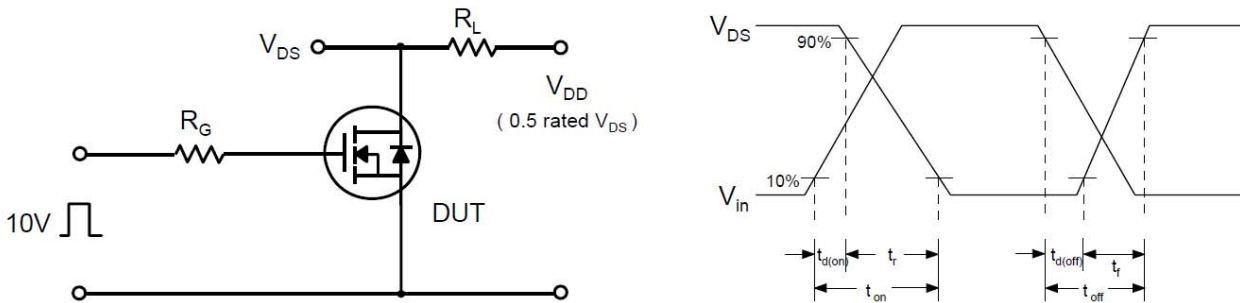
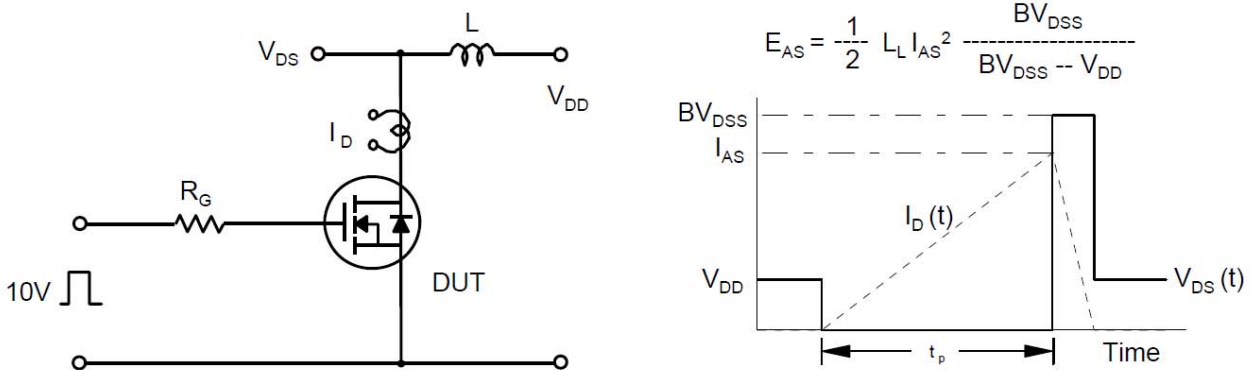


Fig 14. Unclamped Inductive Switching Test Circuit & Waveforms





## ■ 典型特性曲线

Fig 15. Peak Diode Recovery  $dv/dt$  Test Circuit & Waveforms

