

Electrical Characteristics (T_j = 25°C unless otherwise specified)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|---|--------------------------------|------|-------|------|------|--|
| Drain-Source Breakdown Voltage | BV _{DSS} | -200 | - | - | V | V _{GS} =0, I _D =-250uA |
| Breakdown Voltage Temperature Coefficient | $\Delta BV_{DSS} / \Delta T_j$ | - | -0.03 | - | V/°C | Reference to 25°C, I _D =-1mA |
| Gate Threshold Voltage | V _{GS(th)} | -2.0 | - | -4.0 | V | V _{DS} =V _{GS} , I _D =-250uA |
| Forward Transconductance | g _{fs} | - | 4 | - | S | V _{DS} =-10V, I _D =-5A |
| Gate-Source Leakage Current | I _{GSS} | - | - | ±100 | nA | V _{GS} = ±20V |
| Drain-Source Leakage Current(T _j =25°C) | I _{DSS} | - | - | -25 | uA | V _{DS} =-200V, V _{GS} =0 |
| Drain-Source Leakage Current(T _j =150°C) | | - | - | -100 | uA | V _{DS} =-160V, V _{GS} =0 |
| Static Drain-Source On-Resistance ² | R _{DS(ON)} | - | - | 680 | mΩ | V _{GS} =-10V, I _D =-4A |
| Total Gate Charge ² | Q _g | - | 20 | 32 | nC | I _D =-5A V _{DS} =-160V V _{GS} =-4.5V |
| Gate-Source Charge | Q _{gs} | - | 5 | - | | |
| Gate-Drain ("Miller") Change | Q _{gd} | - | 13 | - | | |
| Turn-on Delay Time ² | T _{d(on)} | - | 12 | - | ns | V _{DS} =-100V I _D =-5A V _{GS} =-10V R _G =10Ω R _D =20Ω |
| Rise Time | T _r | - | 14 | - | | |
| Turn-off Delay Time | T _{d(off)} | - | 64 | - | | |
| Fall Time | T _f | - | 28 | - | | |
| Input Capacitance | C _{iss} | - | 1210 | - | pF | V _{GS} =0V V _{DS} =-25V f=1.0MHz |
| Output Capacitance | C _{oss} | - | 170 | - | | |
| Reverse Transfer Capacitance | C _{rss} | - | 45 | - | | |
| Gate Resistance | R _g | - | 3.6 | 5.4 | Ω | f=1.0MHz |

Source-Drain Diode

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|------------------------------------|-----------------|------|------|------|------|---|
| Forward On Voltage ² | V _{SD} | - | - | -1.3 | V | I _S =-5A, V _{GS} =0V |
| Reverse Recovery Time ² | T _{rr} | - | 165 | - | ns | I _S =-5A, V _{GS} =0V di/dt=100A/μs |
| Reverse Recovery Charge | Q _{rr} | - | 1420 | - | nC | |

Notes: 1. Pulse width limited by safe operating area.

2. Pulse width ≤ 300us, duty cycle ≤ 2%.

Characteristics Curve

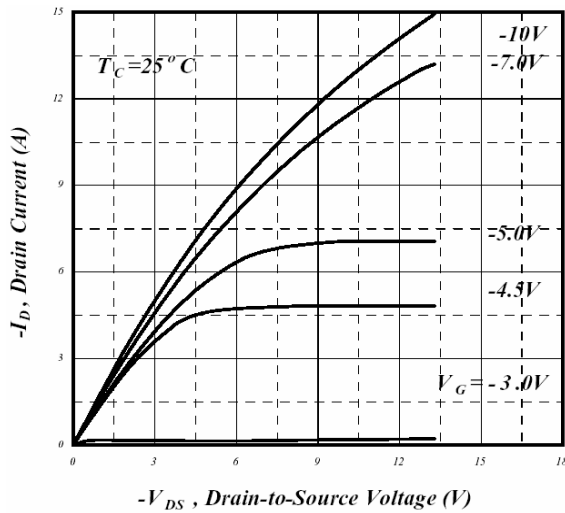


Fig 1. Typical Output Characteristics

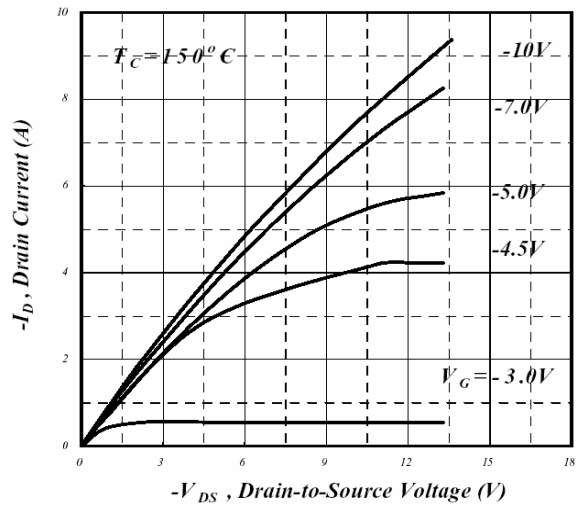


Fig 2. Typical Output Characteristics

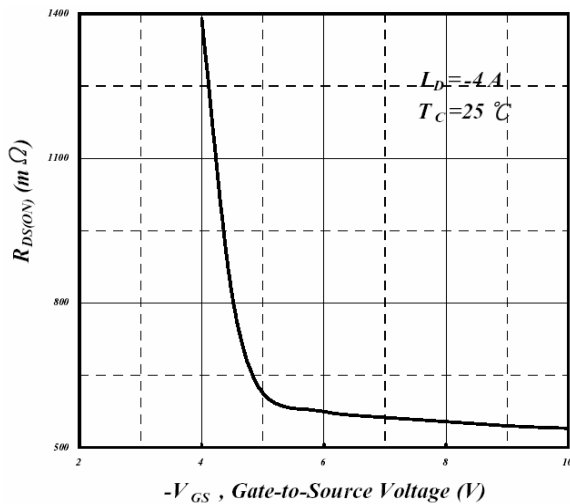


Fig 3. On-Resistance v.s. Gate Voltage

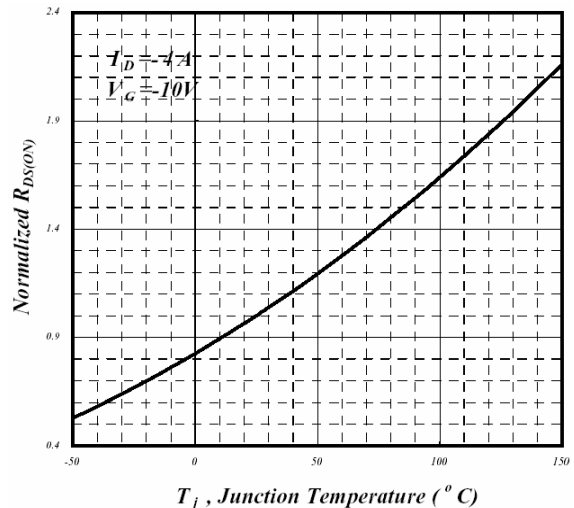


Fig 4. Normalized On-Resistance v.s. Junction Temperature

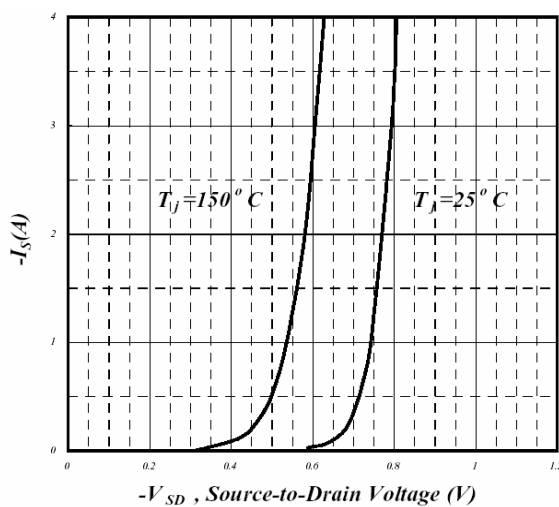


Fig 5. Forward Characteristics of Reverse Diode

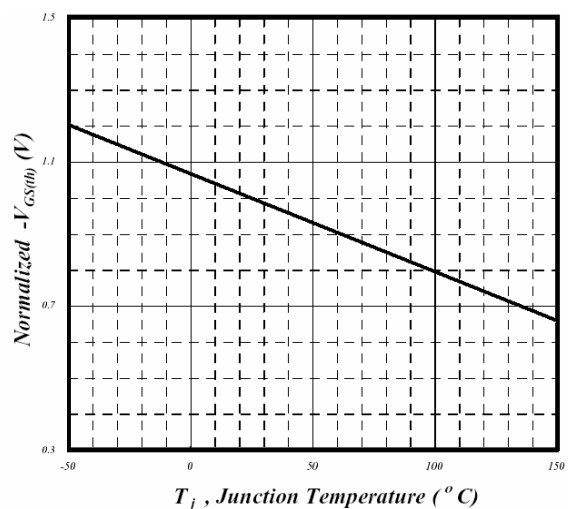


Fig 6. Gate Threshold Voltage v.s. Junction Temperature

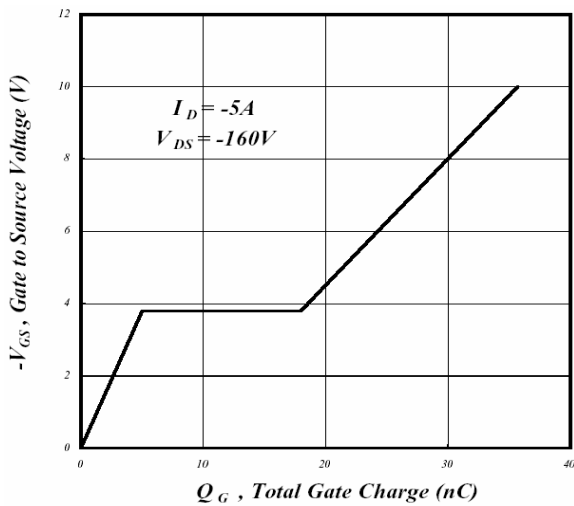


Fig 7. Gate Charge Characteristics

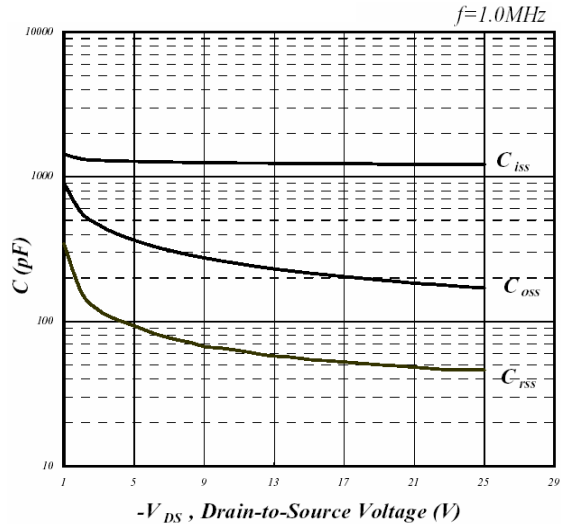


Fig 8. Typical Capacitance Characteristics

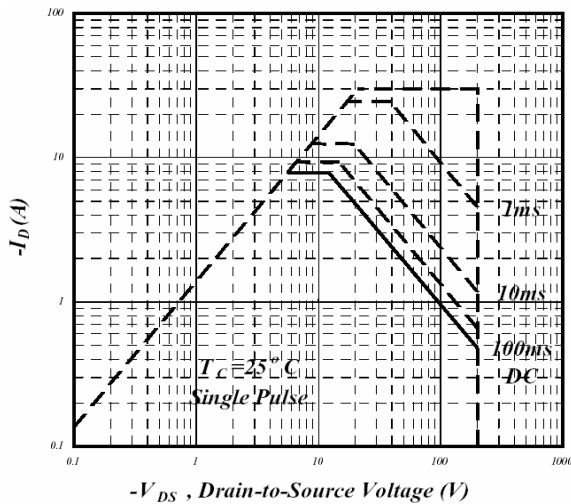


Fig 9. Maximum Safe Operating Area

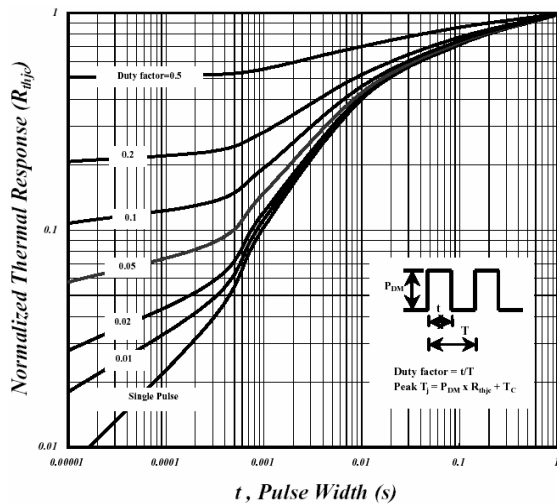


Fig 10. Effective Transient Thermal Impedance

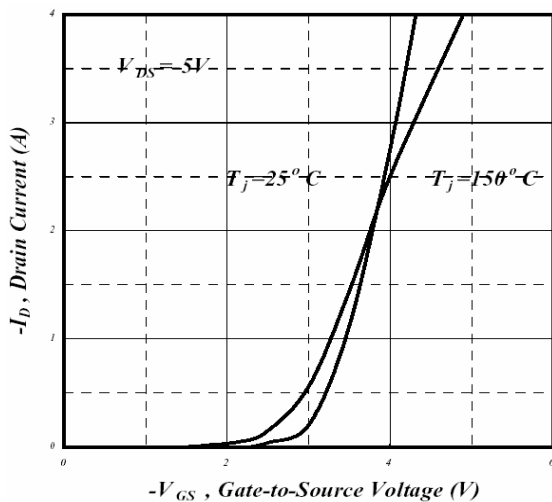


Fig 11. Transfer Characteristics

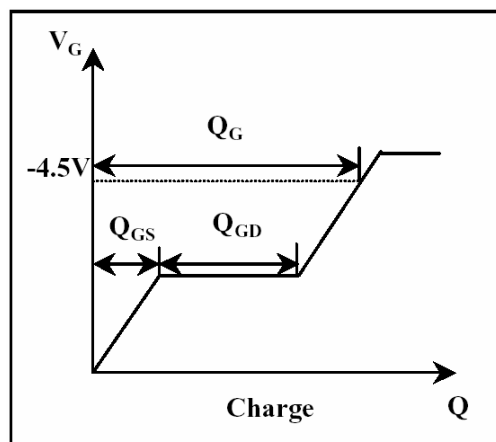


Fig 12. Gate Charge Waveform

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