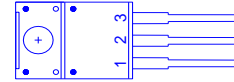
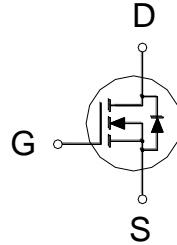




PRODUCT SUMMARY

| | | |
|---------------|--------------|-------|
| $V_{(BR)DSS}$ | $R_{DS(ON)}$ | I_D |
| 100V | 4.4mΩ | 79A |



- 1. GATE
- 2. DRAIN
- 3. SOURCE

ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ °C}$ Unless Otherwise Noted)

| PARAMETERS/TEST CONDITIONS | | SYMBOL | LIMITS | UNITS |
|--|-----------------------|----------------|------------|-------|
| Drain-Source Voltage | | V_{DS} | 100 | V |
| Gate-Source Voltage | | V_{GS} | ±20 | V |
| Continuous Drain Current | $T_C = 25\text{ °C}$ | I_D | 79 | A |
| | $T_C = 100\text{ °C}$ | | 56 | |
| Pulsed Drain Current ¹ | | I_{DM} | 230 | |
| Avalanche Current | | I_{AS} | 28 | |
| Avalanche Energy | $L = 1\text{mH}$ | E_{AS} | 392 | mJ |
| Power Dissipation | $T_C = 25\text{ °C}$ | P_D | 60 | W |
| | $T_C = 100\text{ °C}$ | | 30 | |
| Operating Junction & Storage Temperature Range | | T_j, T_{stg} | -55 to 175 | °C |

THERMAL RESISTANCE RATINGS

| THERMAL RESISTANCE | | SYMBOL | TYPICAL | MAXIMUM | UNITS |
|---------------------|--------------|-----------------|---------|---------|--------|
| Junction-to-Ambient | Steady-State | $R_{\theta JA}$ | | 62.5 | °C / W |
| Junction-to-Case | Steady-State | $R_{\theta JC}$ | | 2.5 | |

¹Pulse width limited by maximum junction temperature.

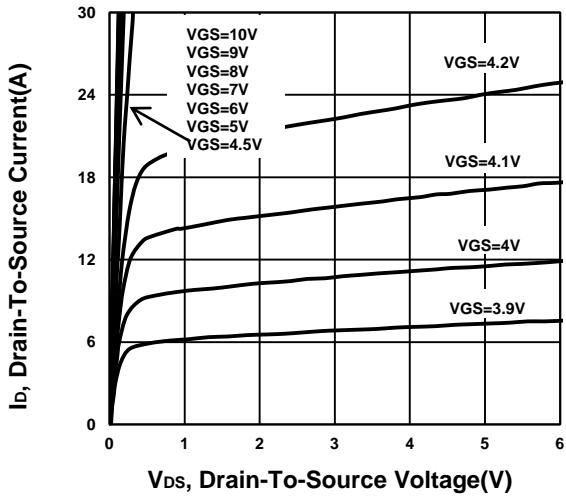
ELECTRICAL CHARACTERISTICS (T_J = 25 °C, Unless Otherwise Noted)

| PARAMETER | SYMBOL | TEST CONDITIONS | LIMITS | | | UNIT |
|---|----------------------|---|--------|------|------|------|
| | | | MIN | TYP | MAX | |
| STATIC | | | | | | |
| Drain-Source Breakdown Voltage | V _{(BR)DSS} | V _{GS} = 0V, I _D = 250μA | 100 | | | V |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} = V _{GS} , I _D = 250μA | 2 | 2.8 | 4 | V |
| Gate-Body Leakage | I _{GSS} | V _{DS} = 0V, V _{GS} = ±20V | | | ±100 | nA |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} = 100V, V _{GS} = 0V | | | 1 | μA |
| | | V _{DS} = 100V, V _{GS} = 0V, T _J = 55 °C | | | 10 | |
| Drain-Source On-State Resistance ¹ | R _{DSON} | V _{GS} = 10V, I _D = 20A | | 3.7 | 4.4 | mΩ |
| Forward Transconductance ¹ | g _{fs} | V _{DS} = 5V, I _D = 20A | | 69 | | S |
| DYNAMIC | | | | | | |
| Input Capacitance | C _{iss} | V _{GS} = 0V, V _{DS} = 50V, f = 1MHz | | 4372 | | pF |
| Output Capacitance | C _{oss} | | | 757 | | |
| Reverse Transfer Capacitance | C _{rss} | | | 12 | | |
| Gate Resistance | R _g | V _{GS} = 0V, V _{DS} = 0V, f = 1MHz | | 0.9 | | Ω |
| Total Gate Charge ² | Q _g | V _{DS} = 50V, V _{GS} = 10V, I _D = 20A | | 83 | | nC |
| Gate-Source Charge ² | Q _{gs} | | | 17 | | |
| Gate-Drain Charge ² | Q _{gd} | | | 27 | | |
| Turn-On Delay Time ² | t _{d(on)} | V _{DS} = 50V , I _D ≅ 20A, V _{GS} = 10V, R _{GEN} = 6Ω | | 24 | | nS |
| Rise Time ² | t _r | | | 58 | | |
| Turn-Off Delay Time ² | t _{d(off)} | | | 76 | | |
| Fall Time ² | t _f | | | 70 | | |
| SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C) | | | | | | |
| Continuous Current | I _S | | | | 50 | A |
| Forward Voltage ¹ | V _{SD} | I _F = 20A, V _{GS} = 0V | | | 1.2 | V |
| Reverse Recovery Time | t _{rr} | I _F = 20A, dI _F /dt = 100A / μS | | 58 | | nS |
| Reverse Recovery Charge | Q _{rr} | | | | 88 | |

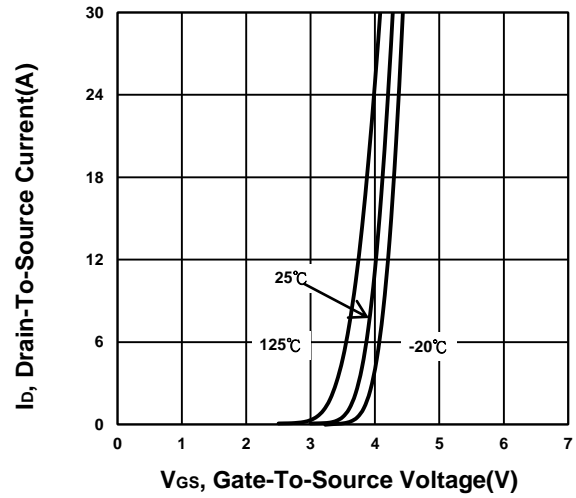
¹Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.

²Independent of operating temperature.

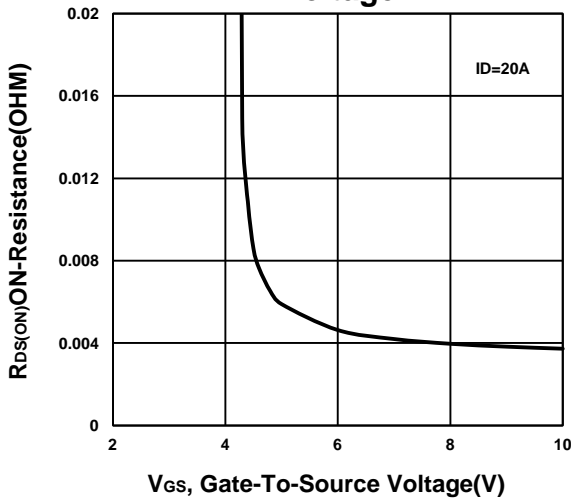
Output Characteristics



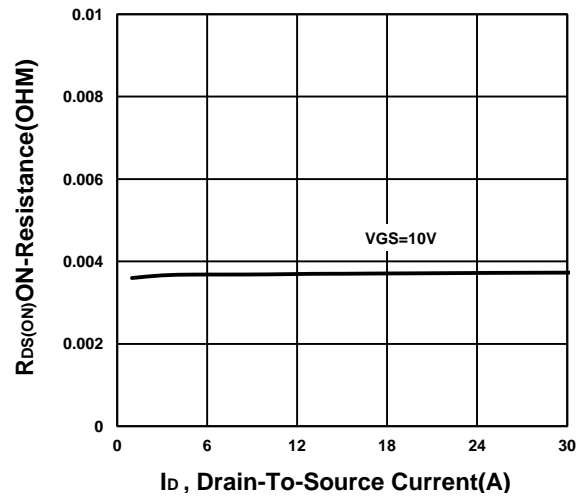
Transfer Characteristics



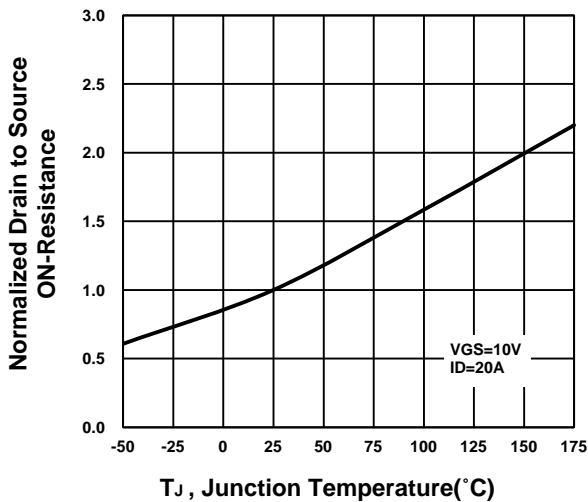
On-Resistance VS Gate-To-Source Voltage



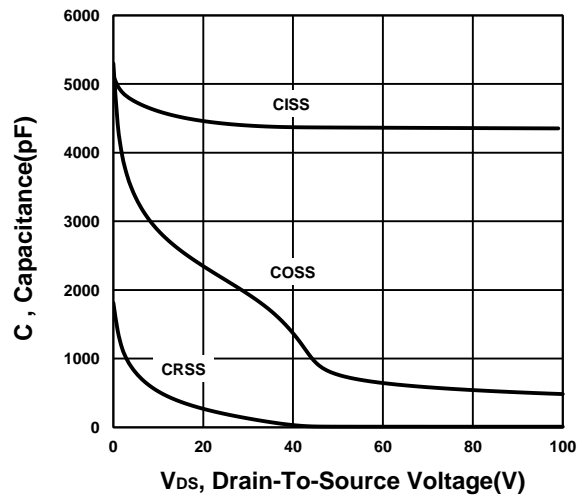
On-Resistance VS Drain Current



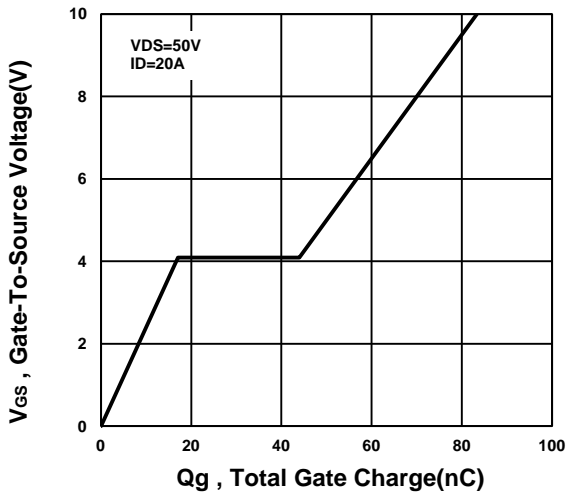
On-Resistance VS Temperature



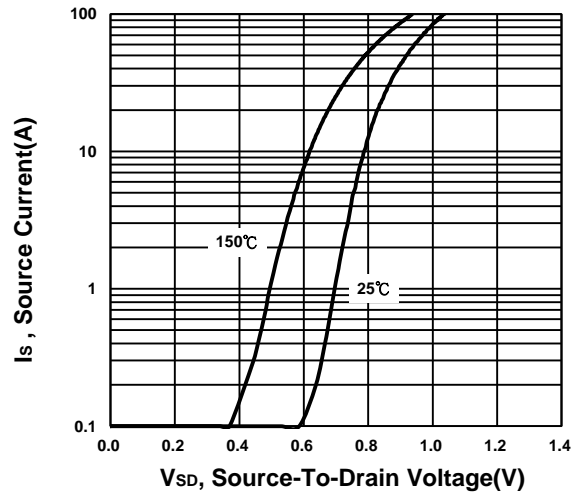
Capacitance Characteristic



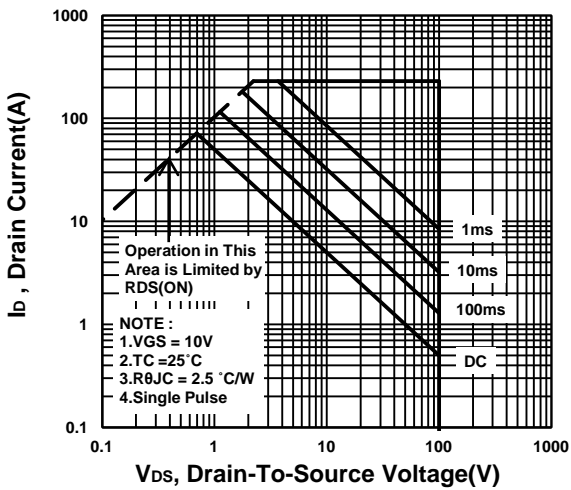
Gate charge Characteristics



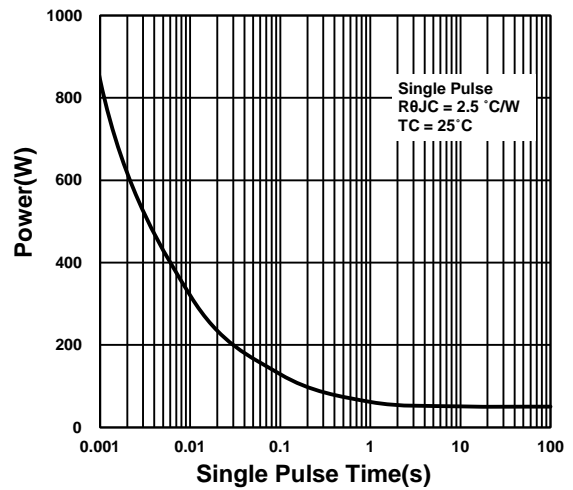
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

