



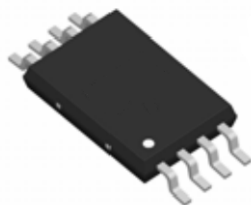
Dual N-Channel Enhancement-Mode MOSFET(20V, 8 A)

PRODUCT SUMMARY

| V_{DS} | I_D | $R_{DS(on)}$ (m-ohm) Max |
|----------|-------|----------------------------------|
| 20V | 8A | 12 @ $V_{GS} = 4.5V, I_D=4.5A$ |
| | | 14.5 @ $V_{GS} = 2.5V, I_D=3.5A$ |

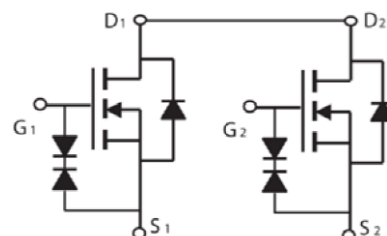
◆ Features

1. High density cell design for ultra low On-Resistance.
2. Advanced trench process technology.
3. RoHS Compliant.
4. ESD Protected



TSSOP-8

Pin 1/8: Drain1/ Drain2
 Pin 2/3: Source1
 Pin 4: Gate1
 Pin 5: Gate2
 Pin 6 / 7 : Source2

◆ Absolute Maximum Ratings ($T_A=25^{\circ}C$, unless otherwise noted)

| Symbol | Parameter | Ratings | Units |
|-----------------|---|-------------|---------------|
| V_{DS} | Drain-Source Voltage | 20 | V |
| V_{GS} | Gate-Source Voltage | ± 10 | V |
| I_D | Drain Current (Continuous) ^a | 8 | A |
| I_{DM} | Drain Current (Pulsed) ^b | 32 | A |
| P_D | Total Power Dissipation @ $T_A=25^{\circ}C$ | 2 | W |
| T_j, T_{stg} | Operating Junction and Storage Temperature Range | -55 to +150 | $^{\circ}C$ |
| $R_{\theta JA}$ | Thermal Resistance Junction to Ambient (PCB mounted) ^c | 100 | $^{\circ}C/W$ |



a:Fused current that based on wire numbers and diameter

b:Repetitive Rating: Pulse width limited by the maximum junction temperature

c:1-in² 2oz Cu PCB board

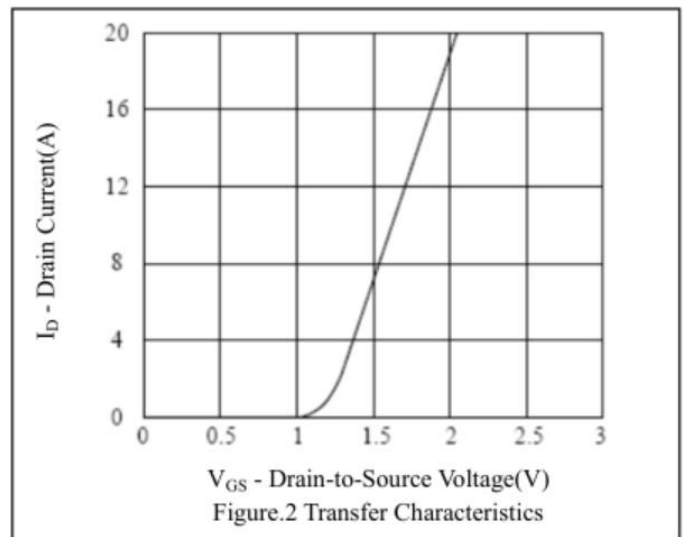
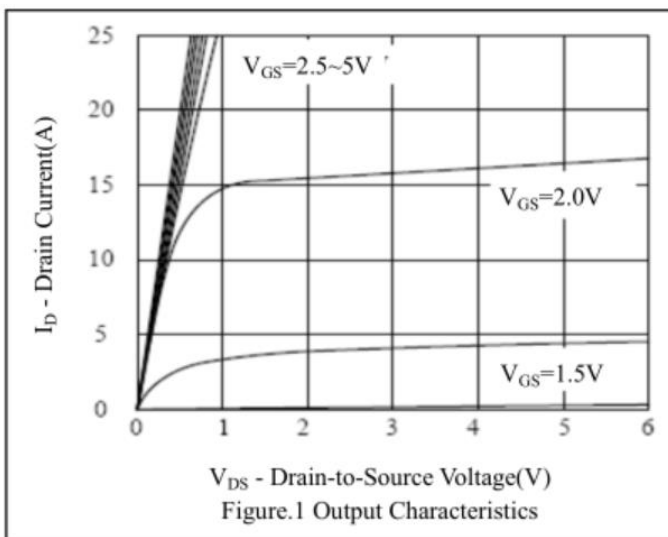
◆ **Electrical Characteristics** (T_A=25°C, unless otherwise noted)

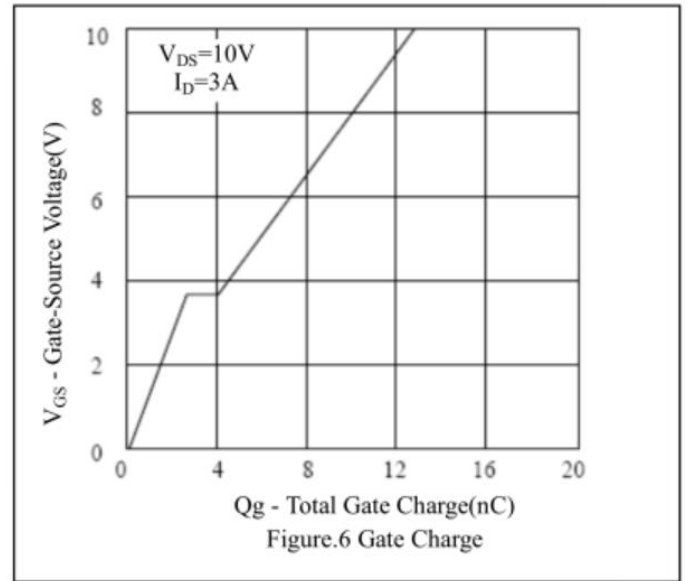
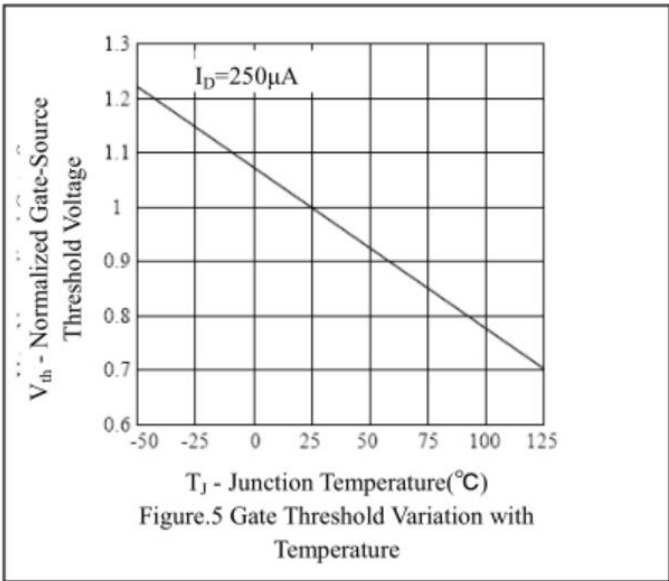
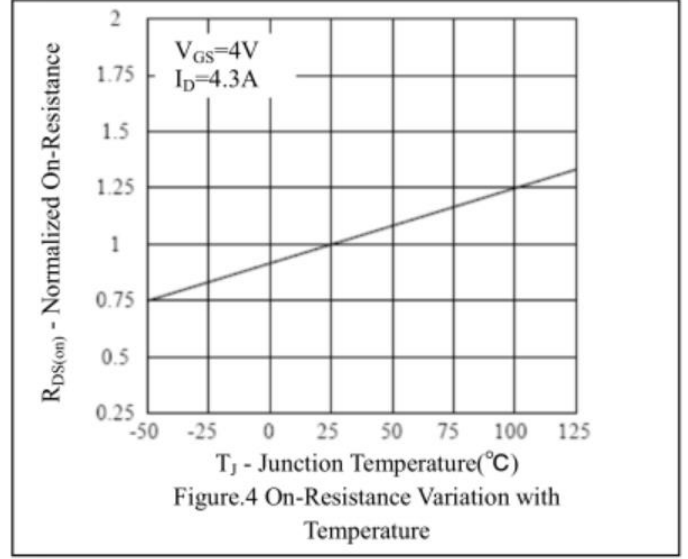
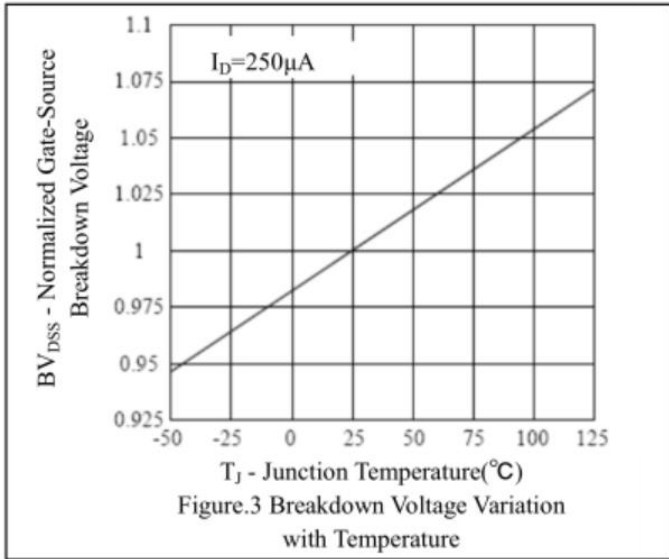
| Symbol | Parameter | Conditions | Min. | Typ. | Max. | Unit |
|--|------------------------------------|---|------|------|------|------|
| • Off Characteristics | | | | | | |
| BV _{DSS} | Drain-Source Breakdown Voltage | V _{GS} =0V, I _D =250uA | 20 | - | - | V |
| I _{DSS} | Zero Gate Voltage Drain Current | V _{DS} =15V, V _{GS} =0V | - | - | 1 | uA |
| I _{GSS} | Gate-Body Leakage Current | V _{GS} =±10V, V _{DS} =0V | - | - | ±10 | uA |
| • On Characteristics | | | | | | |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} =V _{GS} , I _D =250uA | 0.5 | - | 1.1 | V |
| R _{DS(on)} | Drain-Source On-State Resistance | V _{GS} =4.5V, I _D =4.5A | - | 12 | 13 | mΩ |
| | | V _{GS} =2.5V, I _D =3.5A | - | 14.5 | 16 | |
| • Dynamic Characteristics^d | | | | | | |
| C _{iss} | Input Capacitance | V _{DS} =10V, V _{GS} =0V, f=1MHz | - | 950 | - | pF |
| C _{oss} | Output Capacitance | | - | 450 | - | |
| C _{rss} | Reverse Transfer Capacitance | | - | 135 | - | |
| • Switching Characteristics^d | | | | | | |
| Q _g | Total Gate Charge | V _{DS} =10V, I _D =3A, V _{GS} =4.5V | - | 9.2 | - | nC |
| Q _{gs} | Gate-Source Charge | | - | 2.7 | - | |
| Q _{gd} | Gate-Drain Charge | | - | 3.7 | - | |
| t _{d(on)} | Turn-on Delay Time | V _{DD} =10V, I _D =1A, V _{GEN} =4.5V, R _G =6Ω | - | 10 | - | nS |
| t _r | Turn-on Rise Time | | - | 14 | - | |
| t _{d(off)} | Turn-off Delay Time | | - | 39 | - | |
| t _f | Turn-off Fall Time | | - | 26 | - | |
| • Drain-Source Diode Characteristics | | | | | | |
| I _S | Maximum Diode Forward Current | | - | - | 1.7 | A |
| V _{SD} | Drain-Source Diode Forward Voltage | V _{GS} =0V, I _S =1.7A | - | - | 1.2 | V |

Note: Pulse Test: Pulse Width ≤300us, Duty Cycle≤2%

d: Guaranteed by design: not subject to production testing

◆ **Characteristics Curve**





◆ Characteristics Curve

