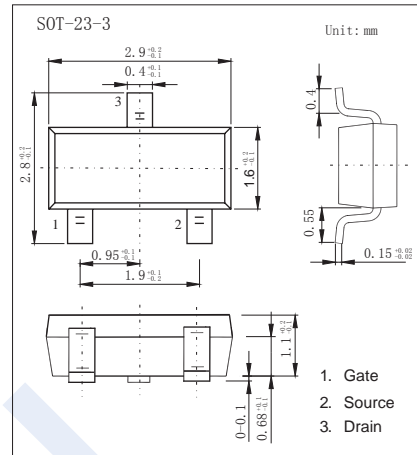
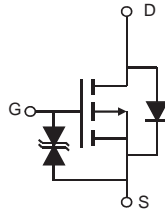


P-Channel MOSFET

2KJ6008EDS

■ Features

- $V_{DS} (V) = -20V$
- $I_D = -4A (V_{GS} = -4.5V)$
- $R_{DS(ON)} < 45m\Omega (V_{GS} = -4.5V)$
- $R_{DS(ON)} < 54m\Omega (V_{GS} = -2.5V)$
- $R_{DS(ON)} < 75m\Omega (V_{GS} = -1.8V)$
- ESD Rating: 3000V HBM



■ Absolute Maximum Ratings $T_a = 25^\circ C$

| Parameter | Symbol | Rating | Unit |
|--|------------|--------------------|--------------|
| Drain-Source Voltage | V_{DS} | -20 | V |
| Gate-Source Voltage | V_{GS} | ± 8 | |
| Continuous Drain Current | I_D | $T_a = 25^\circ C$ | A |
| | | $T_a = 70^\circ C$ | |
| Pulsed Drain Current | I_{DM} | -30 | |
| Power Dissipation (Note.1) | P_D | $T_a = 25^\circ C$ | W |
| | | $T_a = 70^\circ C$ | |
| Thermal Resistance.Junction- to-Ambient $t \leq 10s$ Steady-State | R_{thJA} | 80 | $^\circ C/W$ |
| | | 100 | |
| Thermal Resistance.Junction- to-Lead | R_{thJL} | 52 | |
| Junction Temperature | T_J | 150 | $^\circ C$ |
| Junction Storage Temperature Range | T_{stg} | -55 to 150 | |

Note.1: The power dissipation P_D is based on $T_{J(MAX)}=150^\circ C$, using $\leq 10s$ junction-to-ambient thermal resistance.

P-Channel MOSFET

2KJ6008EDS

■ Electrical Characteristics Ta = 25°C

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---------------------------------------|---------------------|---|------|-------|------|------|
| Drain-Source Breakdown Voltage | V _{DSS} | I _D =-250 μA, V _{GS} =0V | -20 | | | V |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} =-20V, V _{GS} =0V | | | -1 | μA |
| | | V _{DS} =-20V, V _{GS} =0V, T _J =55°C | | | -5 | |
| Gate-Body leakage current | I _{GSS} | V _{DS} =0V, V _{GS} =±8V | | | ±10 | μA |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} =V _{GS} I _D =-250 μA | -0.3 | -0.57 | -0.9 | V |
| Static Drain-Source On-Resistance | R _{DS(on)} | V _{GS} =-4.5V, I _D =-4A | | 40 | 45 | mΩ |
| | | V _{GS} =-4.5V, I _D =-4A T _J =125°C | | 51 | 62 | |
| | | V _{GS} =-2.5V, I _D =-4A | | 49 | 54 | |
| | | V _{GS} =-1.8V, I _D =-2A | | 60 | 75 | |
| | | V _{GS} =-1.5V, I _D =-1A | | 76 | | |
| On state drain current | I _{D(ON)} | V _{GS} =-4.5V, V _{DS} =-5V | -30 | | | A |
| Forward Transconductance | g _{FS} | V _{DS} =-5V, I _D =-4A | | 20 | | S |
| Input Capacitance | C _{iss} | V _{GS} =0V, V _{DS} =-10V, f=1MHz | | 1450 | | pF |
| Output Capacitance | C _{oss} | | | 205 | | |
| Reverse Transfer Capacitance | C _{rss} | | | 160 | | |
| Gate resistance | R _g | V _{GS} =0V, V _{DS} =0V, f=1MHz | | 6.5 | | Ω |
| Total Gate Charge | Q _g | V _{GS} =-4.5V, V _{DS} =-10V, I _D =-4A | | 17.2 | | nC |
| Gate Source Charge | Q _{gs} | | | 1.3 | | |
| Gate Drain Charge | Q _{gd} | | | 4.5 | | |
| Turn-On DelayTime | t _{d(on)} | V _{GS} =-4.5V, V _{DS} =-10V, R _L =2.5 Ω, R _{GEN} =3 Ω | | 9.5 | | ns |
| Turn-On Rise Time | t _r | | | 17 | | |
| Turn-Off DelayTime | t _{d(off)} | | | 94 | | |
| Turn-Off Fall Time | t _f | | | 35 | | |
| Body Diode Reverse Recovery Time | t _{rr} | | | 31 | | |
| Body Diode Reverse Recovery Charge | Q _{rr} | I _F =-4A, di/dt=100A/μs | | 13.8 | | nC |
| Maximum Body-Diode Continuous Current | I _S | | | | -2.2 | A |
| Diode Forward Voltage | V _{SD} | I _S =-1A, V _{GS} =0V | | -0.78 | -1 | V |

■ Marking

| | |
|---------|-----|
| Marking | JA8 |
|---------|-----|

P-Channel MOSFET 2KJ6008EDS

■ Typical Characteristics

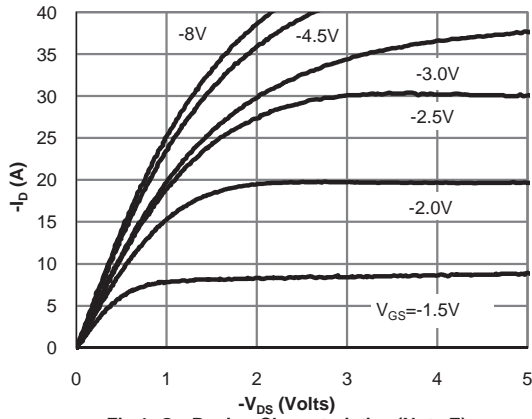


Fig 1: On-Region Characteristics (Note E)

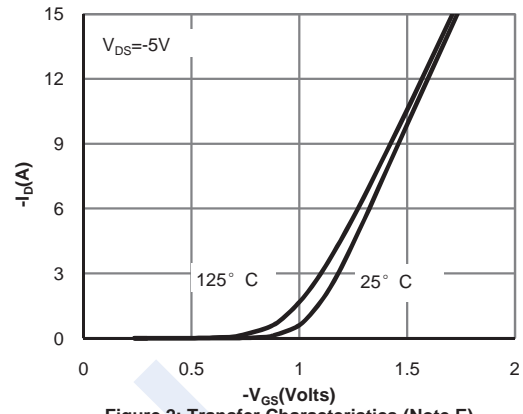


Figure 2: Transfer Characteristics (Note E)

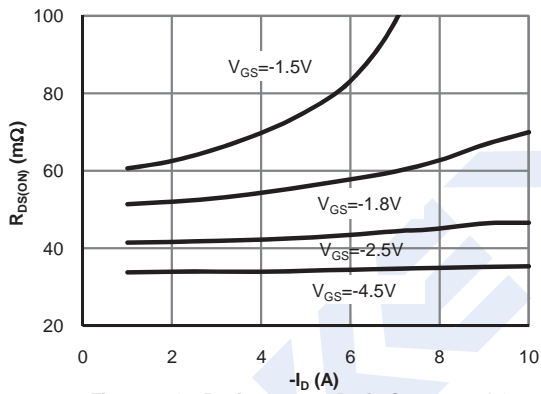


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

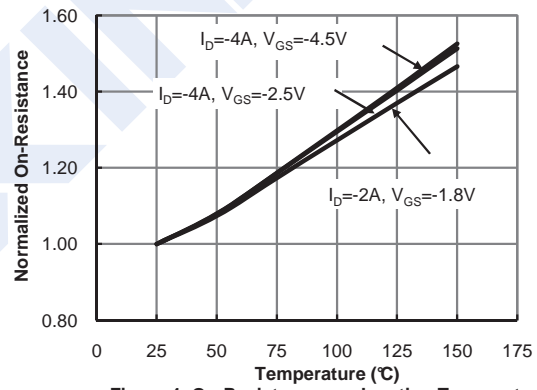


Figure 4: On-Resistance vs. Junction Temperature (Note E)

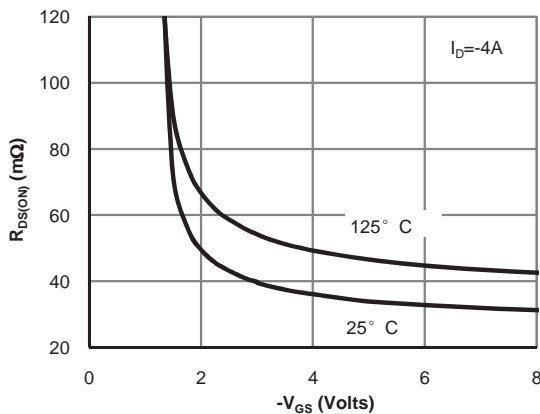


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

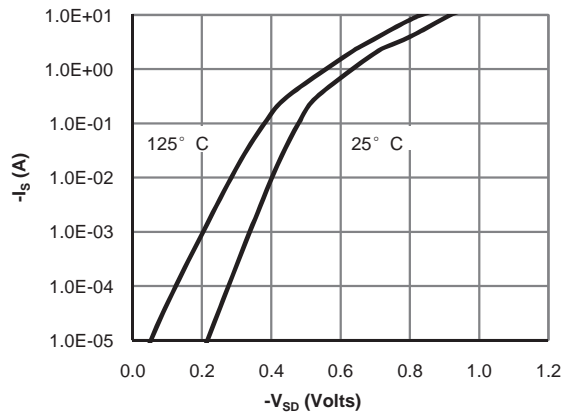


Figure 6: Body-Diode Characteristics (Note E)

P-Channel MOSFET 2KJ6008EDS

■ Typical Characteristics

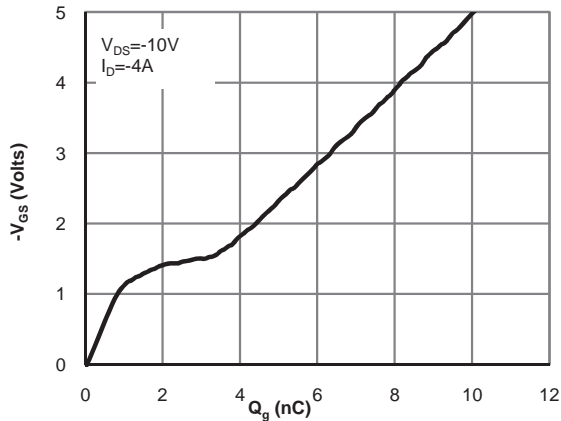


Figure 7: Gate-Charge Characteristics

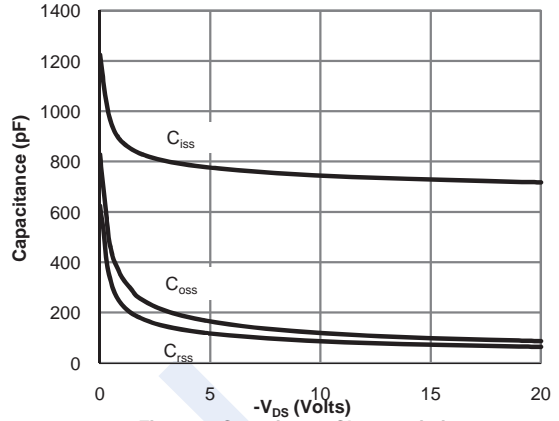


Figure 8: Capacitance Characteristics

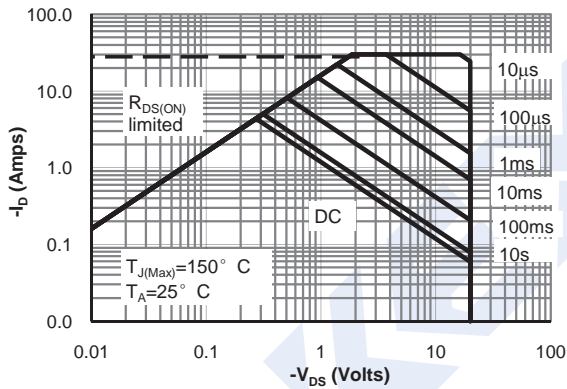


Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

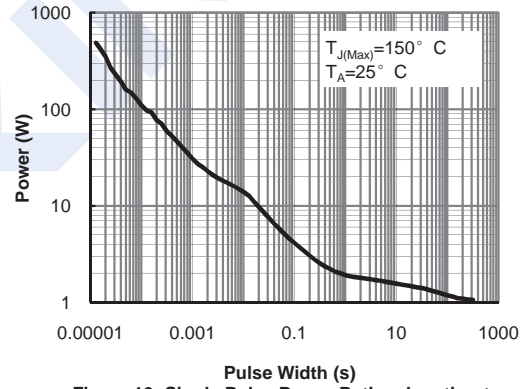


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note F)

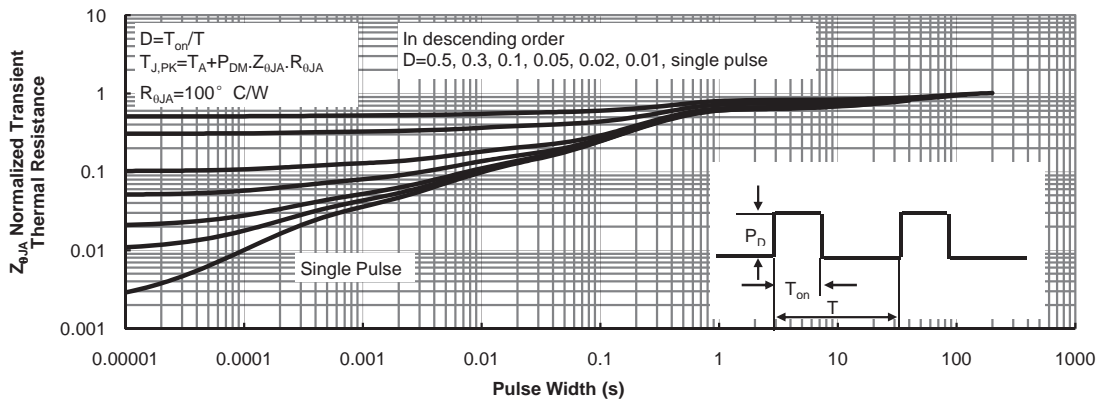


Figure 11: Normalized Maximum Transient Thermal Impedance (Note F)