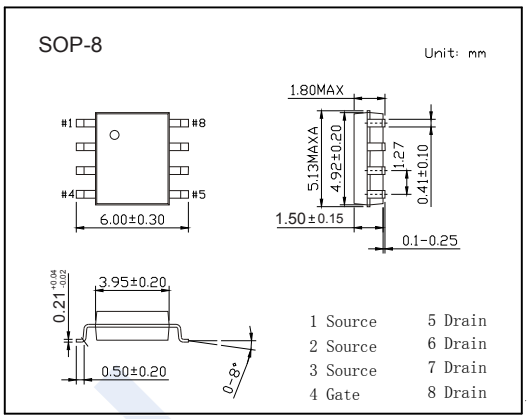
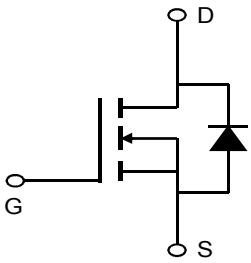
# N-Channel MOSFET

# AO4266 (KO4266)




## ■ Features

- $V_{DS}$ (V) = 60V
- $I_D$ = 10 A ($V_{GS}$ = 10V)
- $R_{DS(ON)}$ < 15mΩ ($V_{GS}$ = 10V)
- $R_{DS(ON)}$ < 19mΩ ($V_{GS}$ = 4.5V)




## ■ Absolute Maximum Ratings Ta = 25℃

| Parameter | | Symbol | Rating | Unit |
|---|---|---|---|---|
| Drain-Source Voltage | | $V_{DS}$ | 60 | V |
| Gate-Source Voltage | | $V_{GS}$ | ±20 | |
| VDS Spike @ 10us | | $V_{SPIKE}$ | 72 | |
| Continuous Drain Current | TA=25℃ | $I_D$ | 10 | A |
| | TA=70℃ | | 8 | |
| Pulsed Drain Current | | $I_{DM}$ | 40 | |
| Avalanche Current | | $I_{AS}$ | 20 | |
| Avalanche Energy | L=0.1mH | $E_{AS}$ | 20 | mJ |
| Power Dissipation | TA=25℃ | $P_D$ | 3.1 | W |
| | TA=70℃ | | 2 | |
| Thermal Resistance.Junction- to-Ambient | t ≤ 10s | $R_{thJA}$ | 40 | ℃/W |
| | Steady-State | | 75 | |
| Thermal Resistance.Junction- to-Lead | | $R_{thJL}$ | 24 | |
| Junction Temperature | | $T_J$ | 150 | ℃ |
| Storage Temperature Range | | $T_{stg}$ | -55 to 150 | |

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■ Electrical Characteristics Ta = 25℃

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Drain-Source Breakdown Voltage | $V_{DSS}$ | $I_D$=250 uA, $V_{GS}$=0V | 60 | | | V |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$=60V, $V_{GS}$=0V | | | 1 | uA |
| | | $V_{DS}$=60V, $V_{GS}$=0V, $T_J$=55℃ | | | 5 | |
| Gate-Body Leakage Current | $I_{GSS}$ | $V_{DS}$=0V, $V_{GS}$=±20V | | | ±100 | nA |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}$=$V_{GS}$ , $I_D$=250uA | 1.5 | | 2.5 | V |
| Static Drain-Source On-Resistance | $R_{DS(on)}$ | $V_{GS}$=10V, $I_D$=10A | | | 15 | mΩ |
| | | $V_{GS}$=10V, $I_D$=10A $T_J$=125℃ | | | 25 | |
| | | $V_{GS}$=4.5V, $I_D$=9A | | | 19 | |
| Forward Transconductance | $g_{FS}$ | $V_{DS}$=5V, $I_D$=10A | | 35 | | S |
| Input Capacitance | $C_{iss}$ | $V_{GS}$=0V, $V_{DS}$=30V, f=1MHz | | 1340 | | pF |
| Output Capacitance | $C_{oss}$ | | | 123 | | |
| Reverse Transfer Capacitance | $C_{rss}$ | | | 10 | | |
| Gate Resistance | $R_g$ | $V_{GS}$=0V, $V_{DS}$=0V, f=1MHz | 0.7 | | 2.3 | Ω |
| Total Gate Charge (10V) | $Q_g$ | $V_{GS}$=10V, $V_{DS}$=30V, $I_D$=10A | | 21 | 30 | nC |
| Total Gate Charge (4.5V) | | | | 9 | 15 | |
| Gate Source Charge | $Q_{gs}$ | | | 4.7 | | |
| Gate Drain Charge | $Q_{gd}$ | | | 2.6 | | |
| Turn-On DelayTime | $t_{d(on)}$ | $V_{GS}$=10V, $V_{DS}$=30V, $R_L$=3Ω, $R_{GEN}$=3Ω | | 6 | | ns |
| Turn-On Rise Time | $t_r$ | | | 2.5 | | |
| Turn-Off DelayTime | $t_{d(off)}$ | | | 22 | | |
| Turn-Off Fall Time | $t_f$ | | | 2.5 | | |
| Body Diode Reverse Recovery Time | $t_{rr}$ | $I_F$= 10A, $di/dt$= 500A/us | | 15.5 | | |
| Body Diode Reverse Recovery Charge | $Q_{rr}$ | | | 55.5 | | nC |
| Maximum Body-Diode Continuous Current | $I_S$ | | | | 4 | A |
| Diode Forward Voltage | $V_{SD}$ | $I_S$=1A,$V_{GS}$=0V | | | 1 | V |

Note : The static characteristics in Figures 1 to 6 are obtained using <300 μs pulses, duty cycle 0.5% max.

■ Marking

| | |
|---|---|
| Marking | 4266<br>KC**** |

# N-Channel MOSFET

## AO4266 (KO4266)

■ Typical Characterisitics

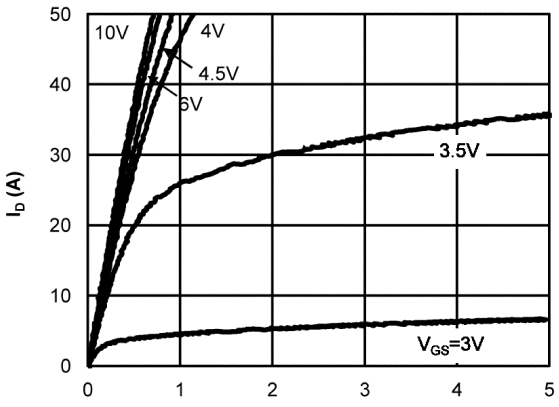


Figure 1: On-Region Characteristics (Note E)

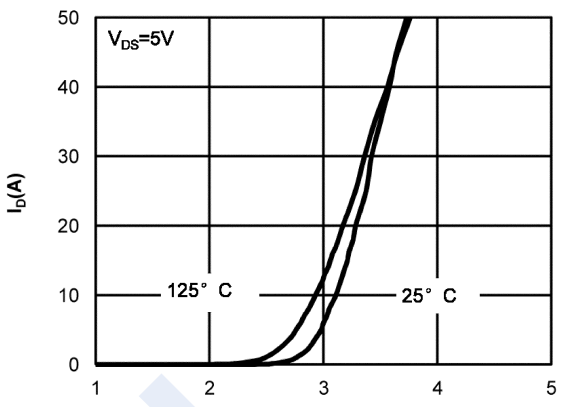


Figure 2: Transfer Characteristics (Note E)

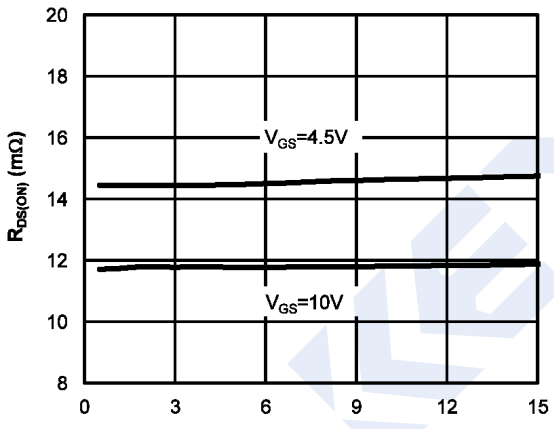


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

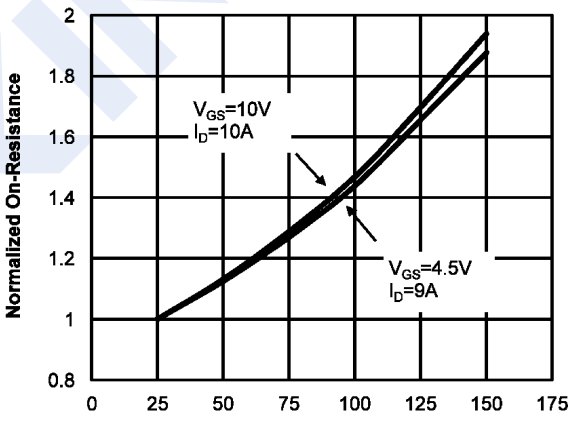


Figure 4: On-Resistance vs. Junction Temperature (Note E)

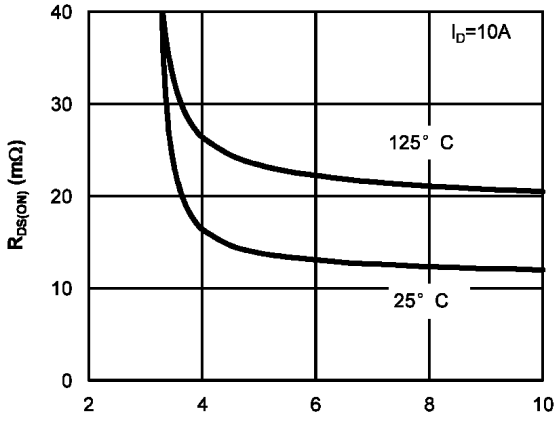


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

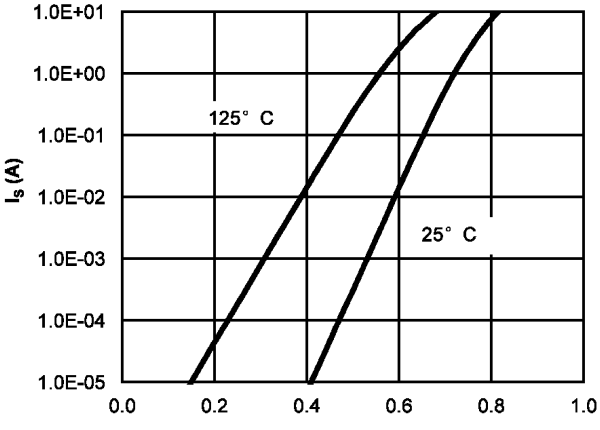


Figure 6: Body-Diode Characteristics (Note E)

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■ Typical Characterisitics

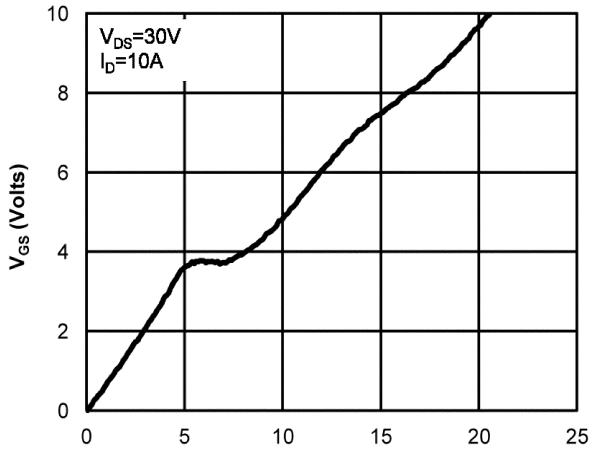


Figure 7: Gate-Charge Characteristics

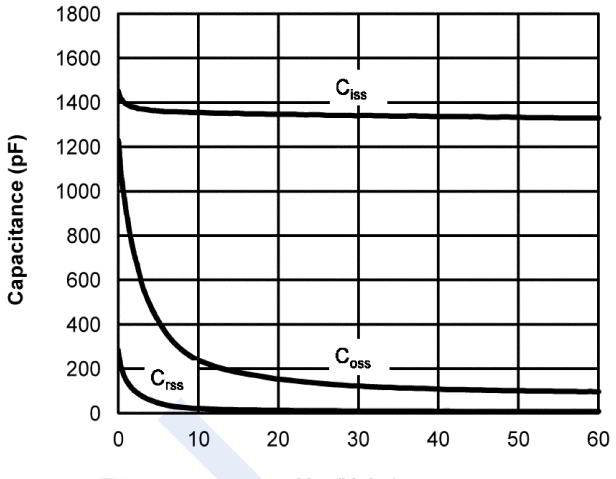


Figure 8: Capacitance Characteristics

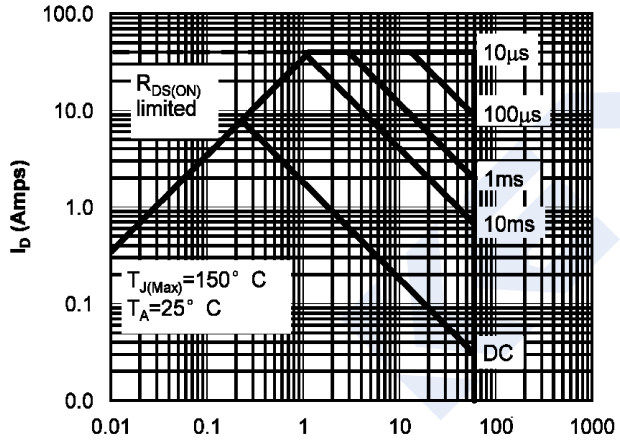


Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

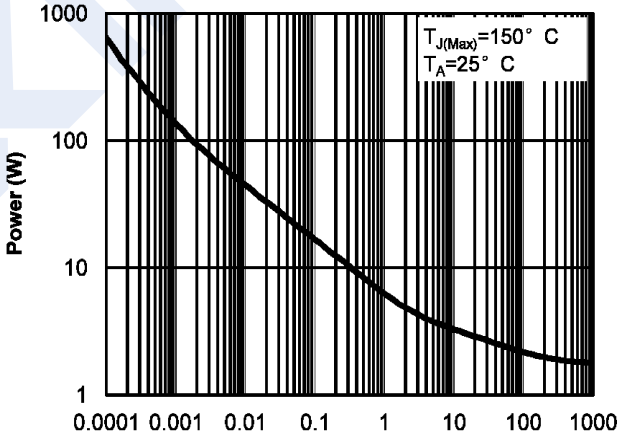


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note F)

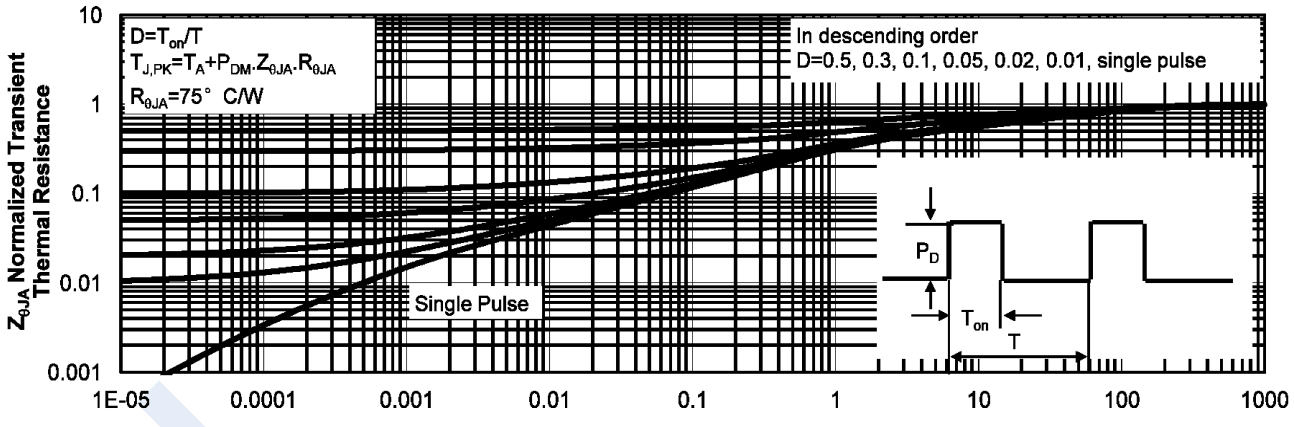


Figure 11: Normalized Maximum Transient Thermal Impedance (Note F)