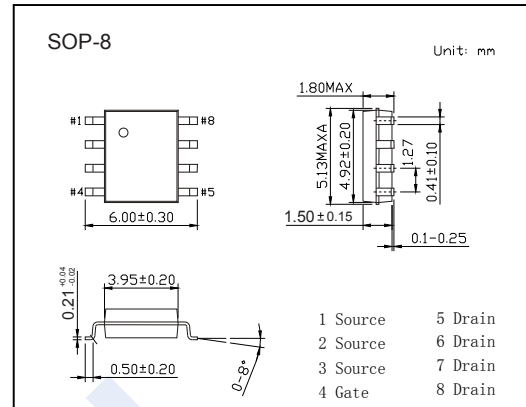
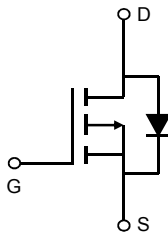


P-Channel MOSFET

AO4335 (KO4335)

■ Features

- $V_{DS} (V) = -30V$
- $I_D = -10.5 A$ ($V_{GS} = -20V$)
- $R_{DS(ON)} < 14m\Omega$ ($V_{GS} = -20V$)
- $R_{DS(ON)} < 18m\Omega$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 36m\Omega$ ($V_{GS} = -5V$)

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

| Parameter | Symbol | Rating | Unit | |
|---|-------------|--------------------|------------|--------------|
| Drain-Source Voltage | V_{DS} | -30 | V | |
| Gate-Source Voltage | V_{GS} | ± 25 | | |
| Continuous Drain Current | I_D | $T_A = 25^\circ C$ | -10.5 | |
| | | $T_A = 70^\circ C$ | -8 | |
| Pulsed Drain Current | I_{DM} | -80 | A | |
| Avalanche Current | I_{AR} | -20 | | |
| Repetitive avalanche energy | $L = 0.3mH$ | E_{AS}, E_{AR} | 60 | mJ |
| Power Dissipation | P_D | $T_A = 25^\circ C$ | 3.1 | W |
| | | $T_A = 70^\circ C$ | 2 | |
| Thermal Resistance.Junction- to-Ambient | R_{thJA} | $t \leq 10s$ | 40 | $^\circ C/W$ |
| | | Steady-State | 75 | |
| Thermal Resistance.Junction- to-Lead | R_{thJL} | 24 | | |
| Junction Temperature | T_J | 150 | $^\circ C$ | |
| Junction Storage Temperature Range | T_{stg} | -55 to 150 | | |

P-Channel MOSFET

AO4335 (KO4335)

■ 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 | -30 | | | V | |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} =-30V, V _{GS} =0V | | | -1 | μA | |
| | | V _{DS} =-30V, V _{GS} =0V, T _J =55°C | | | -5 | | |
| Gate-Body leakage current | I _{GSS} | V _{DS} =0V, V _{GS} =±25V | | | ±100 | nA | |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} =V _{GS} I _D =-250 μA | -1.7 | | -3 | V | |
| Static Drain-Source On-Resistance | R _{DS(on)} | V _{GS} =-20V, I _D =-11A | | | 14 | mΩ | |
| | | V _{GS} =-20V, I _D =-11A T _J =125°C | | | 19 | | |
| | | V _{GS} =-10V, I _D =-10A | | | 18 | | |
| | | V _{GS} =-5V, I _D =-5A | | | 36 | | |
| On state drain current | I _{D(ON)} | V _{GS} =-10V, V _{DS} =-5V | -80 | | | A | |
| Forward Transconductance | g _{FS} | V _{DS} =-5V, I _D =-10A | | 22 | | S | |
| Input Capacitance | C _{iss} | V _{GS} =0V, V _{DS} =-15V, f=1MHz | | 1130 | | pF | |
| Output Capacitance | C _{oss} | | | 240 | | | |
| Reverse Transfer Capacitance | C _{rss} | | | 155 | | | |
| Gate resistance | R _g | V _{GS} =0V, V _{DS} =0V, f=1MHz | 0.7 | | 2.8 | Ω | |
| Total Gate Charge (10V) | Q _g | V _{GS} =-10V, V _{DS} =-15V, I _D =-10A | | 18 | 28 | nC | |
| Total Gate Charge (4.5V) | | | | 9.5 | | | |
| Gate Source Charge | | | Q _{gs} | | 5.5 | | |
| Gate Drain Charge | | | Q _{gd} | | 3.3 | | |
| Turn-On DelayTime | t _{d(on)} | V _{GS} =-10V, V _{DS} =-15V, R _L =1.5Ω R _{GEN} =3Ω | | 8.7 | | ns | |
| Turn-On Rise Time | t _r | | | 8.5 | | | |
| Turn-Off DelayTime | t _{d(off)} | | | 18 | | | |
| Turn-Off Fall Time | t _f | | | 7 | | | |
| Body Diode Reverse Recovery Time | t _{rr} | I _F =-10A, di/dt=100A/us | | 25 | | nC | |
| Body Diode Reverse Recovery Charge | Q _{rr} | | | 12 | | | |
| Maximum Body-Diode Continuous Current | I _S | | | | -3.5 | 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 | 4335 |
| | KC**** |

P-Channel MOSFET

AO4335 (KO4335)

■ Typical Characteristics

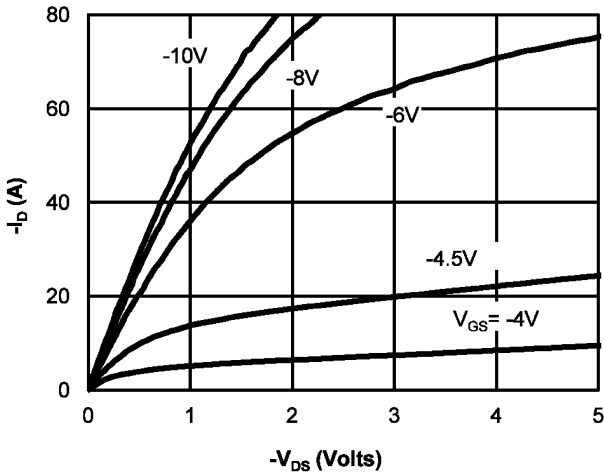


Figure 1: On-Region Characteristics

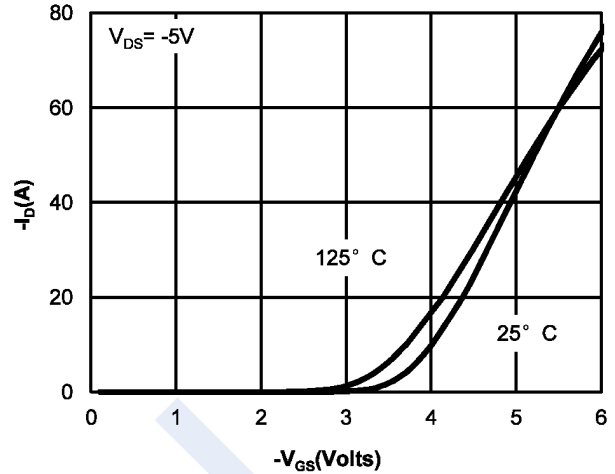


Figure 2: Transfer Characteristics

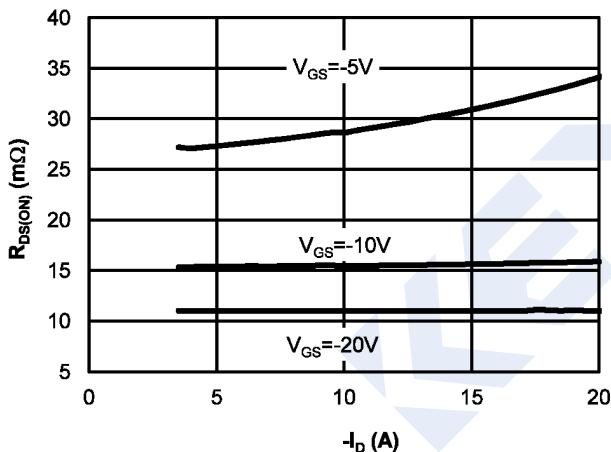


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

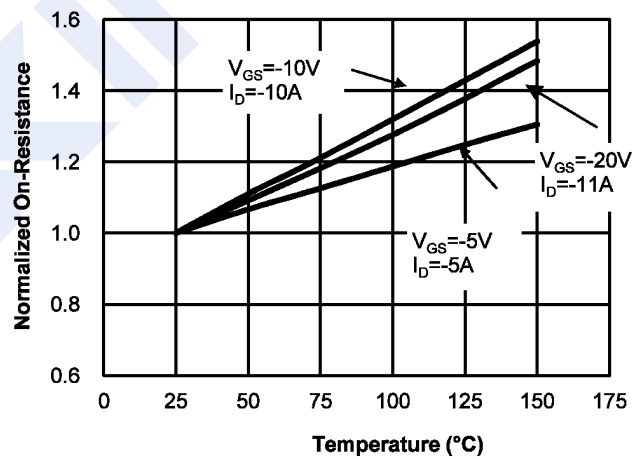


Figure 4: On-Resistance vs. Junction Temperature

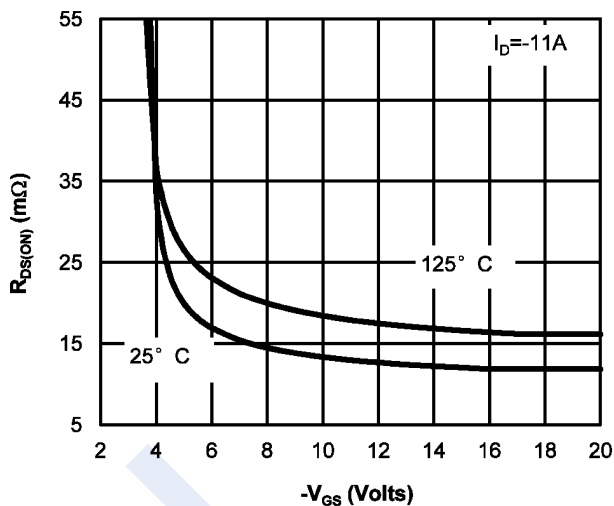


Figure 5: On-Resistance vs. Gate-Source Voltage

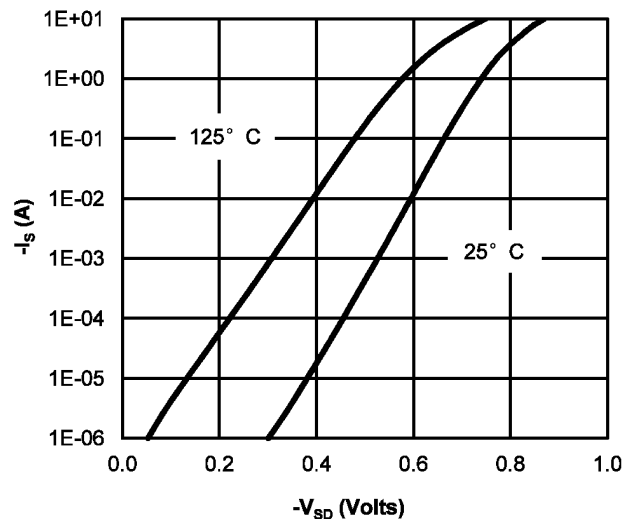


Figure 6: Body-Diode Characteristics

P-Channel MOSFET AO4335 (KO4335)

■ Typical Characteristics

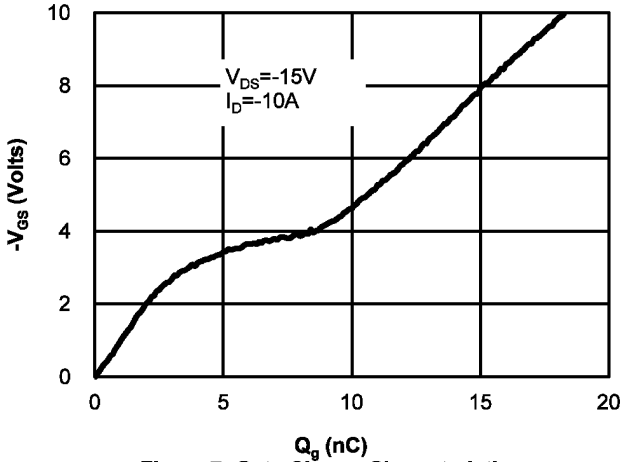


Figure 7: Gate-Charge Characteristics

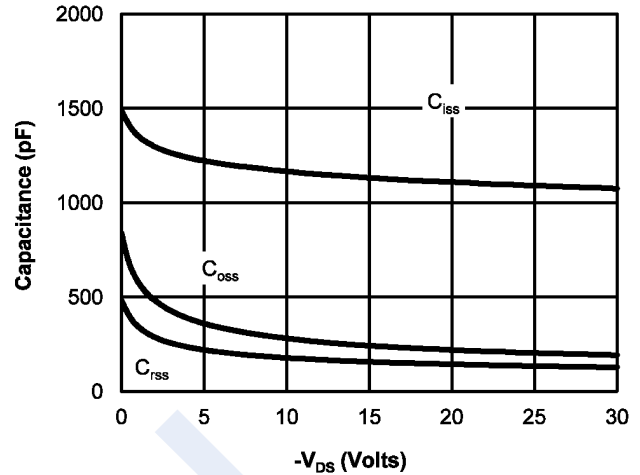


Figure 8: Capacitance Characteristics

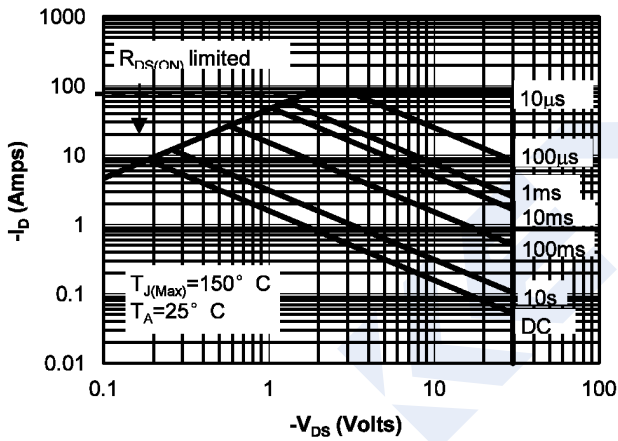


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

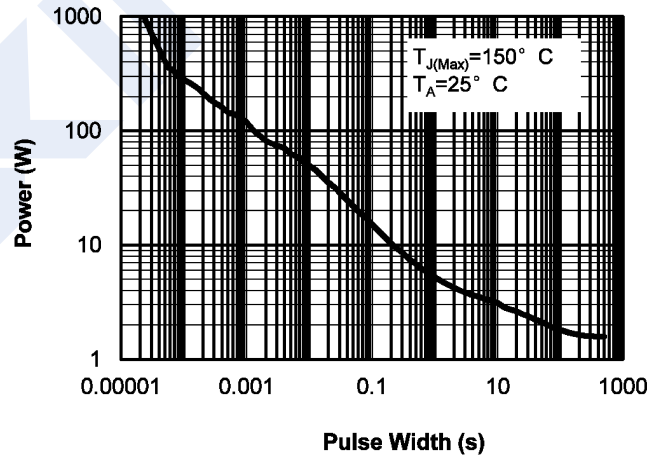


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

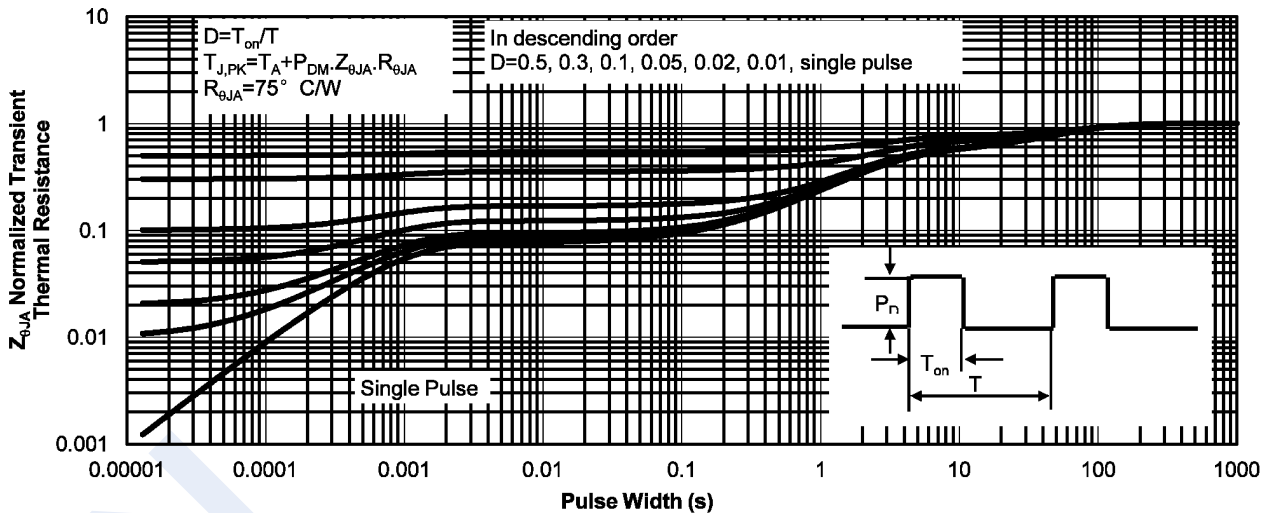


Figure 11: Normalized Maximum Transient Thermal Impedance (Note E)