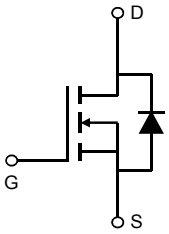
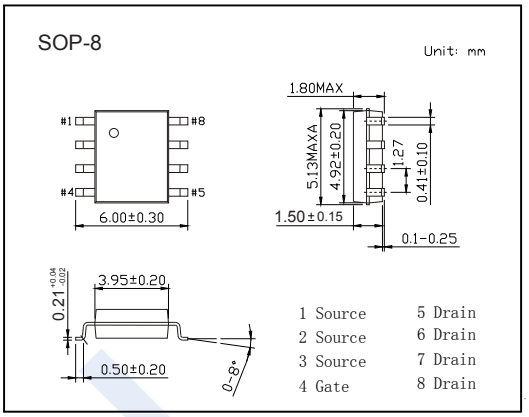
N-Channel MOSFET

AO4260 (KO4260)

■ Features

- $V_{DS\ (V)}$ = 60V
- I_D = 18 A (V_{GS} = 10V)
- $R_{DS(ON)}$ < 5.2mΩ (V_{GS} = 10V)
- $R_{DS(ON)}$ < 6.3mΩ (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	
Continuous Drain Current	TA=25℃	I_D	18	A
	TA=70℃		14	
Pulsed Drain Current		I_{DM}	130	
Avalanche Current		I_{AS}	65	
Avalanche energy	L=0.1mH	E_{AS}	211	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	

N-Channel MOSFET

AO4260 (KO4260)

■ 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	1.3		2.4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=18A			5.2	mΩ
		V_{GS}=10V, I_D=18A T_J=125℃			8.4	
		V_{GS}=4.5V, I_D=16A			6.3	
On State Drain Current	$I_{D(ON)}$	V_{GS}=10V, V_{DS}=5V	130			A
Forward Transconductance	g_{FS}	V_{DS}=5V, I_D=18A		70		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=30V, f=1MHz		4940		pF
Output Capacitance	C_{oss}			445		
Reverse Transfer Capacitance	C_{rss}			32		
Gate Resistance	R_g	V_{GS}=0V, V_{DS}=0V, f=1MHz	0.4		1.4	Ω
Total Gate Charge (10V)	Q_g	V_{GS}=10V, V_{DS}=30V, I_D=18A		71	100	nC
Total Gate Charge (4.5V)				31	45	
Gate Source Charge	Q_{gs}			12.5		
Gate Drain Charge	Q_{gd}			8.5		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=10V, V_{DS}=30V, R_L=1.67Ω, R_{GEN}=3Ω		8.5		ns
Turn-On Rise Time	t_r			8.5		
Turn-Off DelayTime	$t_{d(off)}$			50		
Turn-Off Fall Time	t_f			15.5		
Body Diode Reverse Recovery Time	t_{rr}	I_F= 18A, dI/dt= 500A/us		22		
Body Diode Reverse Recovery Charge	Q_{rr}			96		nC
Maximum Body-Diode Continuous Current	I_S				4.5	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	4260 KC****

N-Channel MOSFET

AO4260 (KO4260)

■ Typical Characterisitics

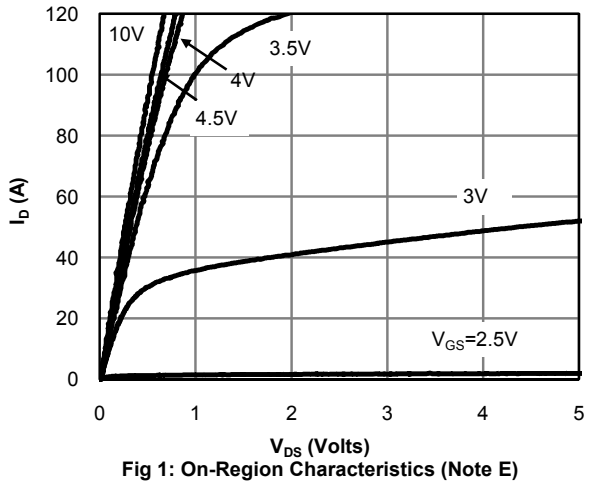


Fig 1: On-Region Characteristics (Note E)

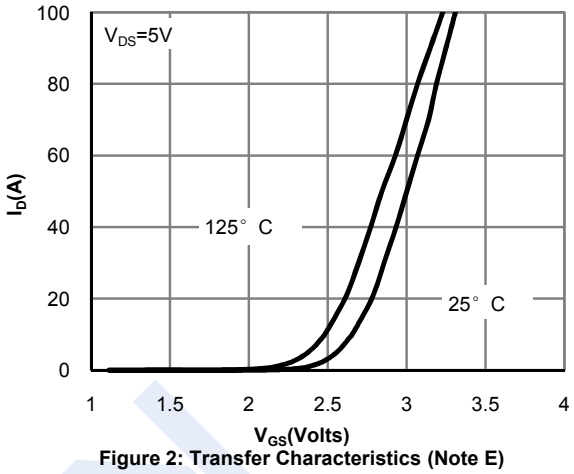


Figure 2: Transfer Characteristics (Note E)

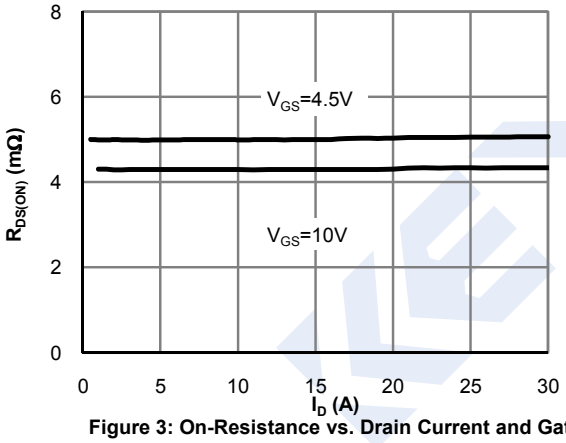


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

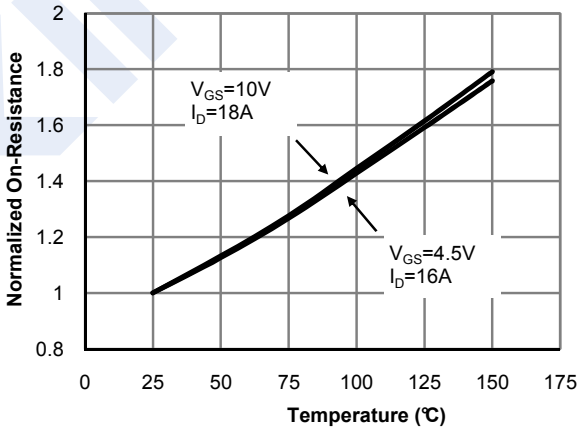


Figure 4: On-Resistance vs. Junction Temperature (Note E)

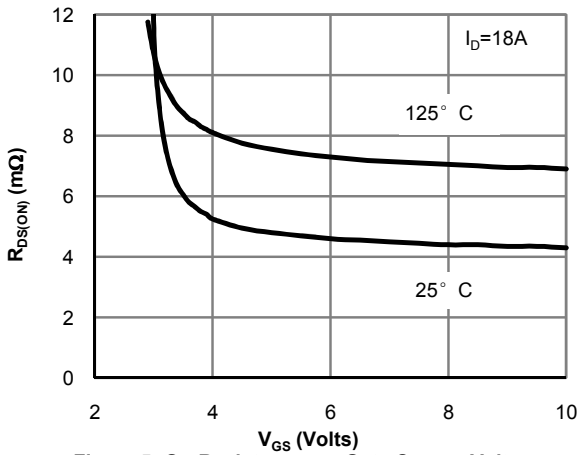


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

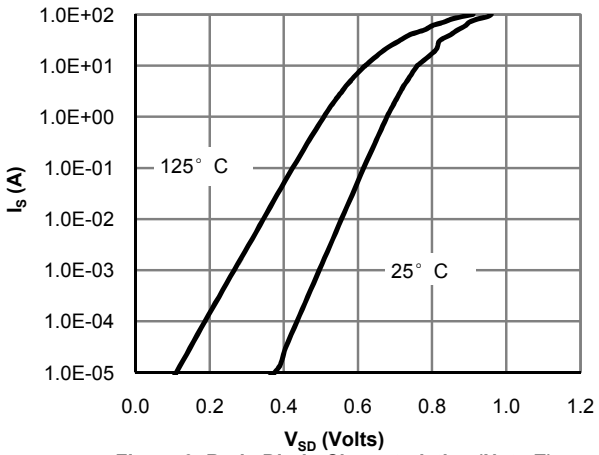


Figure 6: Body-Diode Characteristics (Note E)

N-Channel MOSFET

AO4260 (KO4260)

■ Typical Characterisitics

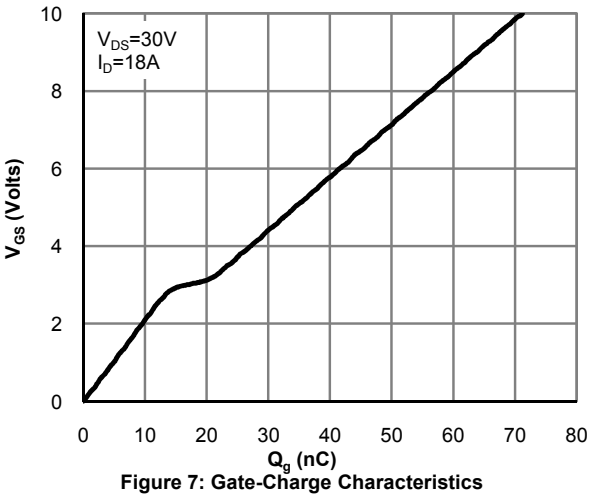


Figure 7: Gate-Charge Characteristics

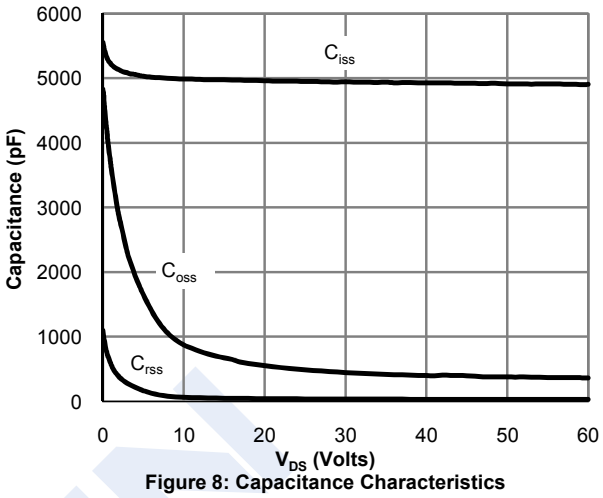


Figure 8: Capacitance Characteristics

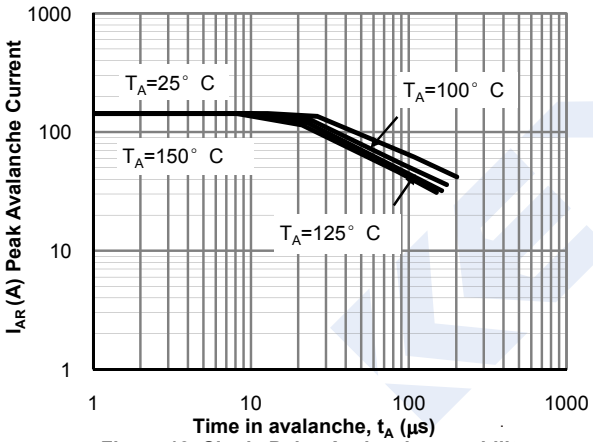


Figure 12: Single Pulse Avalanche capability (Note C)

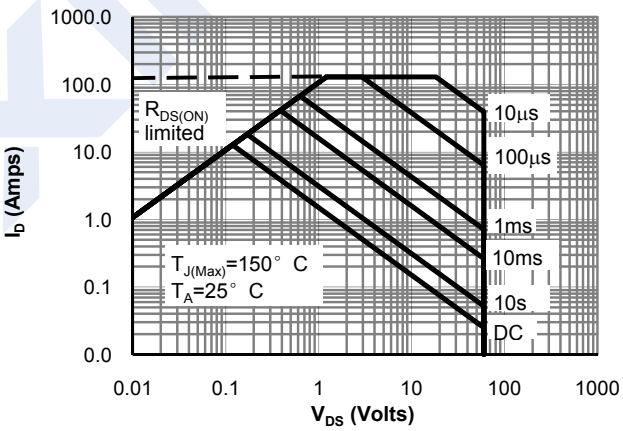


Figure 10: Maximum Forward Biased Safe Operating Area (Note F)

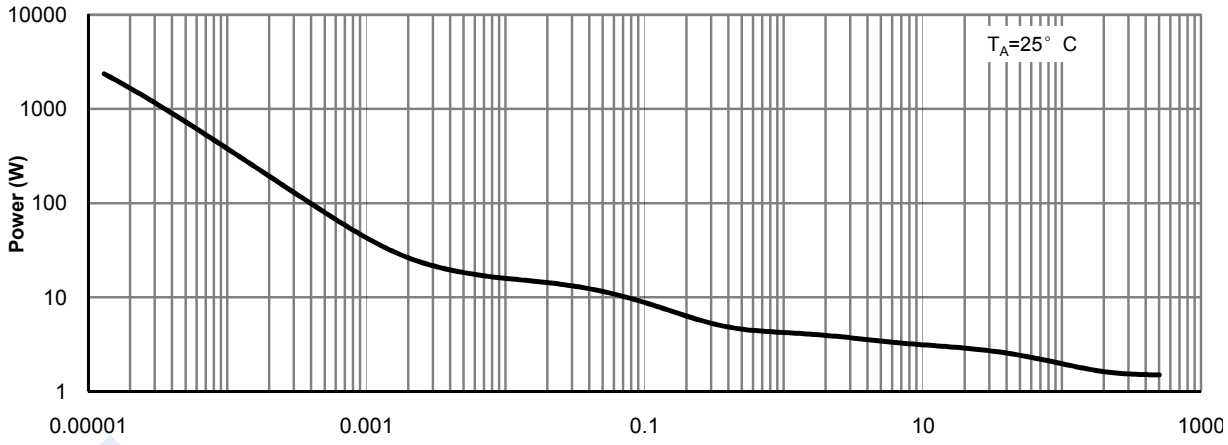


Figure 11: Single Pulse Power Rating Junction-to-Ambient (Note F)

N-Channel MOSFET

AO4260 (KO4260)

■ Typical Characterisitics

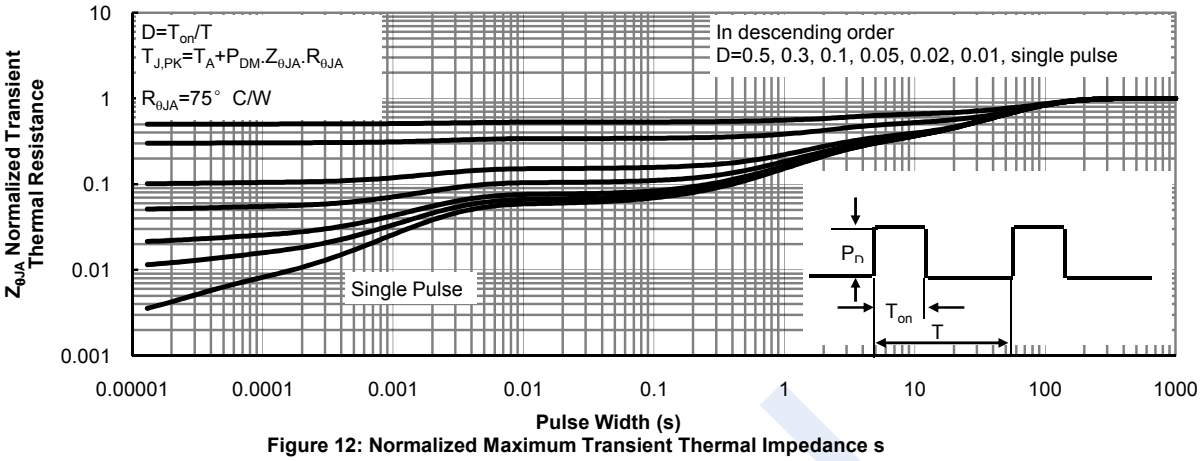


Figure 12: Normalized Maximum Transient Thermal Impedance s