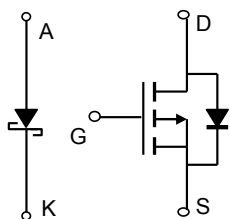
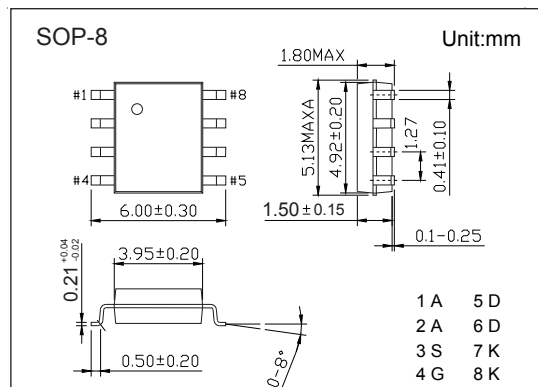


P-Channel MOSFET

AO4771 (KO4771)

■ Features

- $V_{DS} (V) = -30V$
- $I_D = -4 A$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 68m\Omega$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 105m\Omega$ ($V_{GS} = -4.5V$)
- $V_{DS} (V) = 30V$, $I_F = 4A$, $V_F < 0.5V @ 1A$

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

Parameter		Symbol	MOSFET	Schottky	Unit
Drain-Source Voltage		V _{DS}	-30		V
Gate-Source Voltage		V _{GS}	±20		
Schottky Reverse Voltage		V _{KA}		30	
Continuous Drain Current	T _A =25℃	I _D	-4		A
	T _A =70℃		-3		
Pulsed Drain Current		I _{DM}	-18		
Continuous Forward Current	T _A =25℃	I _F		4	
	T _A =70℃			2.5	
Avalanche Current		I _{AS} , I _{AR}	11		
Avalanche Energy	L=0.1mH	E _{AS} , E _{AR}	6		mJ
Power Dissipation	T _A =25℃	P _D	2		W
	T _A =70℃		1.3		
Thermal Resistance.Junction- to-Ambient	t ≤ 10s	R _{thJA}	62.5		℃/W
	Steady-State		90		
Thermal Resistance.Junction- to-Lead		R _{thJL}	40		℃
Junction Temperature		T _J	150		
Storage Temperature Range		T _{stg}	-55 to 150		

P-Channel MOSFET

AO4771 (KO4771)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DS}	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} =±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250 μA	-1.3		-2.3	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-4A			68	mΩ
		V _{GS} =-10V, I _D =-4A, T _J =125°C			95	
		V _{GS} =-4.5V, I _D =-3A			105	
On State Drain Current	I _{D(on)}	V _{GS} =-10V, V _{DS} =-5V	-18			A
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-4A		8		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-15V, f=1MHz	230		350	pF
Output Capacitance	C _{oss}		40		80	
Reverse Transfer Capacitance	C _{rss}		25		55	
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz	7.5		24	Ω
Total Gate Charge (10V)	Q _g	V _{GS} =-10V, V _{DS} =-15V, I _D =-4A	4.6		7	nC
Total Gate Charge (4.5V)			2.2		3	
Gate Source Charge	Q _{gs}		0.9		1.3	
Gate Drain Charge	Q _{gd}		0.8		1.8	
Turn-On DelayTime	t _{d(on)}			6		ns
Turn-On Rise Time	t _r	V _{GS} =-10V, V _{DS} =-15V, R _L =3.75Ω, R _{GEN} =3Ω		5		
Turn-Off DelayTime	t _{d(off)}			21		
Turn-Off Fall Time	t _f			9		
Body Diode+Schottky Reverse Recovery Time	t _{rr}	I _F = -4A, dI _F /dt= 100A/us	8		12	nC
Body Diode+Schottky Reverse Recovery Charge	Q _{rr}		16		24	
Body-Diode + Schottky Continuous Current	I _S				-2	A
Diode + Schottky Forward Voltage	V _{SD}	I _S = -1A, V _{GS} =0V			-1	V
Forward Voltage Drop	V _F	I _F = 1A			0.5	
Maximum reverse leakage current	I _{rm}	V _R =24V			0.05	mA
		V _R =24V, T _J =125°C			10	
Junction Capacitance	C _T	V _R =15V		56		pF

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

■ Marking

Marking	4771 KC****
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P-Channel MOSFET

AO4771 (KO4771)

■ Typical Characteristics

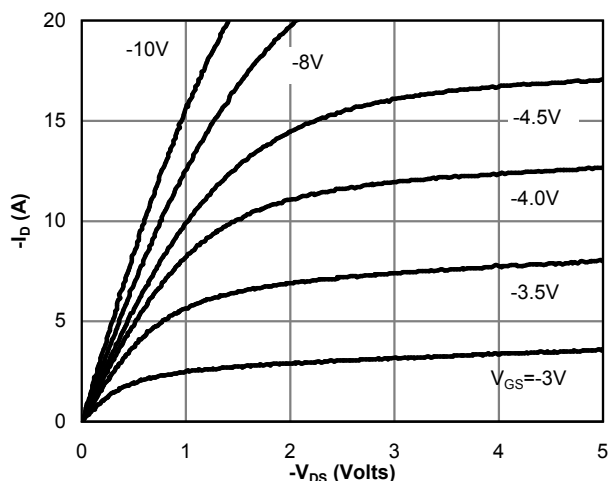


Fig 1: On-Region Characteristics(Note E)

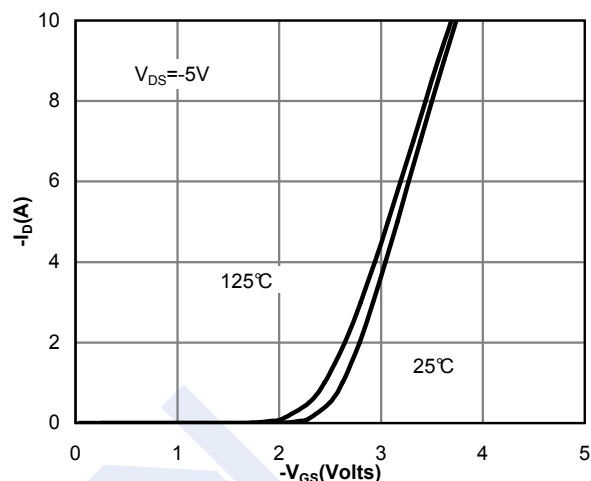


Figure 2: Transfer Characteristics(Note E)

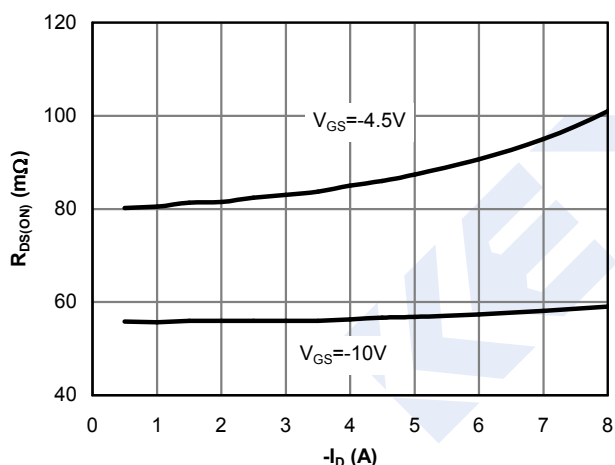


Figure 3: On-Resistance vs. Drain Current and Gate Voltage(Note E)

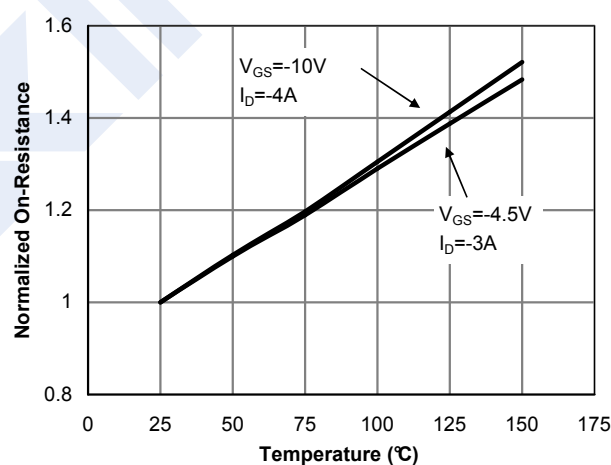


Figure 4: On-Resistance vs. Junction Temperature(Note E)

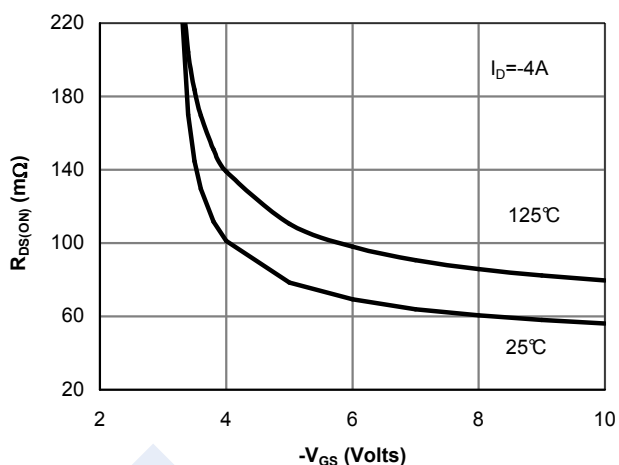


Figure 5: On-Resistance vs. Gate-Source Voltage(Note E)

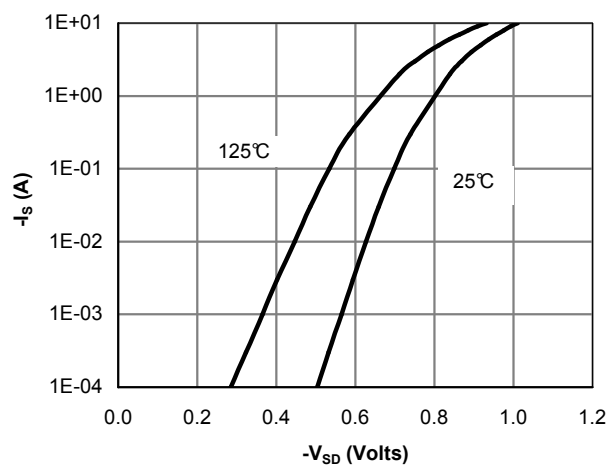


Figure 6: Body-Diode Characteristics(Note E)

P-Channel MOSFET

AO4771 (KO4771)

■ Typical Characteristics

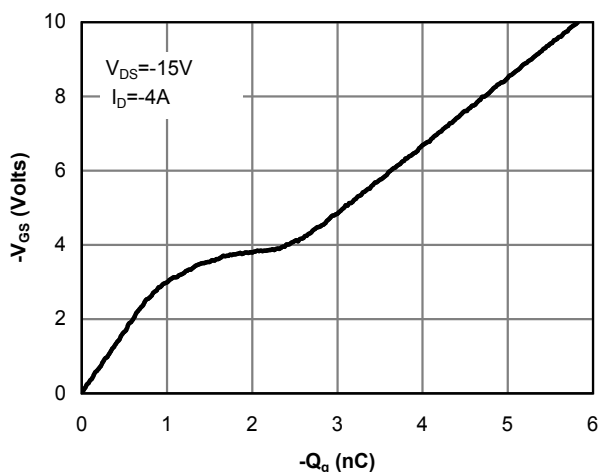


Figure 7: Gate-Charge Characteristics

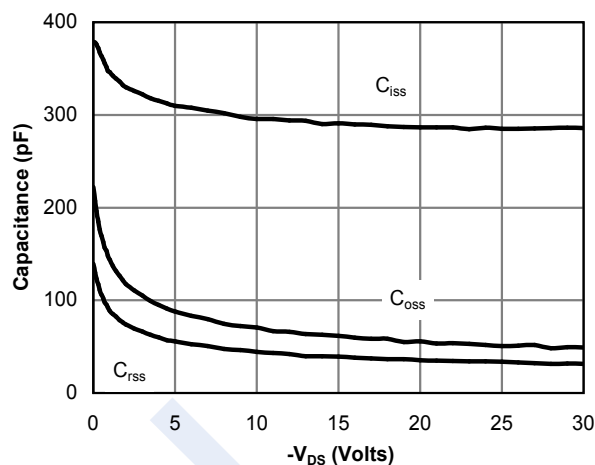


Figure 8: Capacitance Characteristics

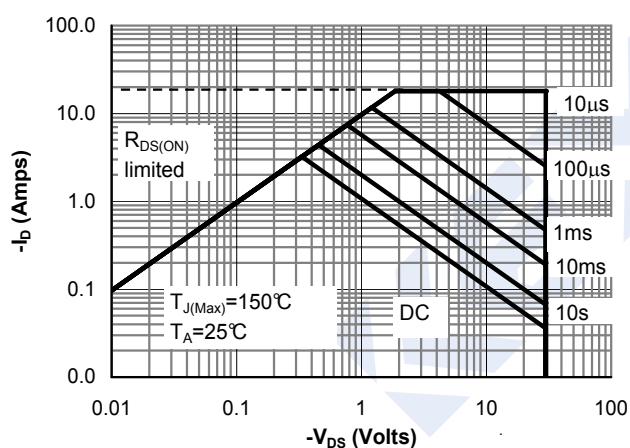


Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

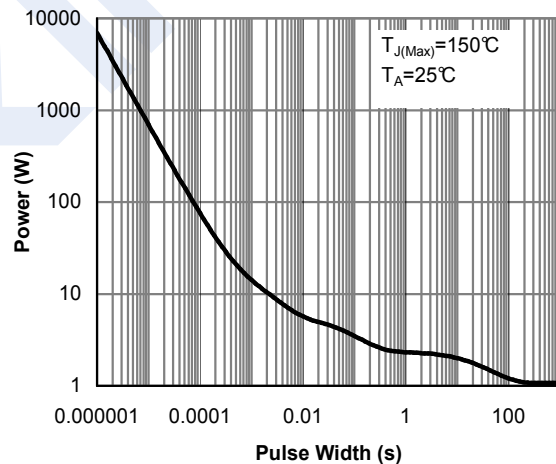


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note F)

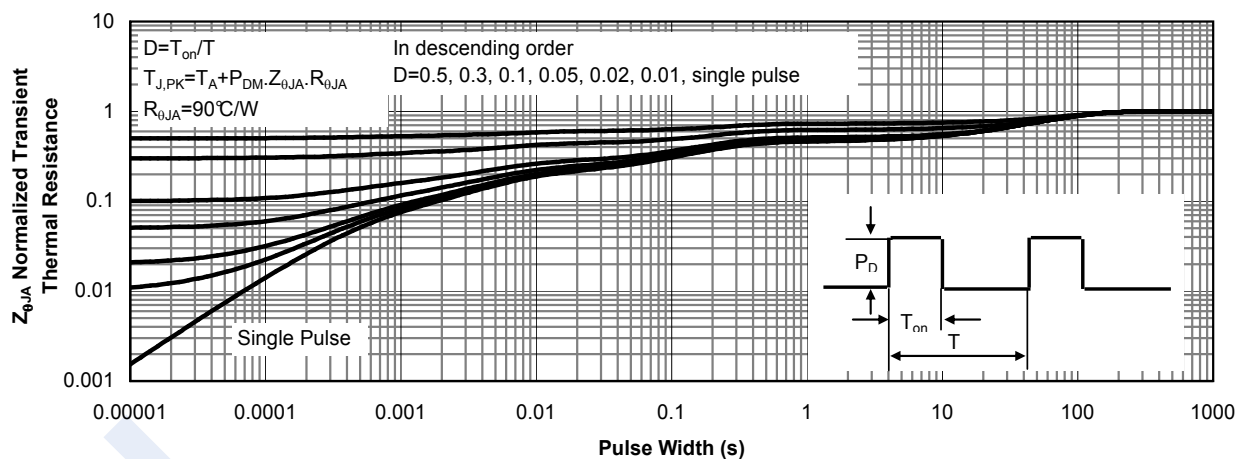


Figure 11: Normalized Maximum Transient Thermal Impedance (Note F)

P-Channel MOSFET

AO4771 (KO4771)

■ Typical Characteristics

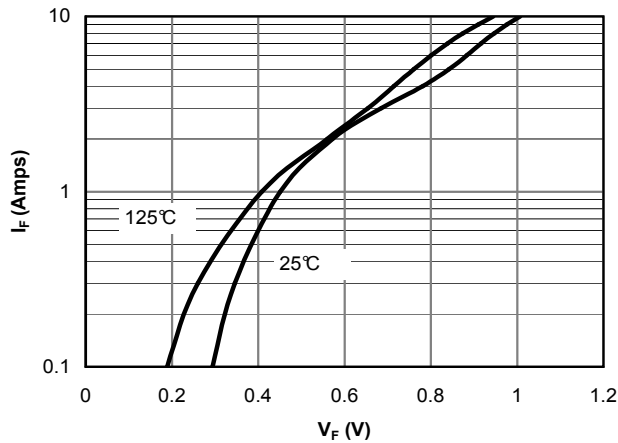


Figure 12: Schottky Forward Characteristics

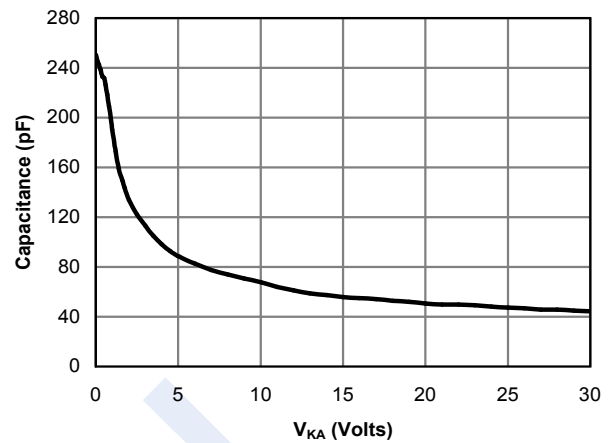


Figure 13: Schottky Capacitance Characteristics

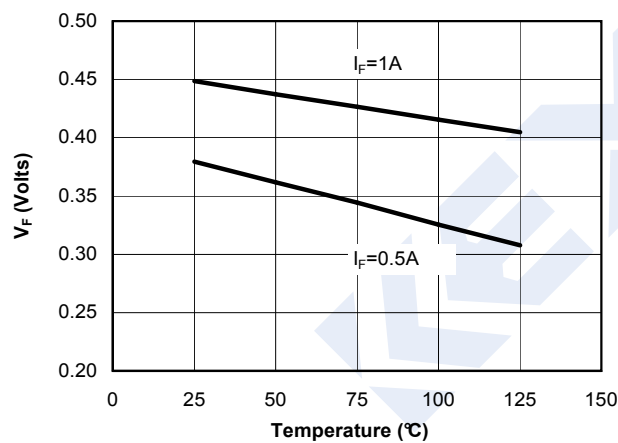


Figure 14: Schottky Forward Drop vs. Junction Temperature

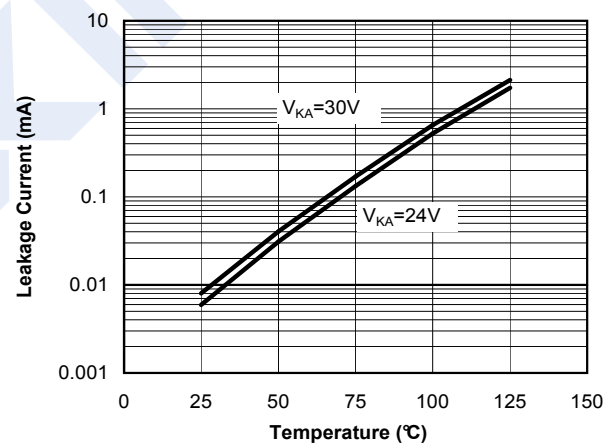


Figure 15: Schottky Leakage Current vs. Junction Temperature