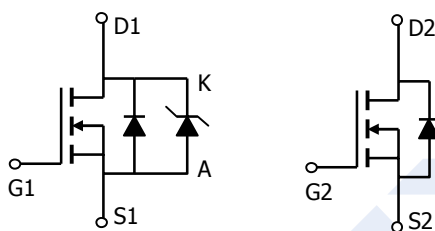
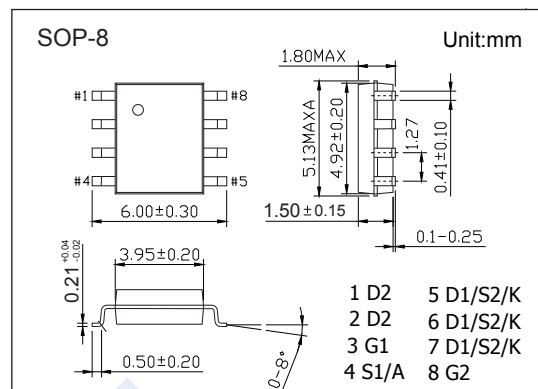


Dual N-Channel MOSFET

AO4906 (KO4906)

■ Features

- $V_{DS} (V) = 30V$
- $I_D = 7 A$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 27m\Omega$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 32m\Omega$ ($V_{GS} = 4.5V$)
- $R_{DS(ON)} < 50m\Omega$ ($V_{GS} = 2.5V$)
- $V_{DS} (V) = 30V$, $I_F = 3A$, $V_F < 0.5V@1A$

■ 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}	± 12		
Schottky Reverse Voltage	V_{KA}		30	
Continuous Drain Current	$T_A=25^\circ C$	I_D	7	A
	$T_A=70^\circ C$		6	
Pulsed Drain Current	I_{DM}	40		
Continuous Forward Current	$T_A=25^\circ C$	I_F	3	A
	$T_A=70^\circ C$		2	
Pulsed Diode Forward Current	I_{FM}		40	
Power Dissipation	$T_A=25^\circ C$	P_D	2	W
	$T_A=70^\circ C$		1.44	
Thermal Resistance.Junction- to-Ambient	$t \leq 10s$	R_{thJA}	62.5	$^\circ C/W$
	Steady-State		110	
Thermal Resistance.Junction- to-Lead	R_{thJL}	40		
Junction Temperature	T_J	150		$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150		

Dual N-Channel MOSFET

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■ 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} =24V, V _{GS} =0V			1	μA
		V _{DS} =24V, V _{GS} =0V, T _J =55°C			5	
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±12V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250 μA	0.7		1.4	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =7A			27	mΩ
		V _{GS} =10V, I _D =7A, T _J =125°C			40	
		V _{GS} =4.5V, I _D =6A			32	
		V _{GS} =2.5V, I _D =5A			50	
On State Drain Current	I _{D(ON)}	V _{GS} =4.5V, V _{DS} =5V	25			A
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =5A	12	16		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =15V, f=1MHz		846	1050	pF
Output Capacitance	C _{oss}			96		
Reverse Transfer Capacitance	C _{rss}			67		
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		1.24	3.6	Ω
Total Gate Charge	Q _g	V _{GS} =4.5V, V _{DS} =15V, I _D =7A		9.6	12	nC
Gate Source Charge	Q _{gs}			1.6		
Gate Drain Charge	Q _{gd}			3		
Turn-On DelayTime	t _{d(on)}	V _{GS} =10V, V _{DS} =15V, R _L =2.2Ω, R _{GEN} =3Ω		3.2	4.8	ns
Turn-On Rise Time	t _r			4.1	6.2	
Turn-Off DelayTime	t _{d(off)}			26.3	40	
Turn-Off Fall Time	t _f			3.7	5.5	
Body Diode Reverse Recovery Time	t _{rr}	I _F =5A, di/dt=100A/μs		15.5	20	nC
Body Diode Reverse Recovery Charge	Q _{rr}			7.9	12	
Body-Diode + Schottky Continuous Current	I _S				3	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 =30V			0.05	mA
		V _R =30V, T _J =125°C			10	
		V _R =30V, T _J =150°C			20	
Junction Capacitance	C _T	V _R =15V		37		pF

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

■ Marking

Marking	4906 KA****
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Dual N-Channel MOSFET

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■ Typical Characteristics

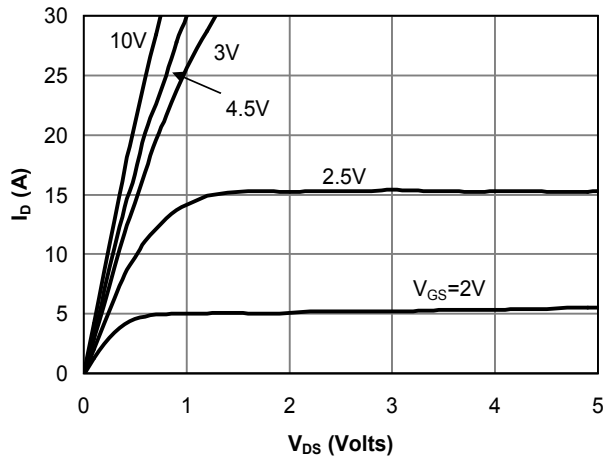


Fig 1: On-Region Characteristics

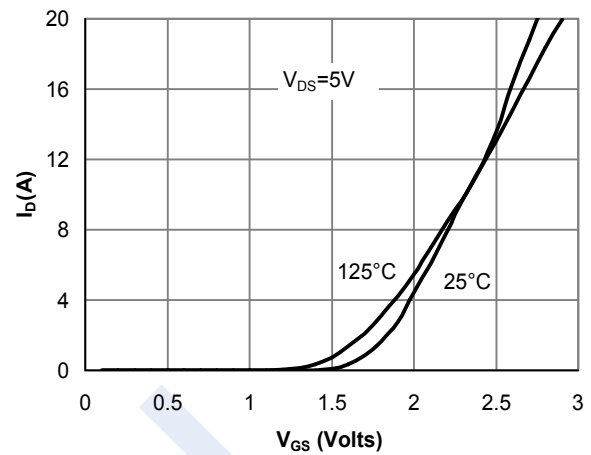


Figure 2: Transfer Characteristics

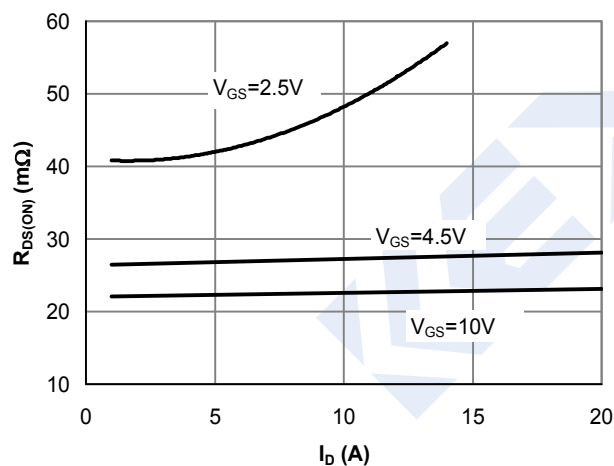


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

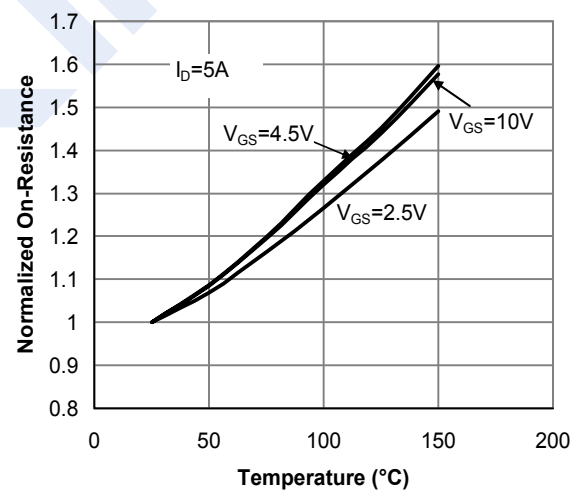


Figure 4: On resistance vs. Junction Temperature

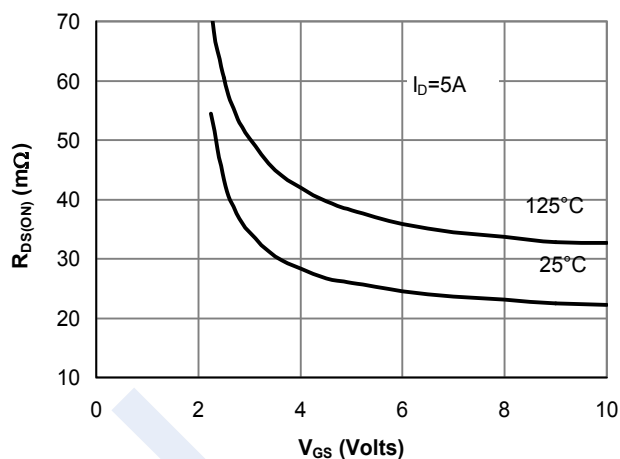


Figure 5: On resistance vs. Gate-Source Voltage

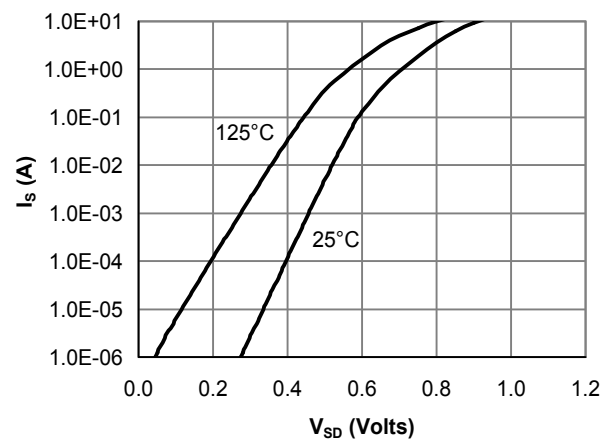


Figure 6: Body-Diode Characteristics

Dual N-Channel MOSFET

AO4906 (KO4906)

■ Typical Characteristics

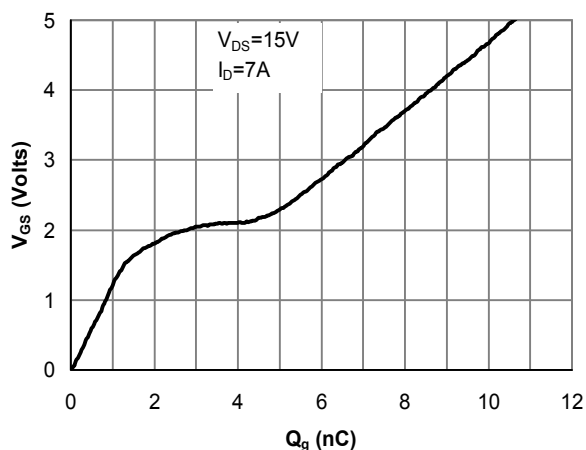


Figure 7: Gate-Charge Characteristics

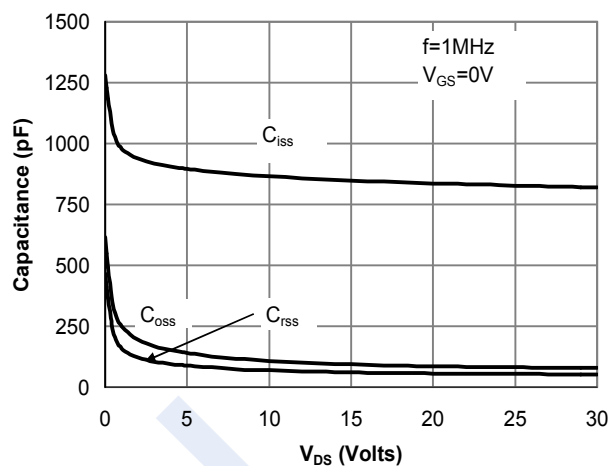


Figure 8: Capacitance Characteristics

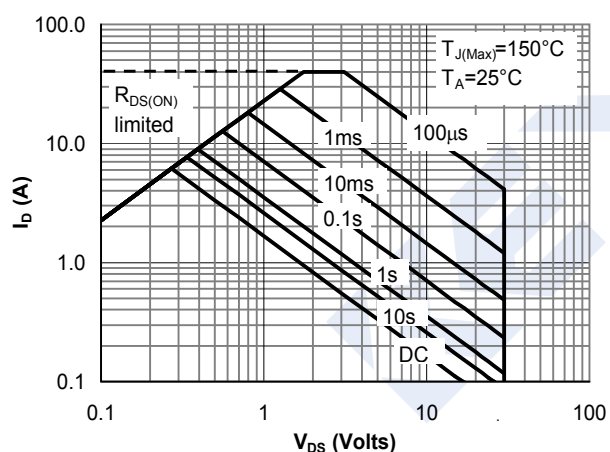


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

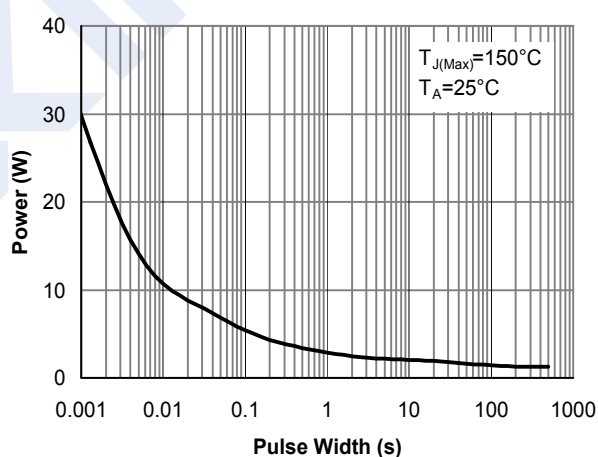


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

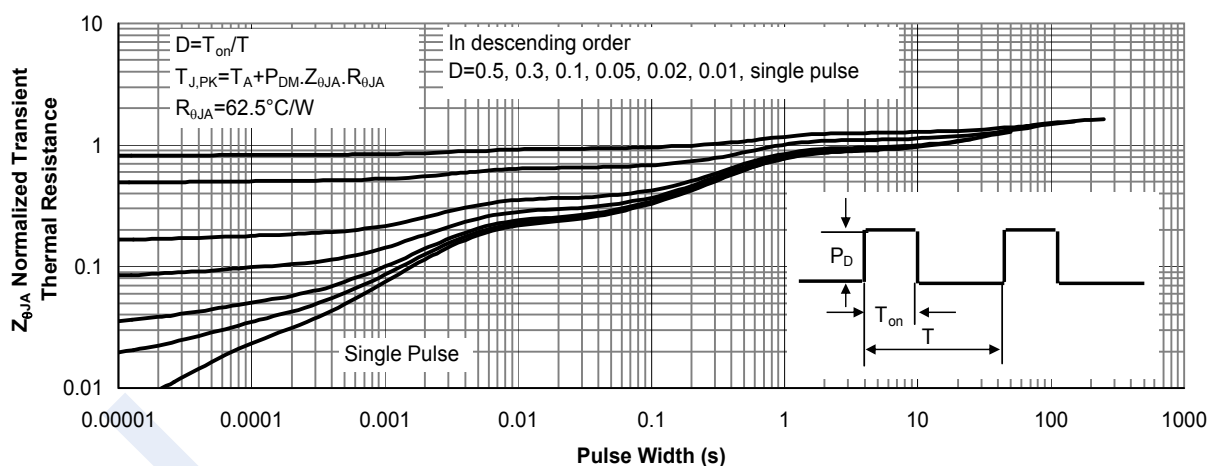


Figure 11: Normalized Maximum Transient Thermal Impedance

Dual N-Channel MOSFET

AO4906 (KO4906)

■ Typical Characteristics

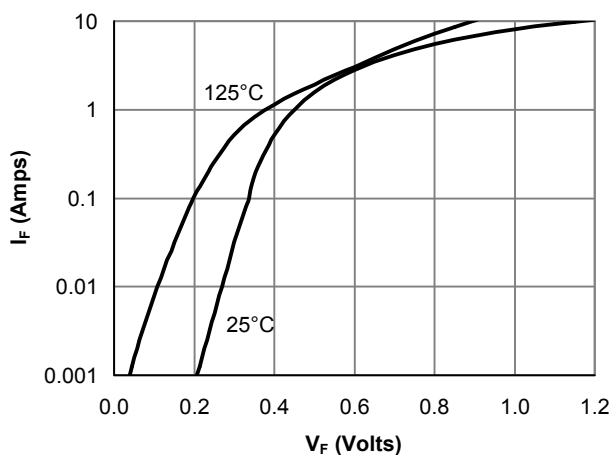


Figure 12: Schottky Forward Characteristics

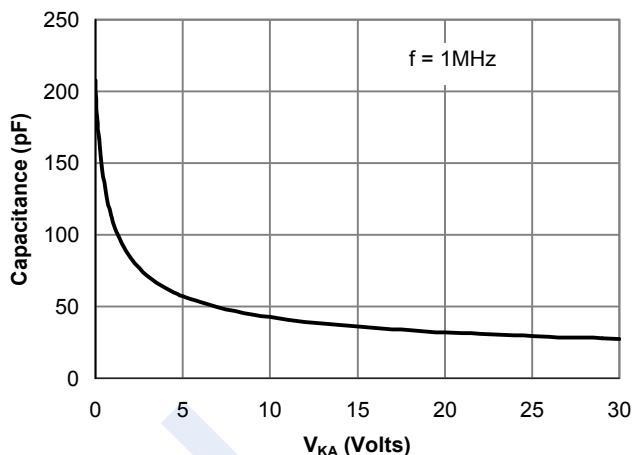


Figure 13: Schottky Capacitance Characteristics

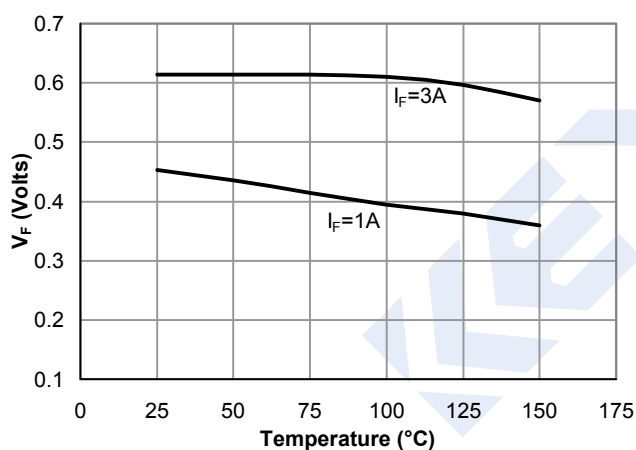


Figure 14: Schottky Forward Drop vs. Junction Temperature

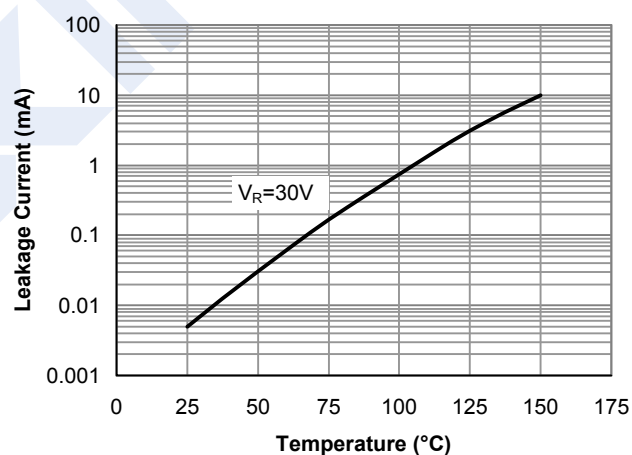


Figure 15: Schottky Leakage current vs. Junction Temperature

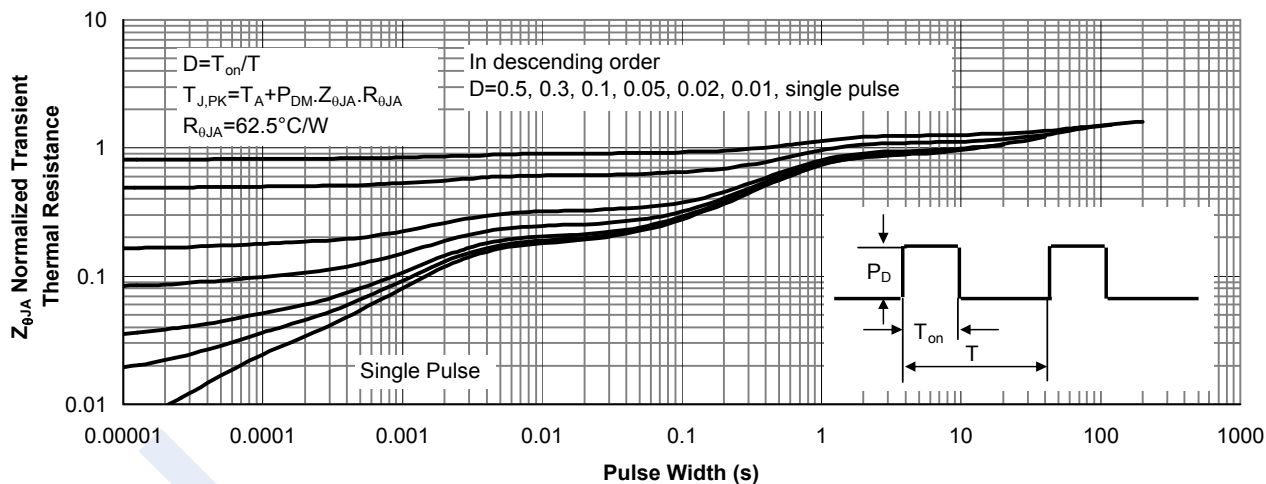


Figure 15: Schottky Normalized Maximum Transient Thermal Impedance