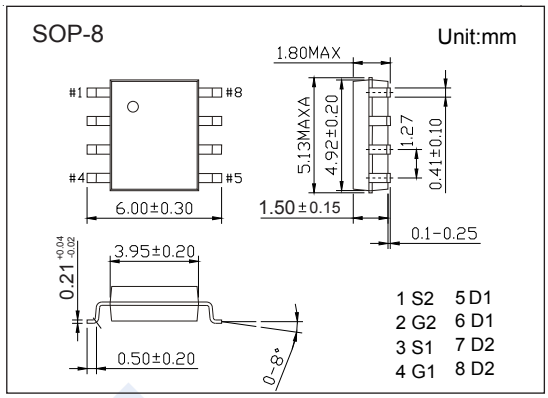
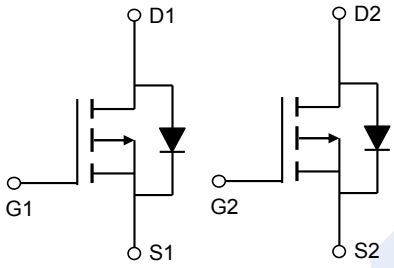
Dual P-Channel MOSFET

AO4801 (KO4801)



■ Features

- $V_{DS\ (V)}$ = -30V
- I_D = -5 A (V_{GS} = -10V)
- $R_{DS(ON)}$ < 48mΩ (V_{GS} = -10V)
- $R_{DS(ON)}$ < 57mΩ (V_{GS} = -4.5V)
- $R_{DS(ON)}$ < 80mΩ (V_{GS} = -2.5V)



■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±12	
Continuous Drain Current	T_A=25℃	I_D	-5	A
	T_A=70℃		-4	
Pulsed Drain Current		I_{DM}	-28	
Avalanche Current		I_{AS}, I_{AR}	-11	
Avalanche Energy	L=0.3mH	E_{AS}, E_{AR}	18	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	

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=-250μA, V_{GS}=0V	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-30V, V_{GS}=0V			-1	uA
		V_{DS}=-30V, V_{GS}=0V, T_J=55℃			-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=-250uA	-0.5		-1.3	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-10V, I_D=-5A			48	mΩ
		V_{GS}=-10V, I_D=-5A T_J=125℃			60	
		V_{GS}=-4.5V, I_D=-3.5A			57	
		V_{GS}=-2.5V, I_D=-2.5A			80	
On State Drain Current	$I_{D(ON)}$	V_{GS}=-4.5V, V_{DS}=-5V	-28			A
Forward Transconductance	g_{FS}	V_{DS}=-5V, I_D=-5A		18		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=-15V, f=1MHz		645		pF
Output Capacitance	C_{oss}			80		
Reverse Transfer Capacitance	C_{rss}			55		
Gate Resistance	R_g	V_{GS}=0V, V_{DS}=0V, f=1MHz	4		12	Ω
Total Gate Charge (4.5V)	Q_g	V_{GS}=-4.5V, V_{DS}=-15V, I_D=-5A		7		nC
Gate Source Charge	Q_{gs}			1.5		
Gate Drain Charge	Q_{gd}			2.5		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=-10V, V_{DS}=-15V, R_L=3Ω, R_{GEN}=6Ω		6.5		ns
Turn-On Rise Time	t_r			3.5		
Turn-Off DelayTime	$t_{d(off)}$			41		
Turn-Off Fall Time	t_f			9		
Body Diode Reverse Recovery Time	t_{rr}	I_F= -5A, dI/dt= 100A/us		11		
Body Diode Reverse Recovery Charge	Q_{rr}			3.5		nC
Maximum Body-Diode Continuous Current	I_S				-2.5	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 <300us pulses, duty cycle 0.5% max.

■ Marking

Marking	4801 KA****

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■ Typical Characterisitics

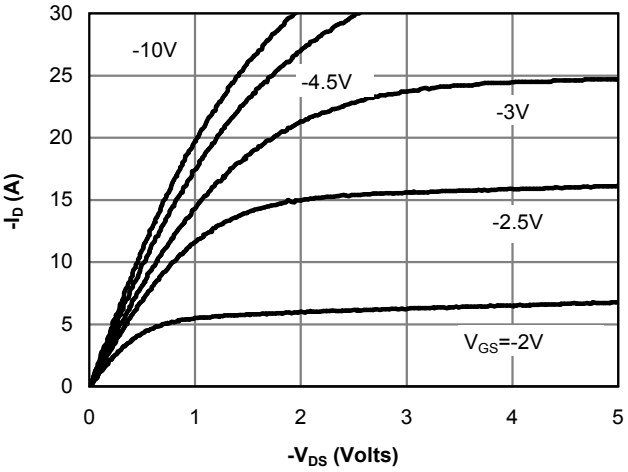

Fig 1: On-Region Characteristics (Note E)

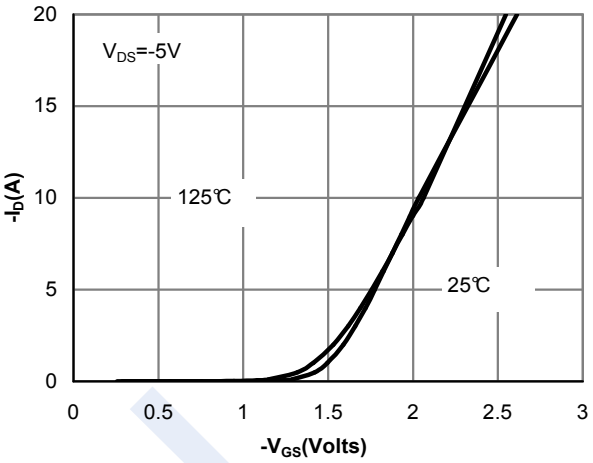

Figure 2: Transfer Characteristics (Note E)

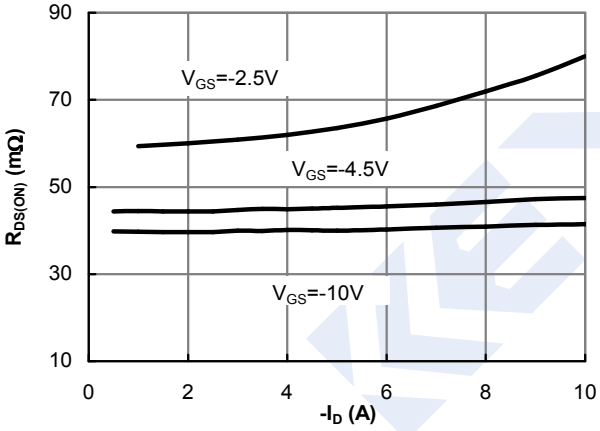

Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

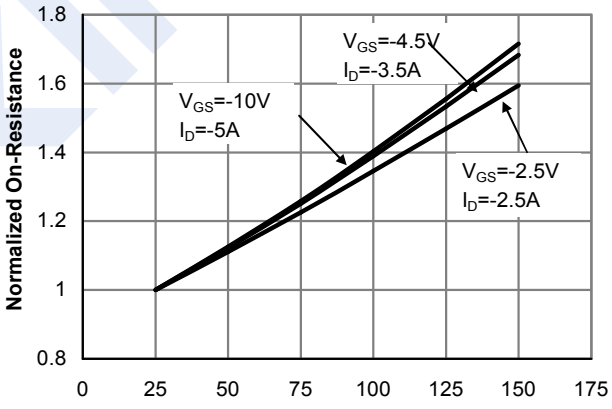

Figure 4: On-Resistance vs. Junction Temperature (Note E)

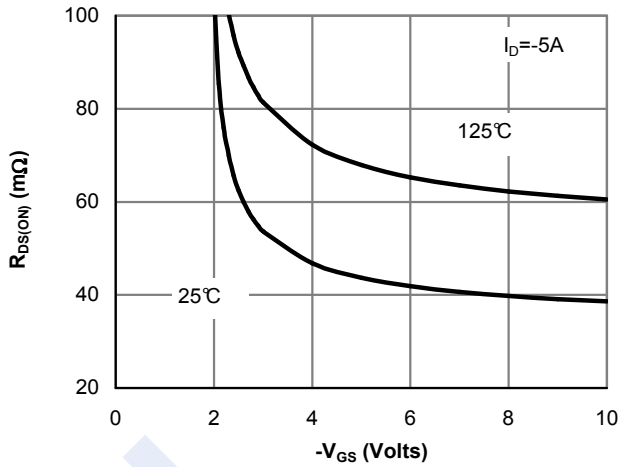

Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

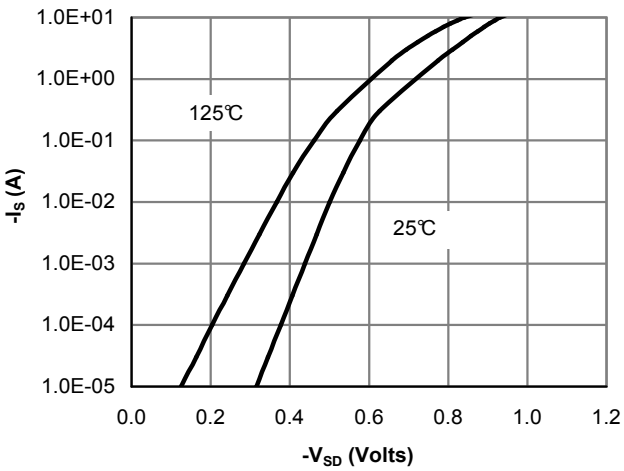

Figure 6: Body-Diode Characteristics (Note E)

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■ Typical Characterisitics

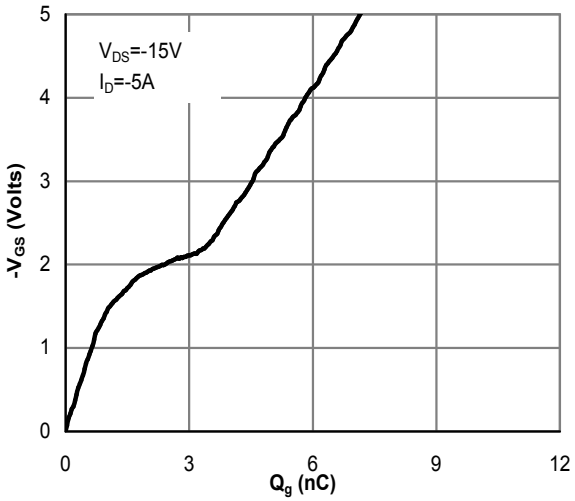

Figure 7: Gate-Charge Characteristics

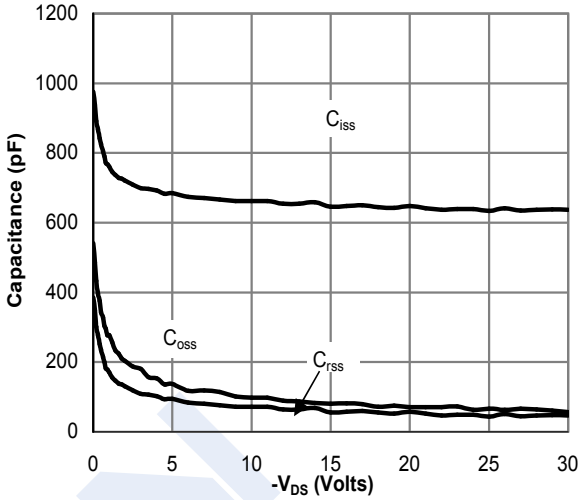

Figure 8: Capacitance Characteristics

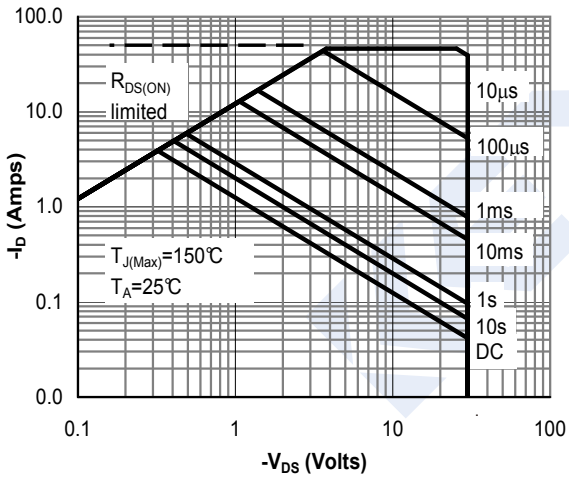

Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

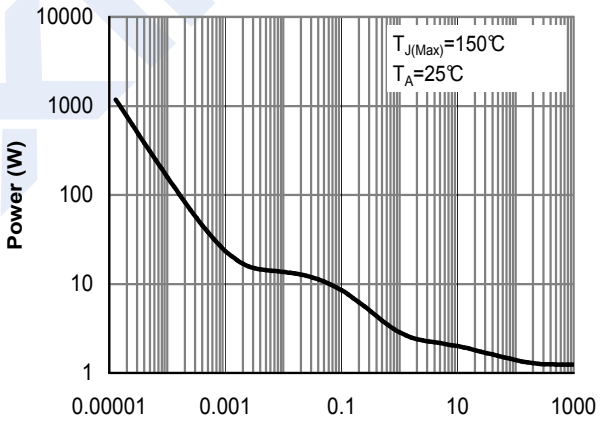

Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note F)

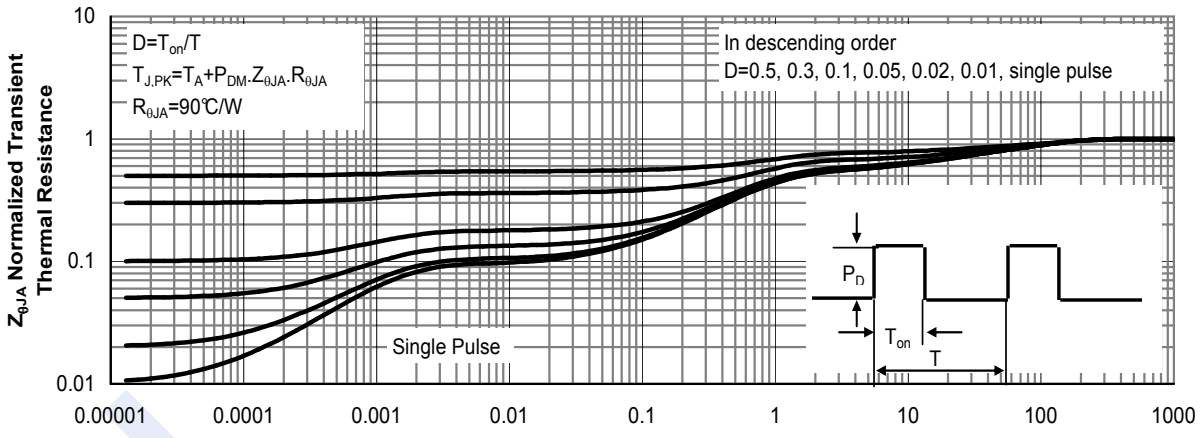

Figure 11: Normalized Maximum Transient Thermal Impedance (Note F)