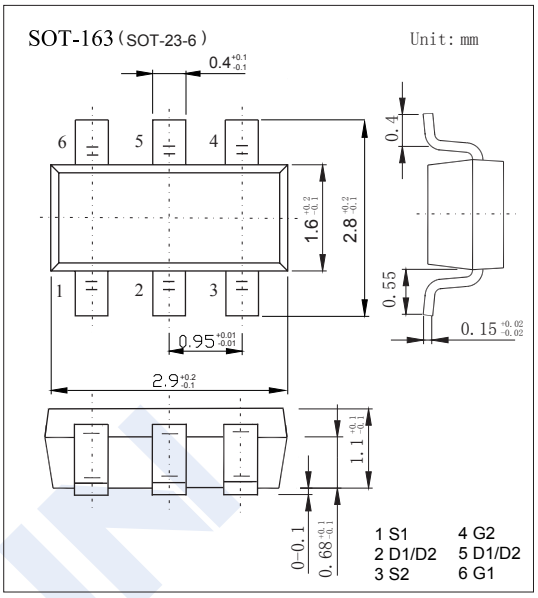
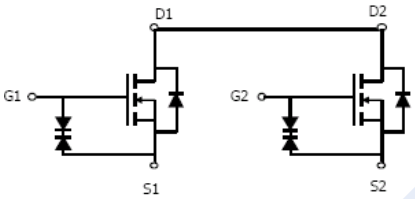
Dual N-Channel MOSFET

AO6808 (KO6808)



■ Features

- V_{DS} (V) = 20V
- I_D =6 A (V_{GS} = 4.5V)
- $R_{DS(ON)}$ < 23mΩ (V_{GS} = 4.5V)
- $R_{DS(ON)}$ < 25mΩ (V_{GS} = 4V)
- $R_{DS(ON)}$ < 27mΩ (V_{GS} = 3.1V)
- $R_{DS(ON)}$ < 30mΩ (V_{GS} = 2.5V)
- ESD Rating: 2000V HBM



■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	10 Sec	Steady State	Unit
Drain-Source Voltage		V_{DS}	20		V
Gate-Source Voltage		V_{GS}	±12		
Continuous Drain Current	TA=25℃	I_D	6	4.6	A
	TA=70℃		4.6	3.7	
Pulsed Drain Current		I_{DM}	60		
Power Dissipation	TA=25℃	P_D	1.3	0.8	W
	TA=70℃		0.8	0.5	
Thermal Resistance.Junction- to-Ambient		R_{thJA}	95	150	℃/W
Thermal Resistance.Junction- to-Lead		R_{thJL}	-	68	
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	20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V, V_{GS}=0V			1	uA
		V_{DS}=20V, V_{GS}=0V, T_J=55℃			5	
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±10V			±10	uA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250 uA	0.5		1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=4.5V, I_D=6A			23	mΩ
		V_{GS}=4.5V, I_D=6A T_J=125℃			33	
		V_{GS}=4V, I_D=5.5A			25	
		V_{GS}=3.1V, I_D=5A			27	
		V_{GS}=2.5V, I_D=2A			30	
On State Drain Current	$I_{D(ON)}$	V_{GS}=4.5V, V_{DS}=5V	60			A
Forward Transconductance	g_{FS}	V_{DS}=5V, I_D=6A		34		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=10V, f=1MHz		620	780	pF
Output Capacitance	C_{oss}			125		
Reverse Transfer Capacitance	C_{rss}			64		
Total Gate Charge (10V)	Q_g	V_{GS}=10V, V_{DS}=10V, I_D=6A		16.2	21	nC
Total Gate Charge (4.5V)				7.7	10	
Gate Source Charge	Q_{gs}			1.5		
Gate Drain Charge	Q_{gd}			2.7		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=10V, V_{DS}=10V, R_L=1.7Ω,R_G=3Ω		236		ns
Turn-On Rise Time	t_r			448		
Turn-Off DelayTime	$t_{d(off)}$			9.5		us
Turn-Off Fall Time	t_f			4.1		
Body Diode Reverse Recovery Time	t_{rr}	I_F= 6A, dI/dt= 100A/us		25	33	ns
Body Diode Reverse Recovery Charge	Q_{rr}			9		nC
Maximum Body-Diode Continuous Current	I_S				1.3	A
Diode Forward Voltage	V_{SD}	I_S=1A,V_{GS}=0V			1	V

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

■ Marking

Marking	H8**

Dual N-Channel MOSFET

AO6808 (KO6808)

■ Typical Characterisitics

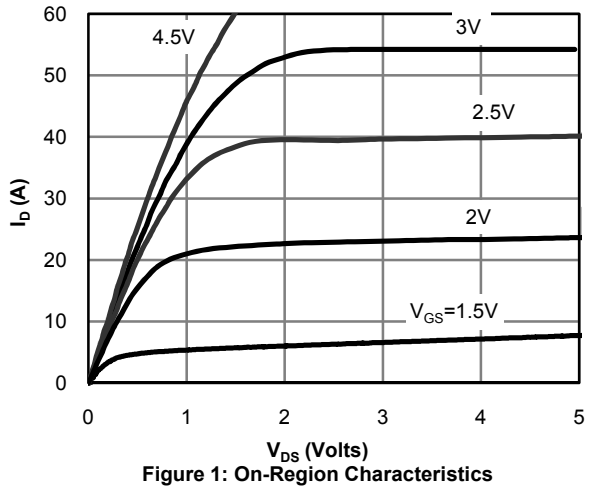

Figure 1: On-Region Characteristics

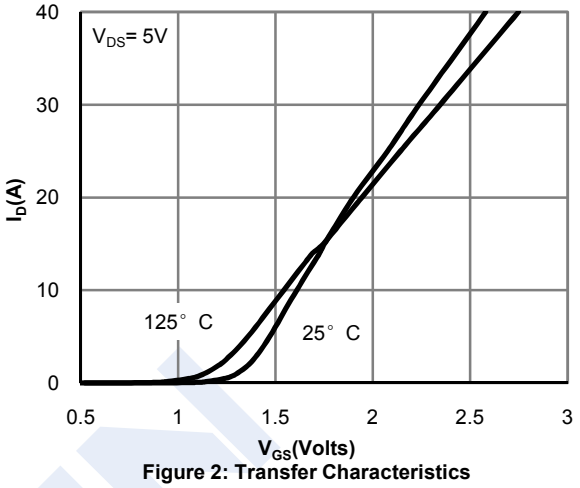

Figure 2: Transfer Characteristics

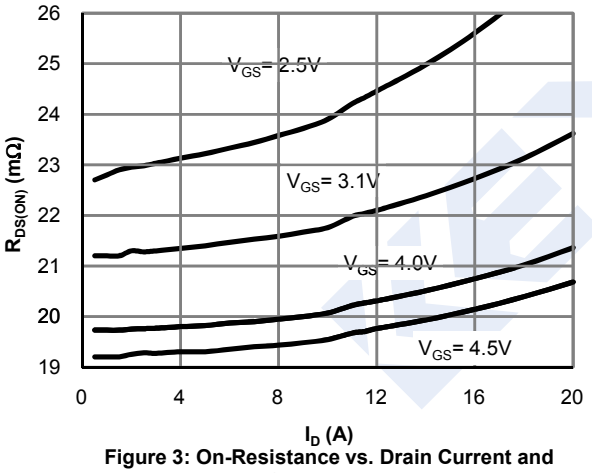

Figure 3: On-Resistance vs. Drain Current and Gate Voltage

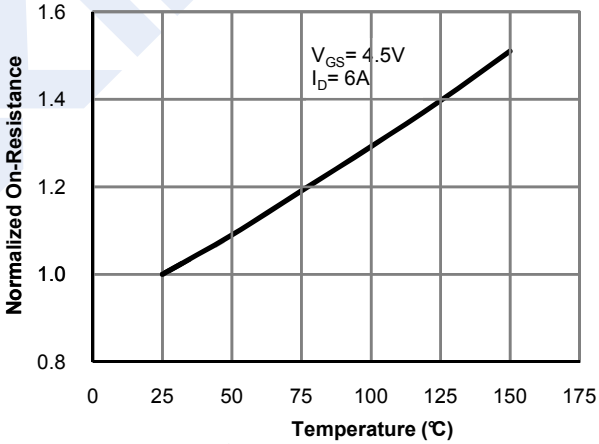

Figure 4: On-Resistance vs. Junction Temperature

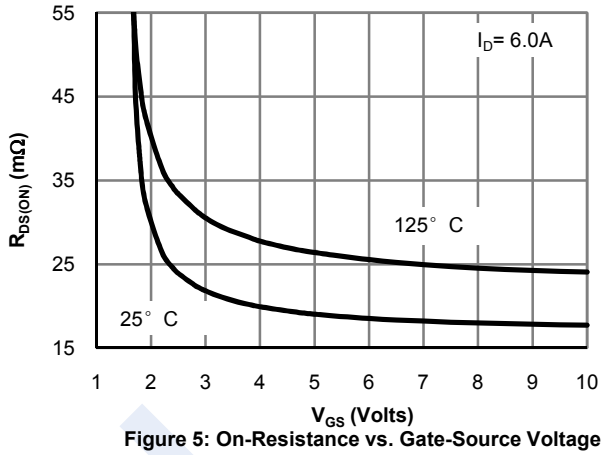

Figure 5: On-Resistance vs. Gate-Source Voltage

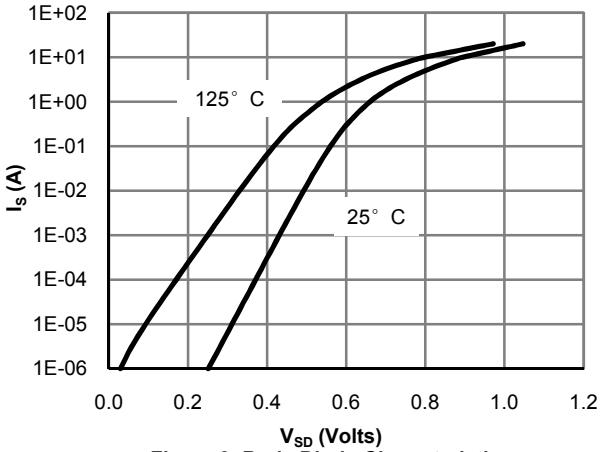

Figure 6: Body-Diode Characteristics

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■ Typical Characterisitics

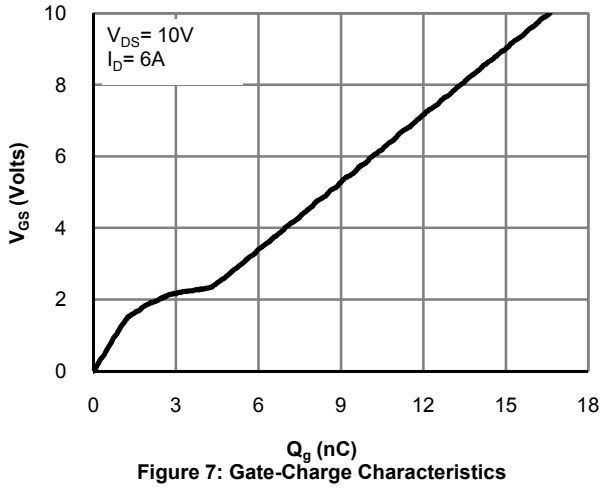

Figure 7: Gate-Charge Characteristics

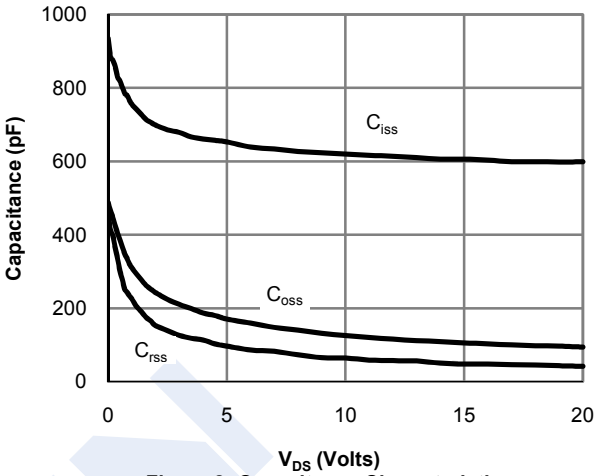

Figure 8: Capacitance Characteristics

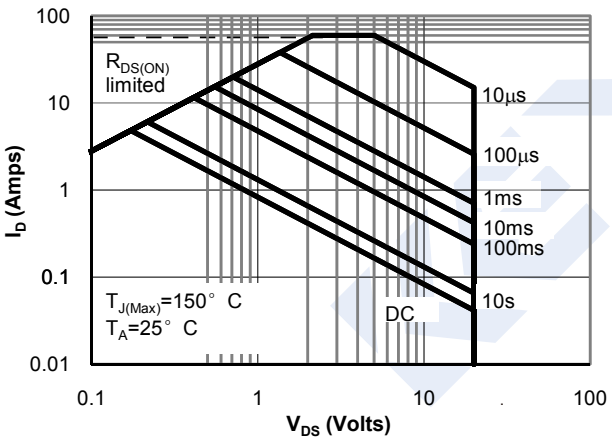

Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

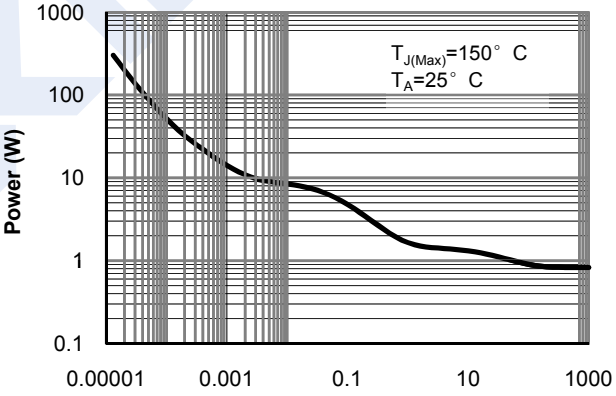

Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

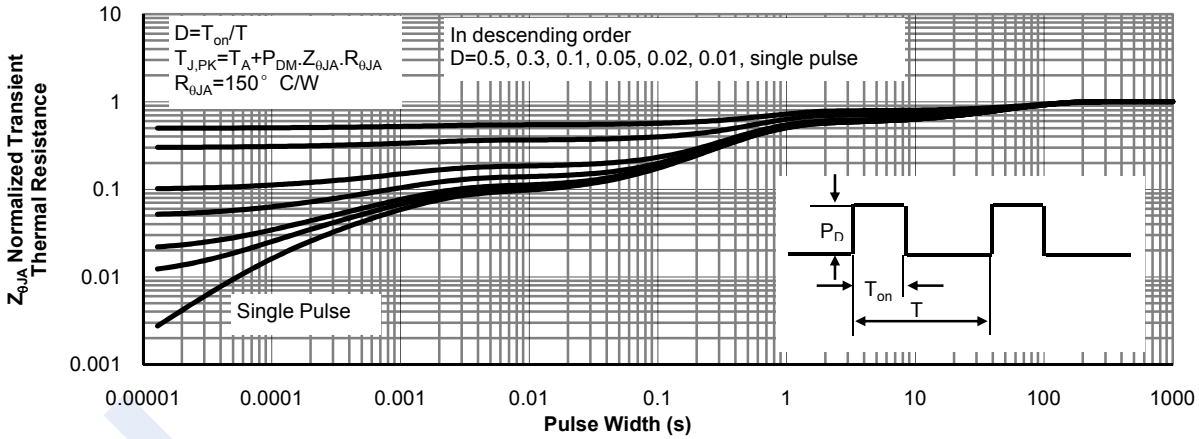

Figure 11: Normalized Maximum Transient Thermal Impedance(Note E)