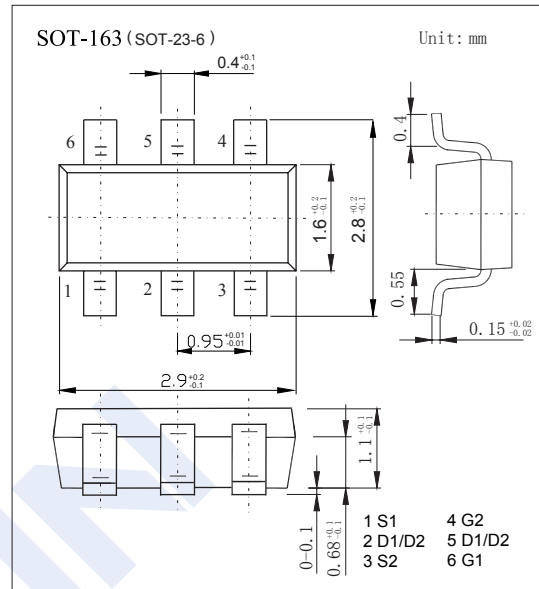
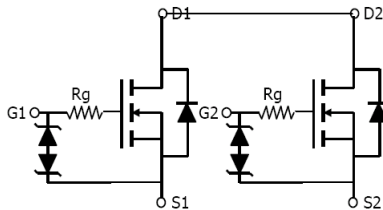


Dual N-Channel MOSFET

AO6804A-HF (KO6804A-HF)

Features

- $V_{DS} = 20V$
- $I_D = 5A$ ($V_{GS} = 4.5V$)
- $R_{DS(ON)} < 28m\Omega$ ($V_{GS} = 4.5V$)
- $R_{DS(ON)} < 30m\Omega$ ($V_{GS} = 4V$)
- $R_{DS(ON)} < 34m\Omega$ ($V_{GS} = 3.1V$)
- $R_{DS(ON)} < 39m\Omega$ ($V_{GS} = 2.5V$)
- ESD Rating: 2000V HBM
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish



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

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V_{DS}	20	V	
Gate-Source Voltage	V_{GS}	± 12		
Continuous Drain Current	I_D	$T_A = 25^\circ C$	5	A
		$T_A = 70^\circ C$	4	
Pulsed Drain Current	I_{DM}	25		
Power Dissipation	P_D	$T_A = 25^\circ C$	1.3	W
		$T_A = 70^\circ C$	0.8	
Thermal Resistance.Junction- to-Ambient	R_{thJA}	$t \leq 10s$	95	$^\circ C/W$
		Steady State	150	
Thermal Resistance.Junction- to-Lead	R_{thJL}	68		
Junction Temperature	T_J	150	$^\circ C$	
Storage Temperature Range	T_{stg}	-55 to 150		

Dual N-Channel MOSFET

AO6804A-HF (KO6804A-HF)

■ 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	20			V
Gate-Source breakdown voltage	BV _{GSO}	V _{DS} =0V, I _G =±250uA	±12			
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0V			1	uA
		V _{DS} =20V, V _{GS} =0V, T _J =55°C			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 =5A			28	mΩ
		V _{GS} =4.5V, I _D =5A T _J =125°C			40	
		V _{GS} =4V, I _D =4.5A			30	
		V _{GS} =3.1V, I _D =4.5A			34	
		V _{GS} =2.5V, I _D =4A			39	
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		18		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =10V, f=1MHz		180	225	pF
Output Capacitance	C _{oss}			95		
Reverse Transfer Capacitance	C _{rss}			18		
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		2.7	4	kΩ
Total Gate Charge	Q _g	V _{GS} =4.5V, V _{DS} =10V, I _D =5A		5.6	7.5	nC
Gate Source Charge	Q _{gs}			0.85		
Gate Drain Charge	Q _{gd}			1.7		
Turn-On DelayTime	t _{d(on)}	V _{GS} =10V, V _{DS} =10V, R _L =2 Ω, R _G =3 Ω		172		ns
Turn-On Rise Time	t _r			368		
Turn-Off DelayTime	t _{d(off)}			2.94		us
Turn-Off Fall Time	t _f			2.5		
Body Diode Reverse Recovery Time	t _{rr}	I _F = 5A, di/dt= 100A/us		32	43	nS
Body Diode Reverse Recovery Charge	Q _{rr}			3.2		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	84** _F
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Dual N-Channel MOSFET AO6804A-HF (KO6804A-HF)

■ Typical Characteristics

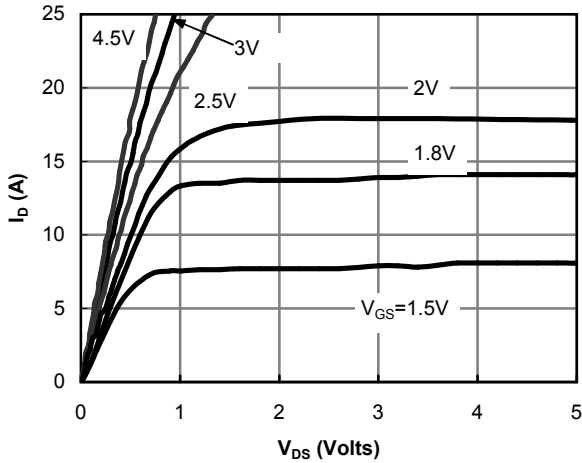


Figure 1: On-Region Characteristics

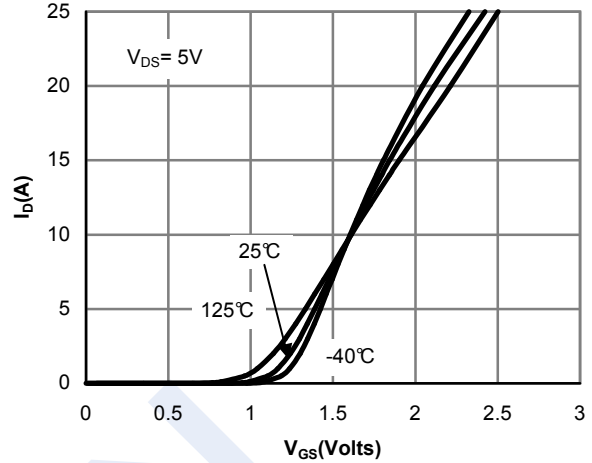


Figure 2: Transfer Characteristics

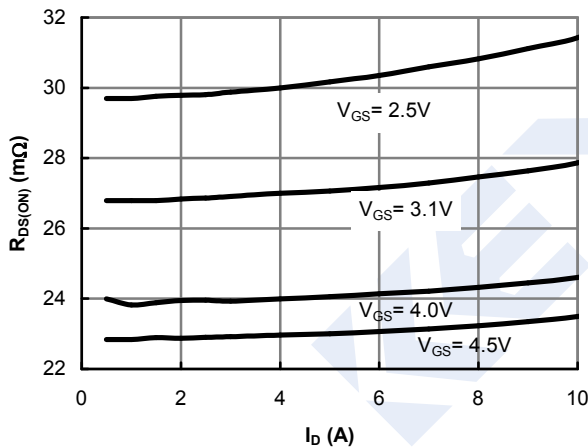


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

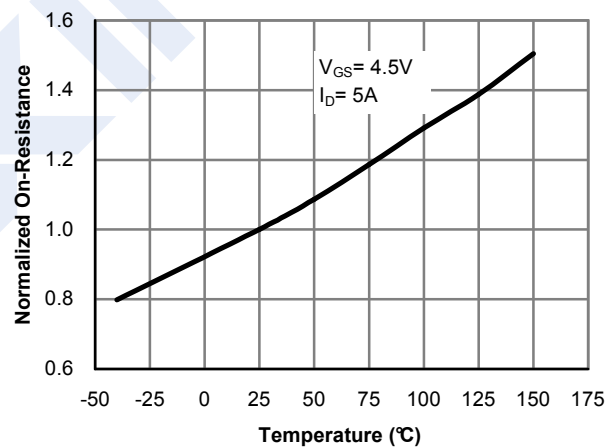


Figure 4: On-Resistance vs. Junction Temperature

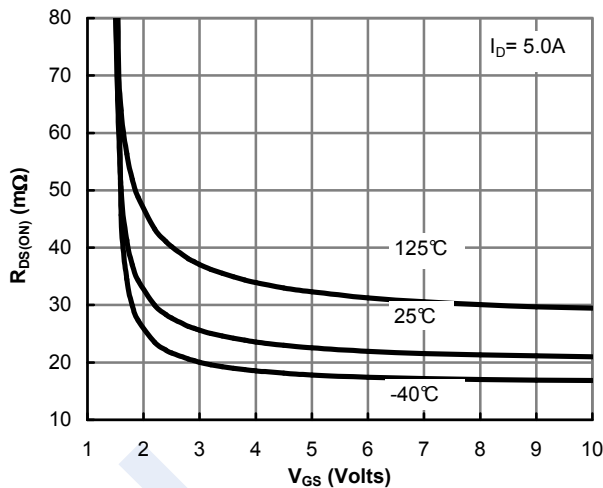


Figure 5: On-Resistance vs. Gate-Source Voltage

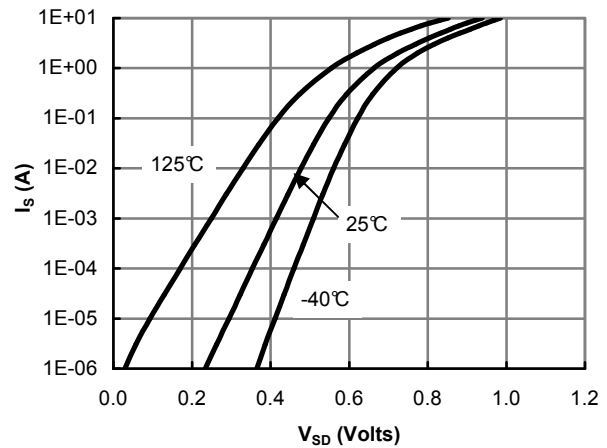


Figure 6: Body-Diode Characteristics

Dual N-Channel MOSFET AO6804A-HF (KO6804A-HF)

Typical Characteristics

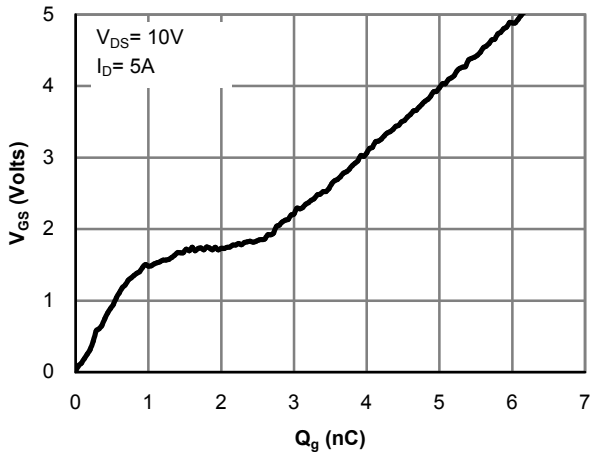


Figure 7: Gate-Charge Characteristics

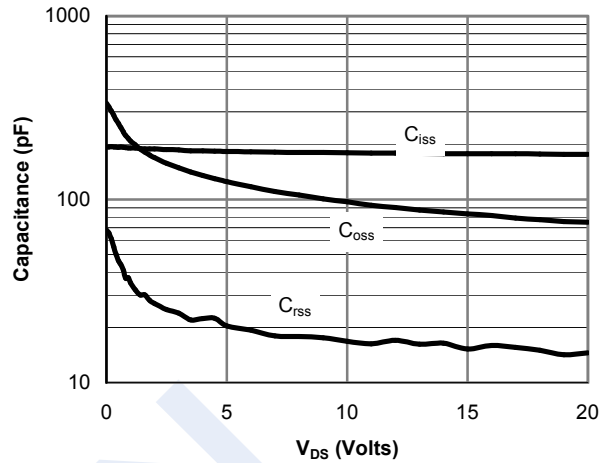


Figure 8: Capacitance Characteristics

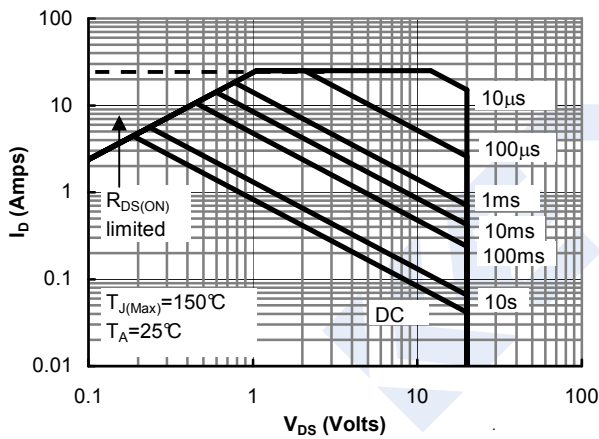


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

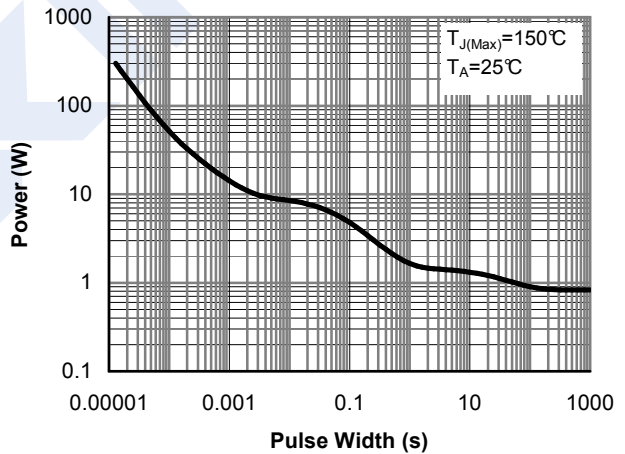


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

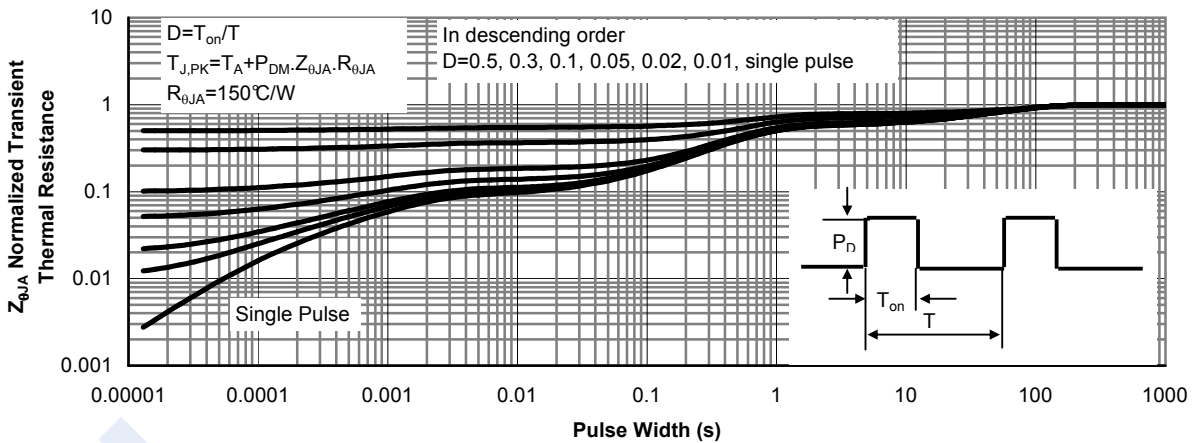


Figure 11: Normalized Maximum Transient Thermal Impedance (Note E)