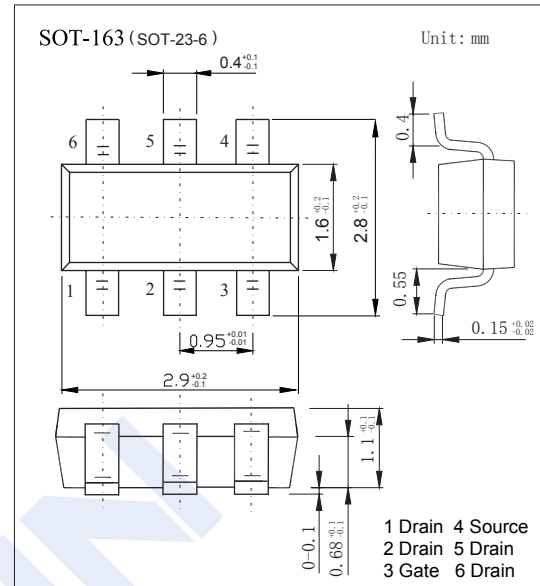
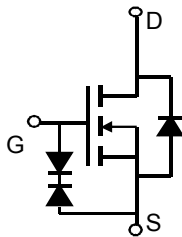


N-Channel MOSFET

AO6408 (KO6408)

■ Features

- $V_{DS} = 20V$
- $I_D = 8.8 A$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 18m\Omega$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 20m\Omega$ ($V_{GS} = 4.5V$)
- $R_{DS(ON)} < 25m\Omega$ ($V_{GS} = 2.5V$)
- $R_{DS(ON)} < 32m\Omega$ ($V_{GS} = 2.5V$)
- ESD Rating: 2000V HBM



■ 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	$T_A = 25^\circ C$	8.8	A
		$T_A = 70^\circ C$	7	
Pulsed Drain Current	I_{DM}	40		
Power Dissipation	P_D	$T_A = 25^\circ C$	2	W
		$T_A = 70^\circ C$	1.28	
Thermal Resistance..Junction- to-Ambient	R_{thJA}	$t \leq 10s$	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		

N-Channel MOSFET

AO6408 (KO6408)

■ 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 =±250μA	±12			
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =16V, V _{GS} =0V			10	μA
		V _{DS} =16V, V _{GS} =0V, T _J =55°C			25	
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±10V			±10	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250 μA	0.5		1	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =8.8A			18	mΩ
		V _{GS} =10V, I _D =8.8A T _J =125°C			23	
		V _{GS} =4.5V, I _D =8A			20	
		V _{GS} =2.5V, I _D =6A			25	
		V _{GS} =1.8V, I _D =4A			32	
On State Drain Current	I _{D(on)}	V _{GS} =4.5V, V _{DS} =5V	40			A
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =8.8A		33		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =10V, f=1MHz		1810	2200	pF
Output Capacitance	C _{oss}			232		
Reverse Transfer Capacitance	C _{rss}			200		
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		1.6	2.2	Ω
Total Gate Charge	Q _g	V _{GS} =4.5V, V _{DS} =10V, I _D =8.8A		17.9	22	nC
Gate Source Charge	Q _{gs}			1.5		
Gate Drain Charge	Q _{gd}			4.7		
Turn-On DelayTime	t _{d(on)}	V _{GS} =10V, V _{DS} =10V, R _L =1.1 Ω, R _G =3 Ω		3.3		ns
Turn-On Rise Time	t _r			5.9		
Turn-Off DelayTime	t _{d(off)}			44		
Turn-Off Fall Time	t _f			7.7		
Body Diode Reverse Recovery Time	t _{rr}	I _F = 8.8A, di/dt= 100A/μs		22	27	ns
Body Diode Reverse Recovery Charge	Q _{rr}			9.8		
Maximum Body-Diode Continuous Current	I _S				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 <300μs pulses, duty cycle 0.5% max.

■ Marking

Marking	D8**
---------	------

N-Channel MOSFET AO6408 (KO6408)

■ Typical Characteristics

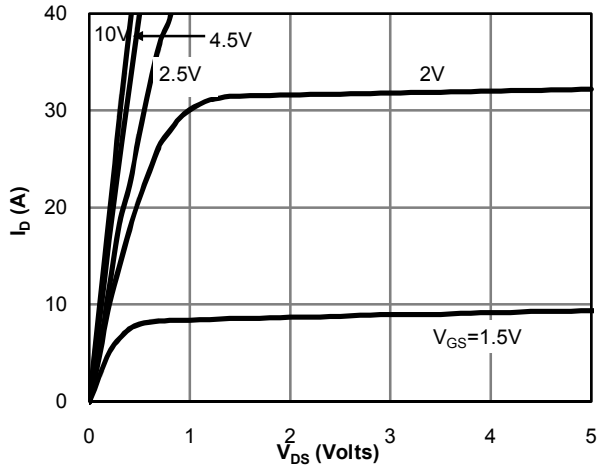


Fig 1: On-Region Characteristics

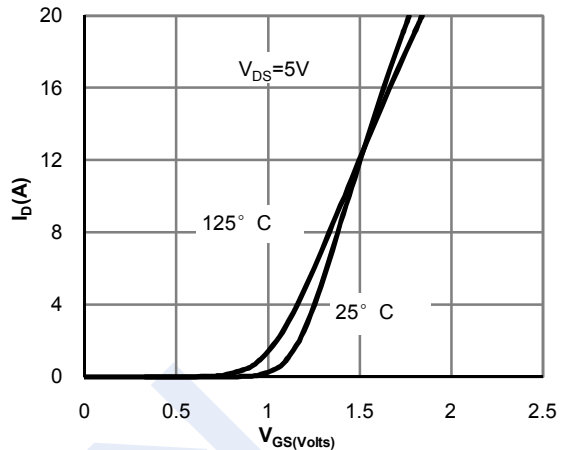


Figure 2: Transfer Characteristics

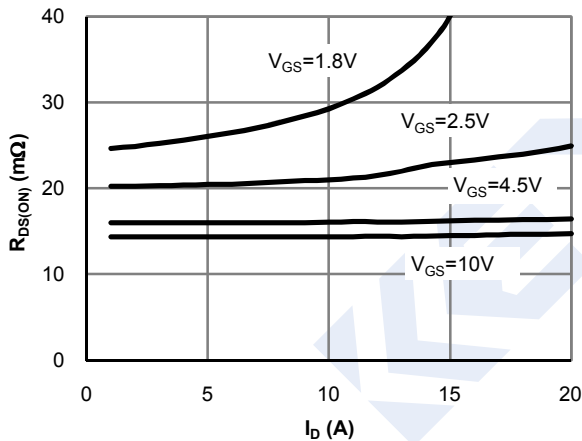


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

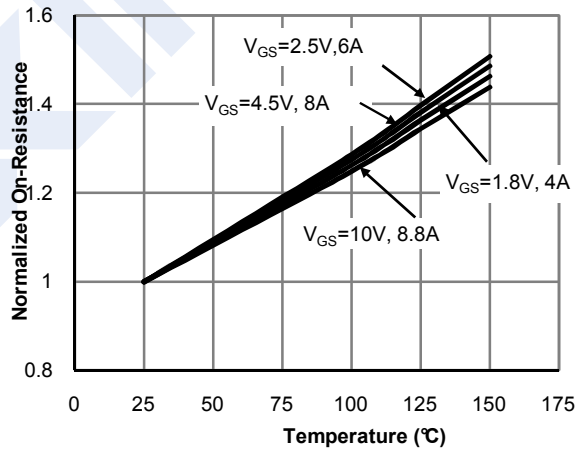


Figure 4: On-Resistance vs. Junction Temperature

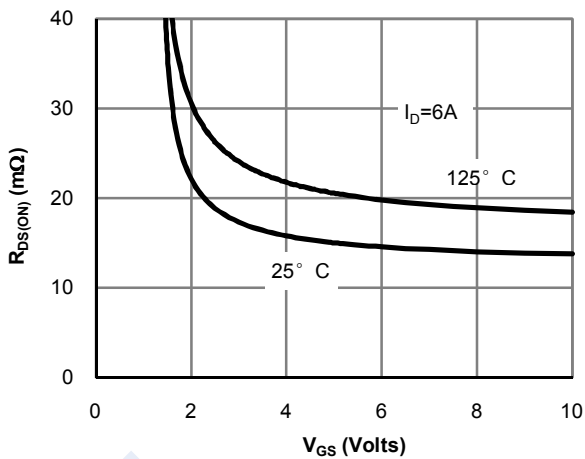


Figure 5: On-Resistance vs. Gate-Source Voltage

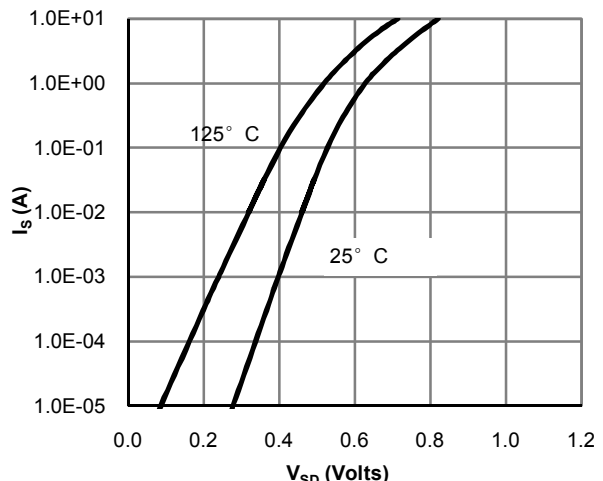


Figure 6: Body-Diode Characteristics

N-Channel MOSFET AO6408 (KO6408)

■ Typical Characteristics

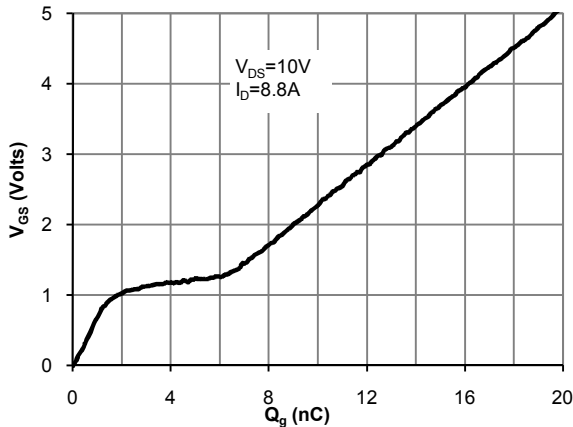


Figure 7: Gate-Charge Characteristics

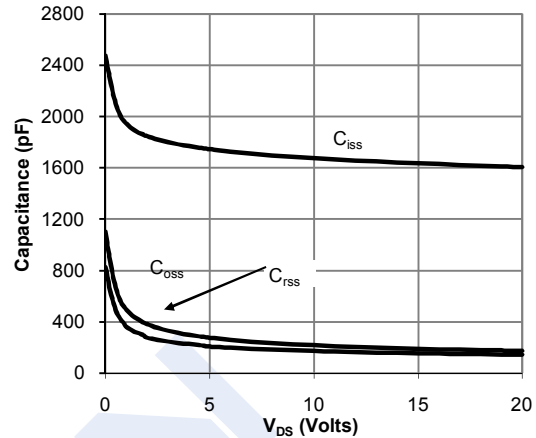


Figure 8: Capacitance Characteristics

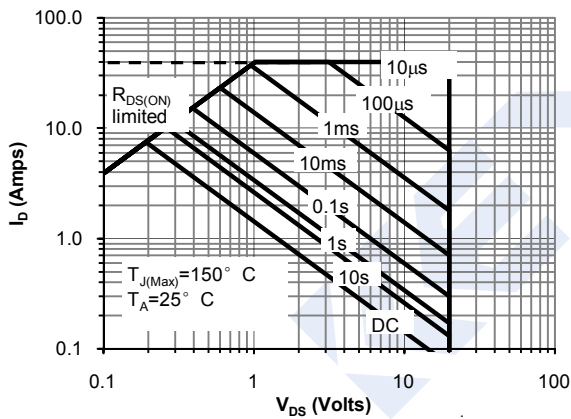


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

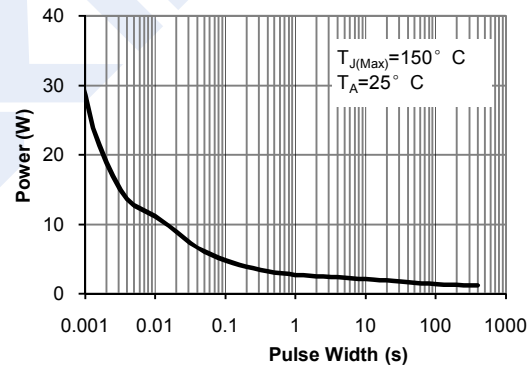


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

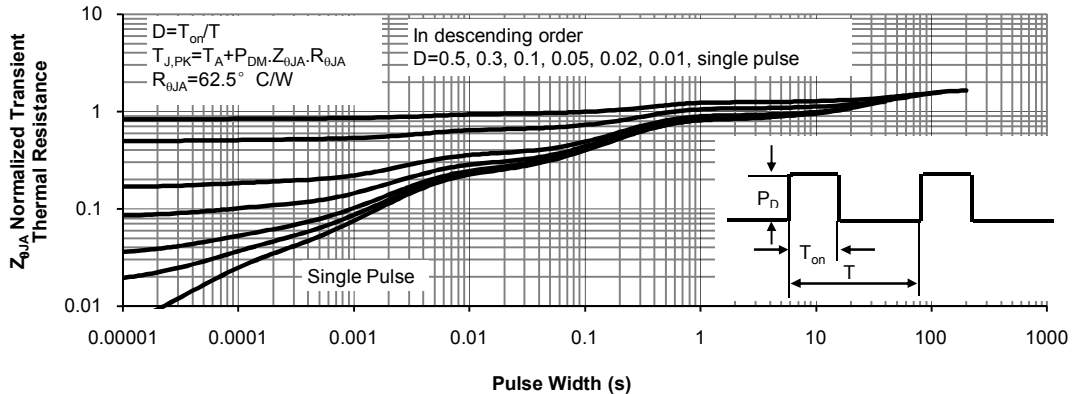


Figure 11: Normalized Maximum Transient Thermal Impedance