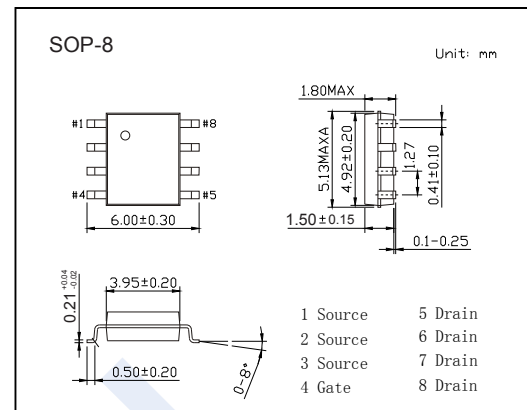
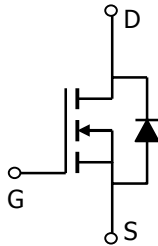


N-Channel MOSFET

AO4408 (KO4408)

■ Features

- $V_{DS} = 30V$
- $I_D = 12 A$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 13m\Omega$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 16m\Omega$ ($V_{GS} = 4.5V$)

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

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V_{DS}	30	V	
Gate-Source Voltage	V_{GS}	± 12		
Continuous Drain Current	I_D	$T_A=25^\circ C$	12	A
		$T_A=70^\circ C$	10	
Pulsed Drain Current	I_{DM}	80		
Avalanche Current	I_{AV}	30		
Repetitive Avalanche Energy	$L=0.3mH$	E_{AV}	135	mJ
Power Dissipation		$T_A=25^\circ C$	3.1	W
		$T_A=70^\circ C$	2	
Thermal Resistance.Junction- to-Ambient	R_{thJA}	$t \leq 10s$	40	$^\circ C/W$
		Steady-State	65	
Thermal Resistance.Junction- to-Lead	R_{thJL}	16		
Junction Temperature	T_J	150	$^\circ C$	
Storage Temperature Range	T_{stg}	-55 to 150		

N-Channel MOSFET

AO4408 (KO4408)

■ 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} =30V, V _{GS} =0V			1	μA
		V _{DS} =30V, 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 =250μA	1		2.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =12A			14	mΩ
		V _{GS} =10V, I _D =12A T _J =125°C			21	
		V _{GS} =4.5V, I _D =10A			16.5	
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 =10A		30		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =15V, f=1MHz		1020	1200	pF
Output Capacitance	C _{oss}			320		
Reverse Transfer Capacitance	C _{rss}			80	112	
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz	0.13		0.5	Ω
Total Gate Charge	Q _g	V _{GS} =4.5V, V _{DS} =15V, I _D =12A		10.3	12.5	nC
Gate Source Charge	Q _{gs}			2.1		
Gate Drain Charge	Q _{gd}			3.9		
Turn-On DelayTime	t _{d(on)}	V _{GS} =10V, V _{DS} =15V, R _L =1.2Ω, R _{GEN} =3Ω		3.9	5.5	ns
Turn-On Rise Time	t _r			3	6	
Turn-Off DelayTime	t _{d(off)}			19.2	30	
Turn-Off Fall Time	t _f			2.6	5	
Body Diode Reverse Recovery Time	t _{rr}			26	32	
Body Diode Reverse Recovery Charge	Q _{rr}	I _F = 12A, di/dt= 100A/us		18	32	nC
Maximum Body-Diode Continuous Current	I _S				4.5	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 <300 μs pulses, duty cycle 0.5% max.

■ Marking

Marking	4408
	KC****

N-Channel MOSFET AO4408 (KO4408)

■ Typical Characteristics

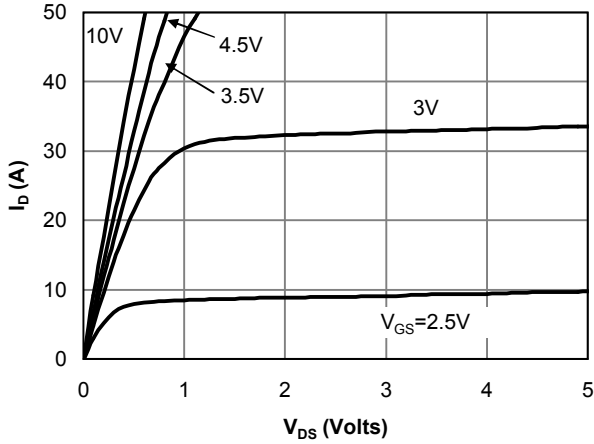


Fig 1: On-Region Characteristics

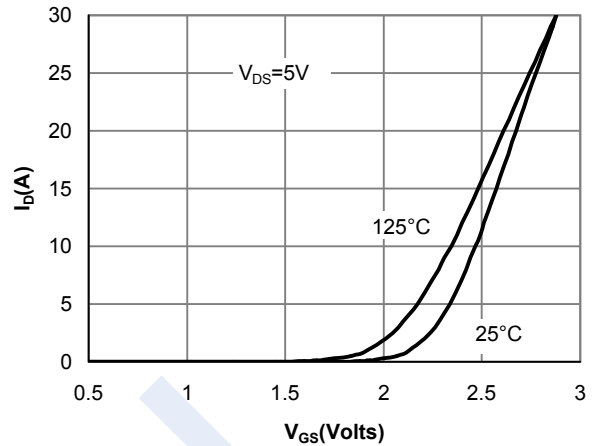


Figure 2: Transfer Characteristics

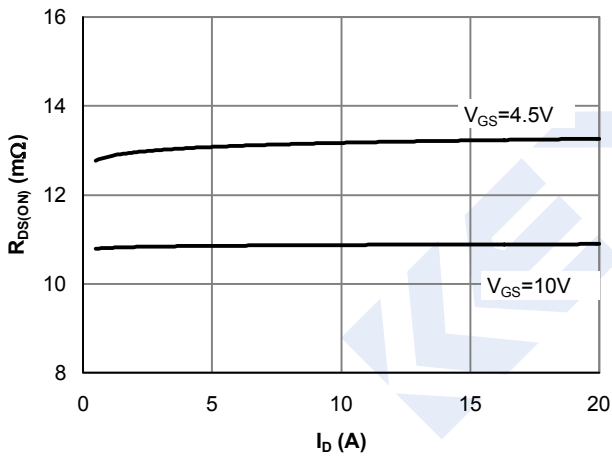


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

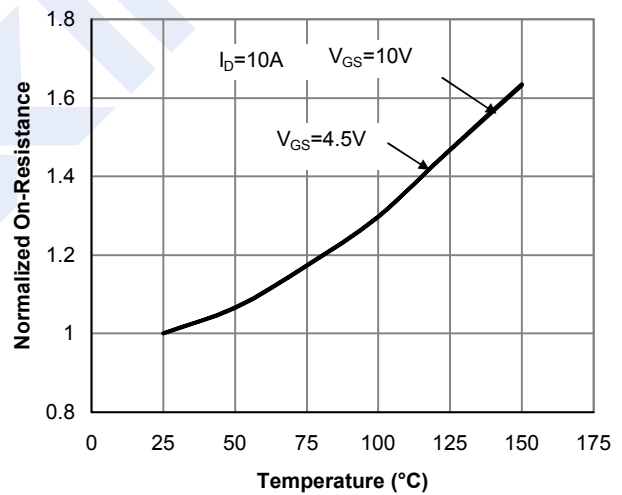


Figure 4: On-Resistance vs. Junction Temperature

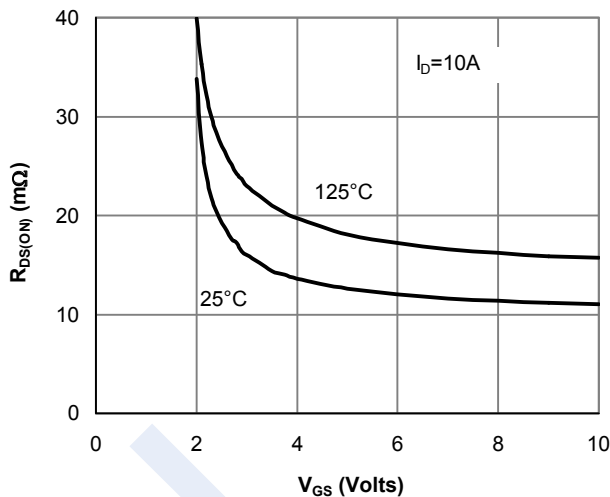


Figure 5: On-Resistance vs. Gate-Source Voltage

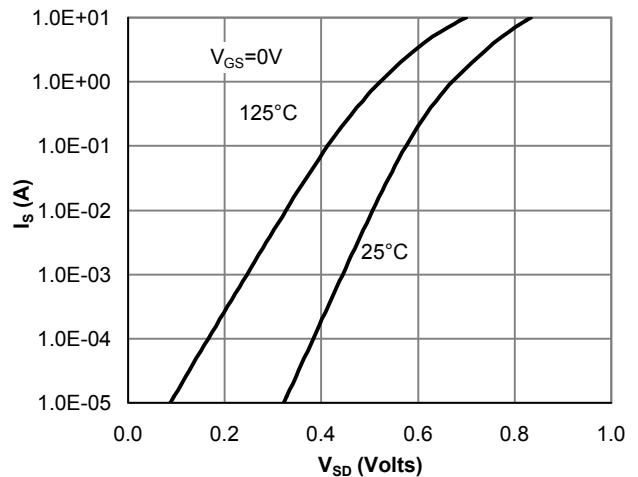


Figure 6: Body-Diode Characteristics

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■ Typical Characteristics

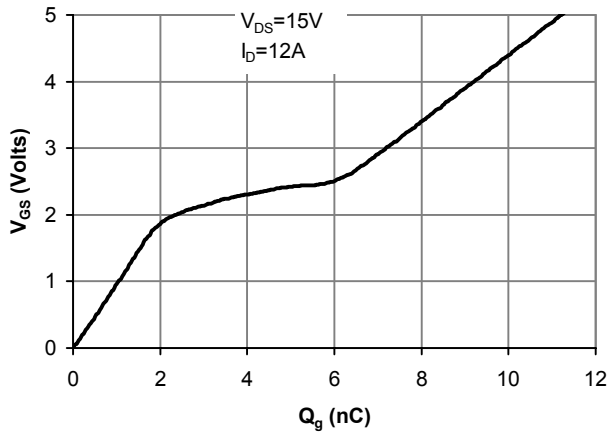


Figure 7: Gate-Charge Characteristics

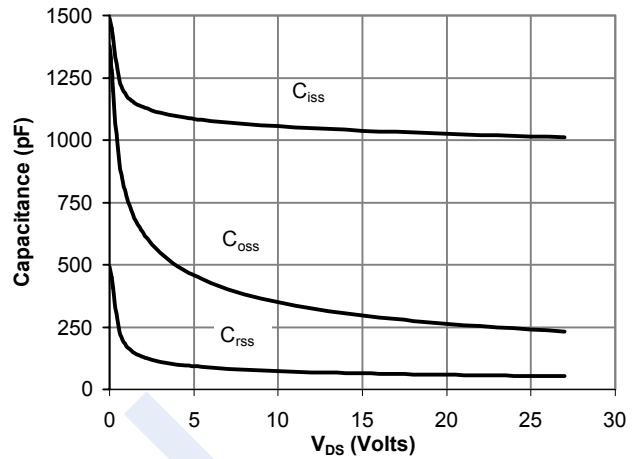


Figure 8: Capacitance Characteristics

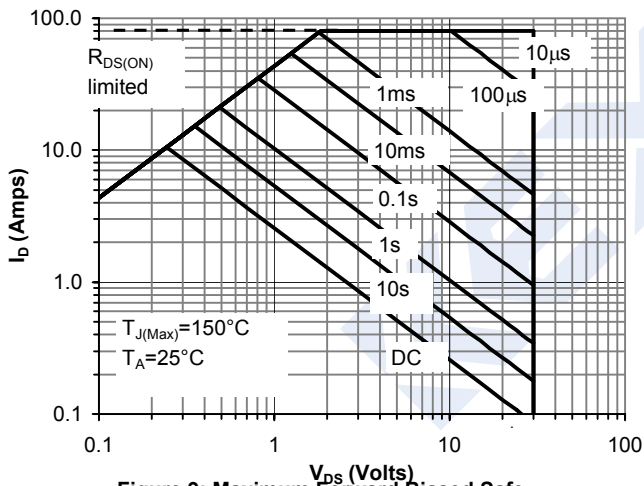


Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

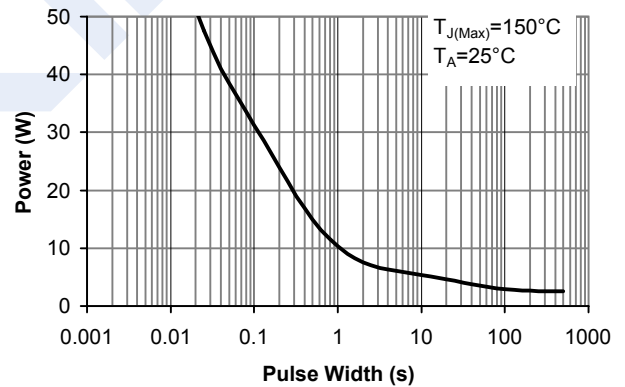


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

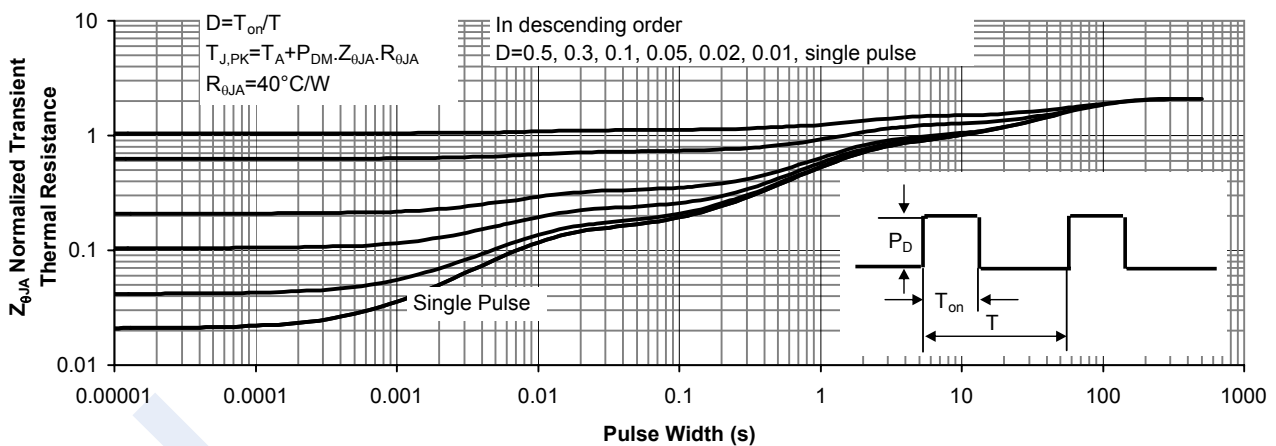


Figure 11: Normalized Maximum Transient Thermal Impedance

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■ Typical Characteristics

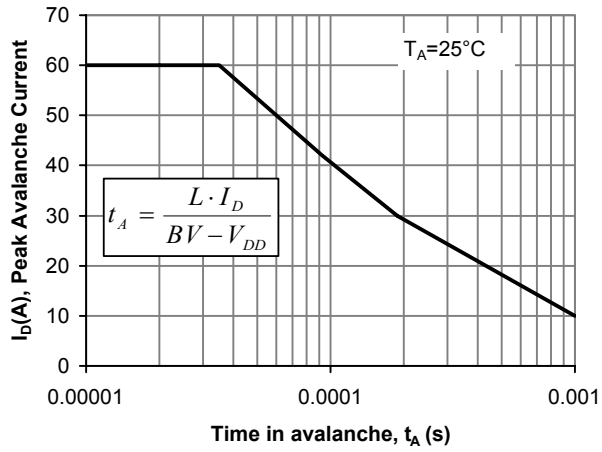


Figure 12: Avalanche capability

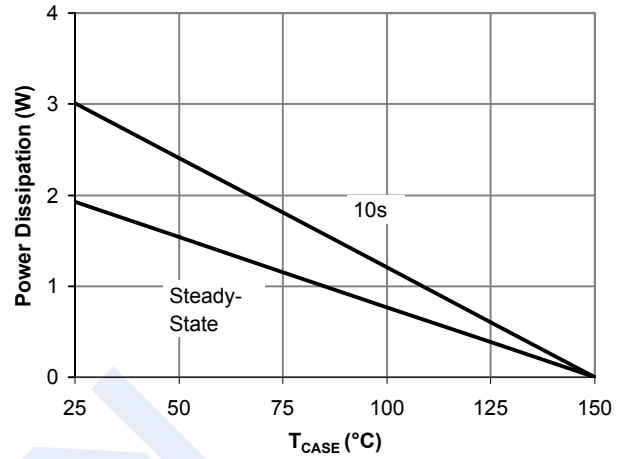


Figure 13: Power De-rating (Note A)