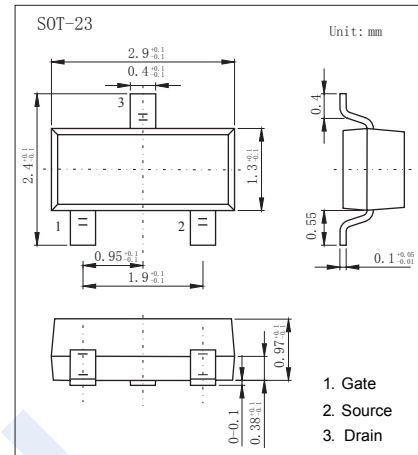
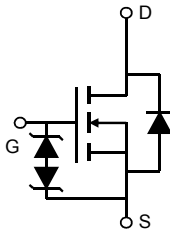


N-Channel MOSFET

AO3434A (KO3434A)

■ Features

- $V_{DS} (V) = 30V$
- $I_D = 4 A (V_{GS} = 10V)$
- $R_{DS(ON)} < 52m\Omega (V_{GS} = 10V)$
- $R_{DS(ON)} < 60m\Omega (V_{GS} = 4.5V)$
- $R_{DS(ON)} < 78m\Omega (V_{GS} = 2.5V)$



■ 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	$T_A=25^\circ C$	4	A
		$T_A=70^\circ C$	3	
Pulsed Drain Current	I_{DM}	20		
Power Dissipation	P_D	$T_A=25^\circ C$	1.4	W
		$T_A=70^\circ C$	0.9	
Thermal Resistance.Junction- to-Ambient	R_{thJA}	$t \leq 10s$	90	$^\circ C/W$
		Steady-State	125	
Thermal Resistance.Junction- to-Case	R_{thJC}	80		
Junction Temperature	T_J	150	$^\circ C$	
Storage Temperature Range	T_{stg}	-55 to 150		

N-Channel MOSFET

AO3434A (KO3434A)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Drain-Source Breakdown Voltage	V_{DS}	$I_D=250\ \mu A, V_{GS}=0V$	30			V	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$			1	μA	
		$V_{DS}=30V, V_{GS}=0V, T_J=55^\circ C$			5		
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 10V$			± 10	μA	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\ \mu A$	0.7		1.5	V	
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=4A$			52	$m\ \Omega$	
		$V_{GS}=10V, I_D=4A, T_J=125^\circ C$			82		
		$V_{GS}=4.5V, I_D=3A$			60		
		$V_{GS}=2.5V, I_D=2A$			78		
On state drain current	$I_{D(ON)}$	$V_{GS}=10V, V_{DS}=5V$	20			A	
Forward Transconductance	g_{FS}	$V_{DS}=5V, I_D=4A$		15		S	
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=15V, f=1MHz$		245		pF	
Output Capacitance	C_{oss}			35			
Reverse Transfer Capacitance	C_{rss}			20			
Gate Resistance	R_g		$V_{GS}=0V, V_{DS}=0V, f=1MHz$		5		
Total Gate Charge (10V)	Q_g	$V_{GS}=10V, V_{DS}=15V, I_D=4A$		5.7	10	nC	
Total Gate Charge (4.5V)				2.6	5		
Gate Source Charge			Q_{gs}		0.5		
Gate Drain Charge			Q_{gd}		1		
Turn-On DelayTime			$t_{d(on)}$	$V_{GS}=10V, V_{DS}=15V, R_L=3.75\ \Omega, R_G=3\ \Omega$			2
Turn-On Rise Time	t_r		3.5				
Turn-Off DelayTime	$t_{d(off)}$		22				
Turn-Off Fall Time	t_f		3.5				
Body Diode Reverse Recovery Time	t_{rr}	$I_F=4A, di/dt=500A/\mu s$		6.5		nC	
Body Diode Reverse Recovery Charge	Q_{rr}			7.5			
Maximum Body-Diode Continuous Current	I_S				1.5	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	Y4**
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N-Channel MOSFET AO3434A (KO3434A)

■ Typical Characteristics

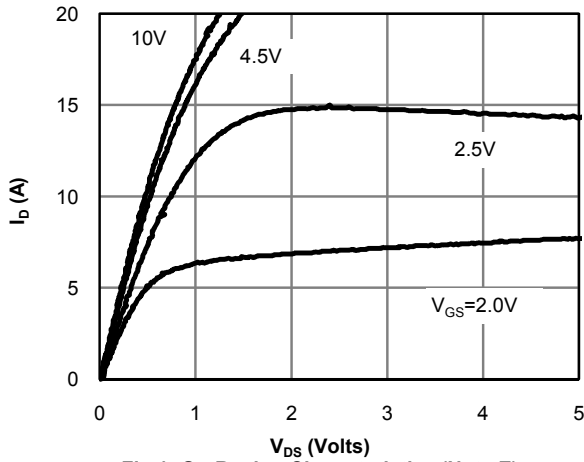


Fig 1: On-Region Characteristics (Note E)

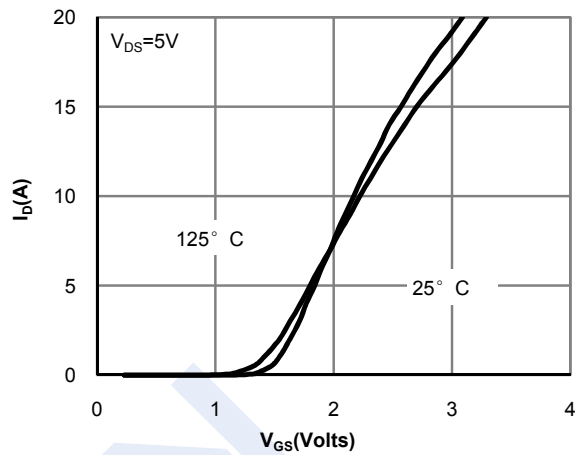


Figure 2: Transfer Characteristics (Note E)

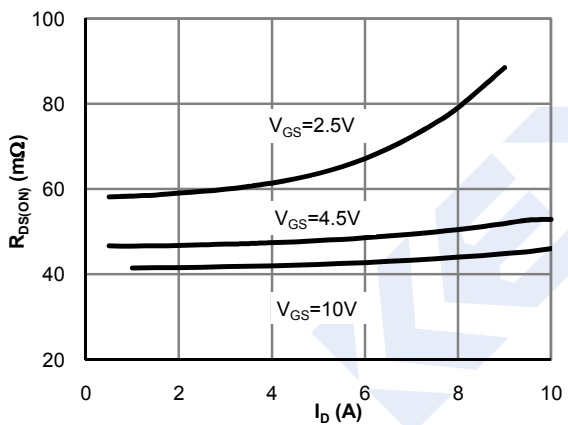


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

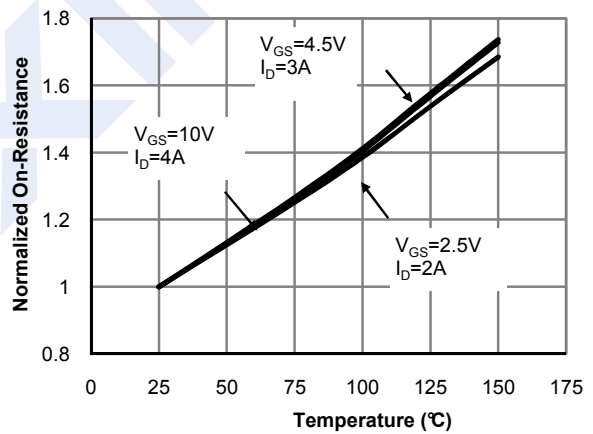


Figure 4: On-Resistance vs. Junction Temperature (Note E)

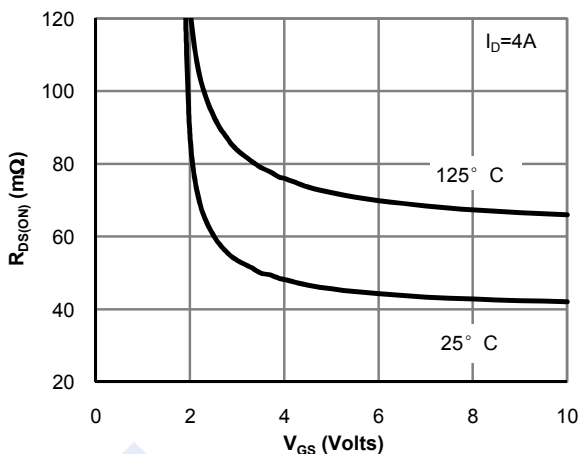


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

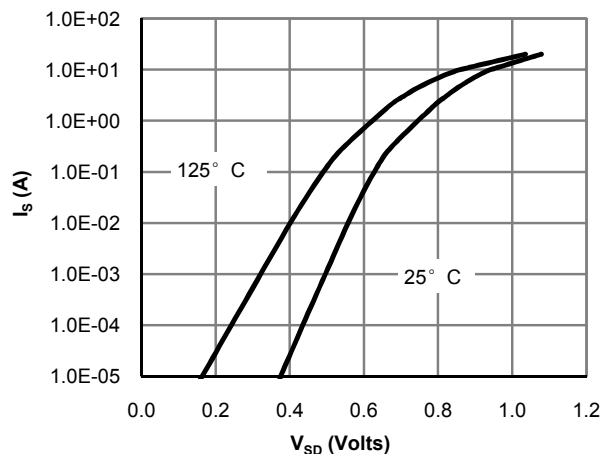


Figure 6: Body-Diode Characteristics (Note E)

N-Channel MOSFET AO3434A (KO3434A)

■ Typical Characteristics

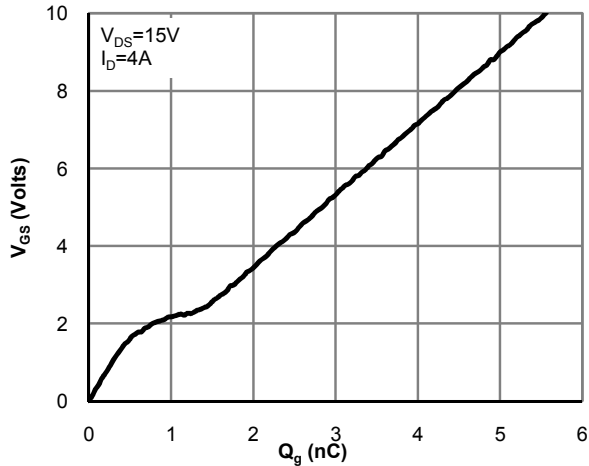


Figure 7: Gate-Charge Characteristics

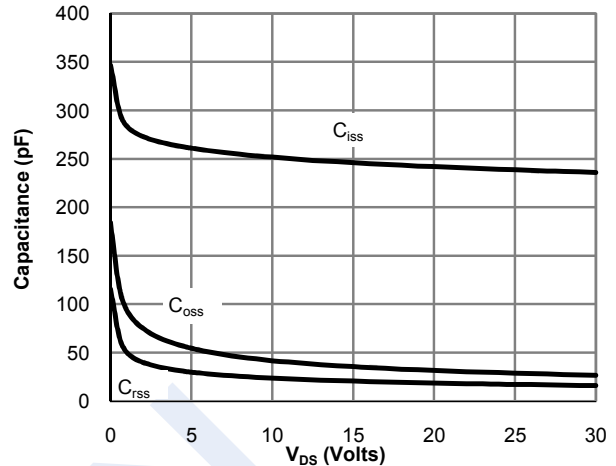


Figure 8: Capacitance Characteristics

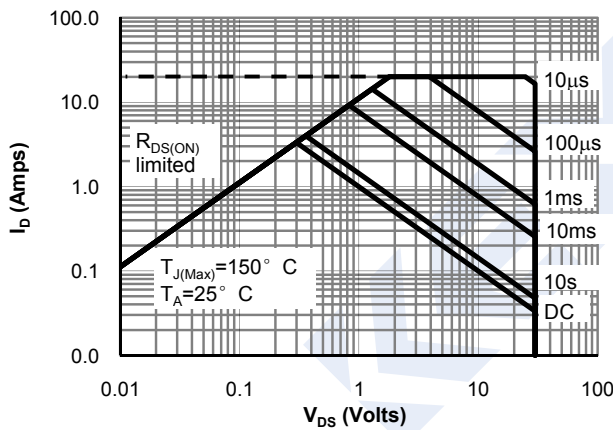


Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

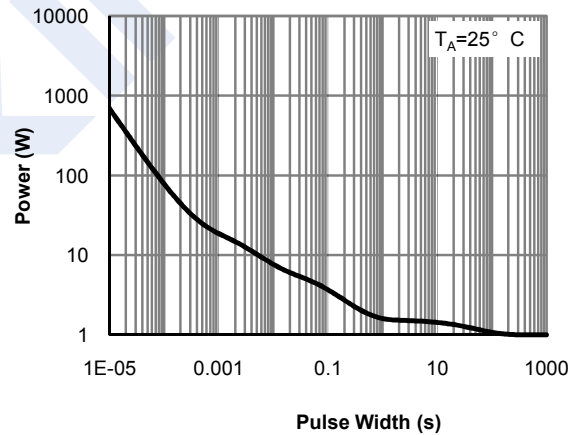


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note F)

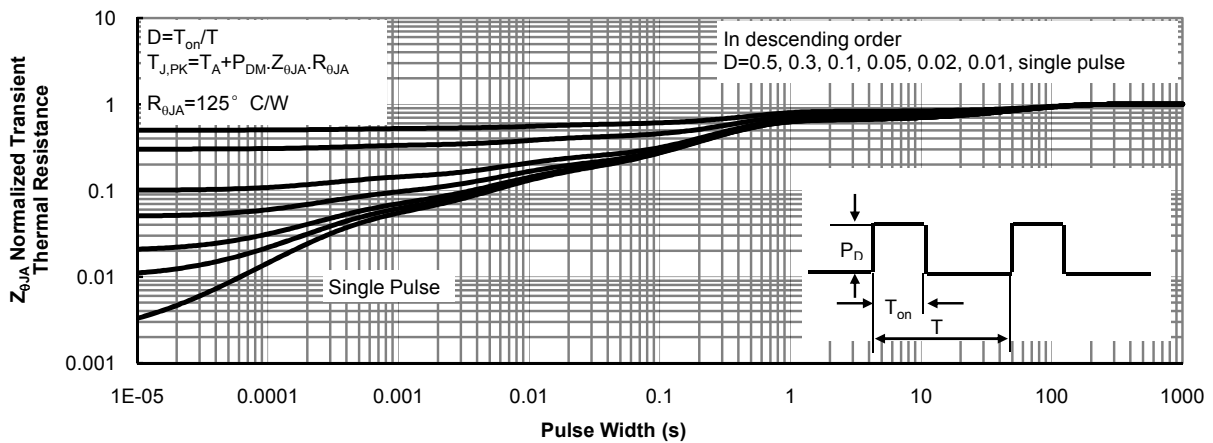


Figure 11: Normalized Maximum Transient Thermal Impedance (Note F)