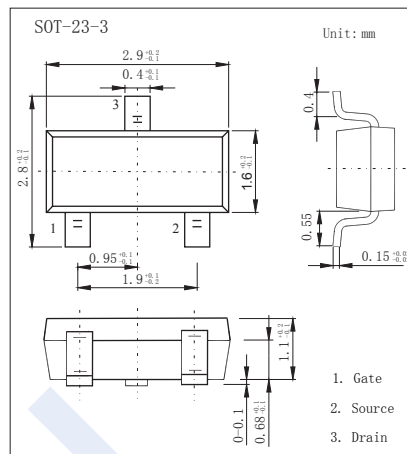
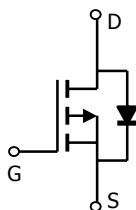


P-Channel Enhancement MOSFET

AO3407 (KO3407)

■ Features

- $V_{DS} (V) = -30V$
- $I_D = -4.1 A$
- $R_{DS(ON)} < 52m\Omega$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 87m\Omega$ ($V_{GS} = -4.5V$)

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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	$T_a = 25^\circ C$	-4.1
		$T_a = 70^\circ C$	-3.5
Pulsed Drain Current	I_{DM}	-20	A
Power Dissipation	P_D	$T_a = 25^\circ C$	1.4
		$T_a = 70^\circ C$	1
Thermal Resistance.Junction- to-Ambient	R_{thJA}	$t \leq 10s$	90
		Steady State	125
Thermal Resistance.Junction- to-Lead	R_{thJL}	60	$^\circ C/W$
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	

P-Channel Enhancement MOSFET

AO3407 (KO3407)

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DS}	$I_D = -250 \mu\text{A}$, $V_{GS} = 0\text{V}$	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -24\text{V}$, $V_{GS} = 0\text{V}$			-1	μA
		$V_{DS} = -24\text{V}$, $V_{GS} = 0\text{V}$, $T_J = 55^\circ\text{C}$			-5	
Gate-Body leakage current	I_{GSS}	$V_{DS} = 0\text{V}$, $V_{GS} = \pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = -250 \mu\text{A}$	-1	-1.8	-3	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -10\text{V}$, $I_D = -4.1\text{A}$		40.5	52	m Ω
		$V_{GS} = -10\text{V}$, $I_D = -4\text{A}$, $T_J = 125^\circ\text{C}$		57	73	
		$V_{GS} = -4.5\text{V}$, $I_D = -3\text{A}$		64	87	
On state drain current	$I_{D(ON)}$	$V_{GS} = -4.5\text{V}$, $V_{DS} = -5\text{V}$	-10			A
Forward Transconductance	g_{FS}	$V_{DS} = -5\text{V}$, $I_D = -4\text{A}$	5.5	8.2		S
Input Capacitance	C_{iss}	$V_{GS} = 0\text{V}$, $V_{DS} = -15\text{V}$, $f = 1\text{MHz}$		700		pF
Output Capacitance	C_{oss}			120		
Reverse Transfer Capacitance	C_{rss}			75		
Gate resistance	R_g		$V_{GS} = 0\text{V}$, $V_{DS} = 0\text{V}$, $f = 1\text{MHz}$		10	
Total Gate Charge	Q_g	$V_{GS} = -4.5\text{V}$, $V_{DS} = -15\text{V}$, $I_D = -4\text{A}$		14.3		nC
Gate Source Charge	Q_{gs}			7		
Gate Drain Charge	Q_{gd}			3.1		
Turn-On DelayTime	$t_{d(on)}$	$V_{GS} = -10\text{V}$, $V_{DS} = -15\text{V}$, $R_L = 3.6 \Omega$, $R_{GEN} = 3 \Omega$		8.6		ns
Turn-On Rise Time	t_r			5		
Turn-Off DelayTime	$t_{d(off)}$			28.2		
Turn-Off Fall Time	t_f			13.5		
Body Diode Reverse Recovery Time	t_{rr}			27		
Body Diode Reverse Recovery Charge	Q_{rr}	$I_F = -4\text{A}$, $di/dt = 100\text{A}/\mu\text{s}$		15		nC
Maximum Body-Diode Continuous Current	I_S				-2.2	A
Diode Forward Voltage	V_{SD}	$I_S = -1\text{A}$, $V_{GS} = 0\text{V}$		-0.77	-1	V

■ Marking

Marking	A7*
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P-Channel Enhancement MOSFET

AO3407 (KO3407)

Typical Characteristics

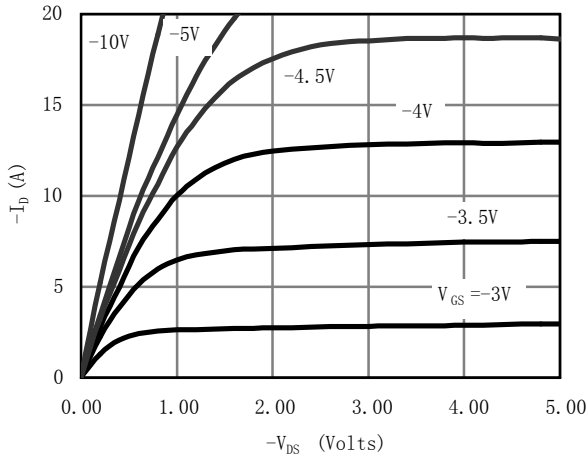


Figure 1: On-Region Characteristics

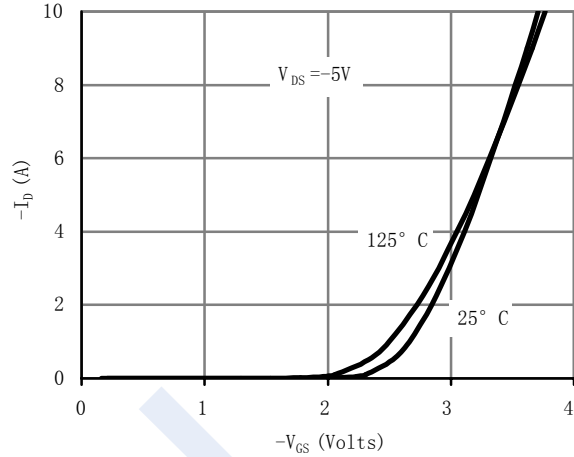


Figure 2: Transfer Characteristics

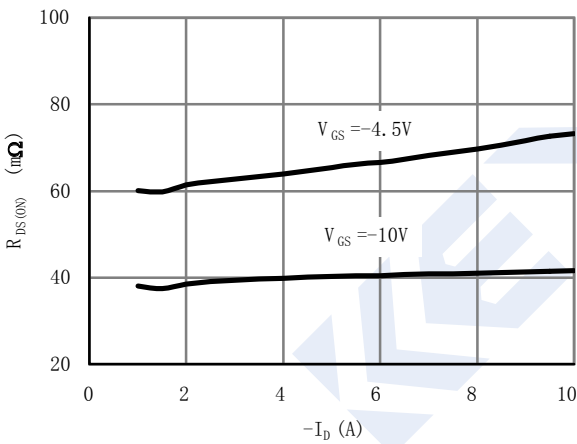


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

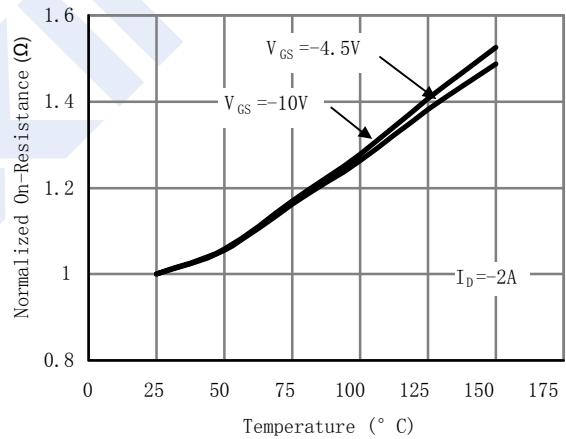


Figure 4: On-Resistance vs. Junction Temperature

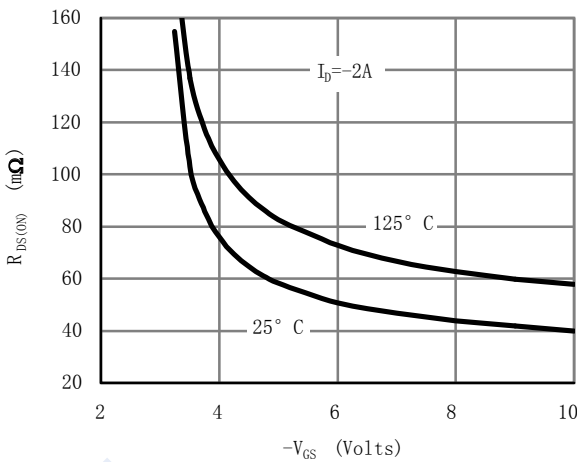


Figure 5: On-Resistance vs. Gate-Source Voltage

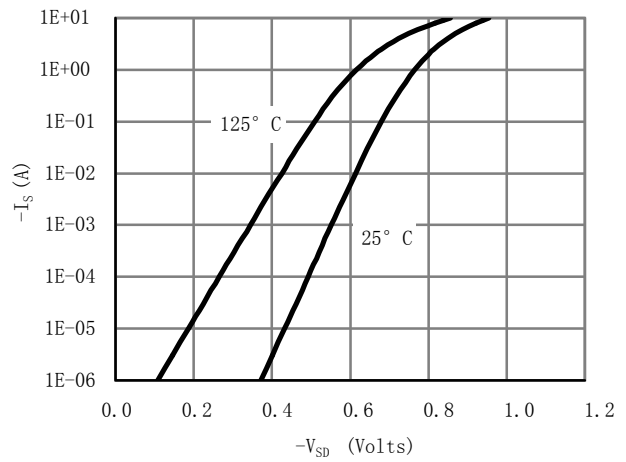


Figure 6: Body-Diode Characteristics

P-Channel Enhancement MOSFET

AO3407 (KO3407)

Typical Characteristics

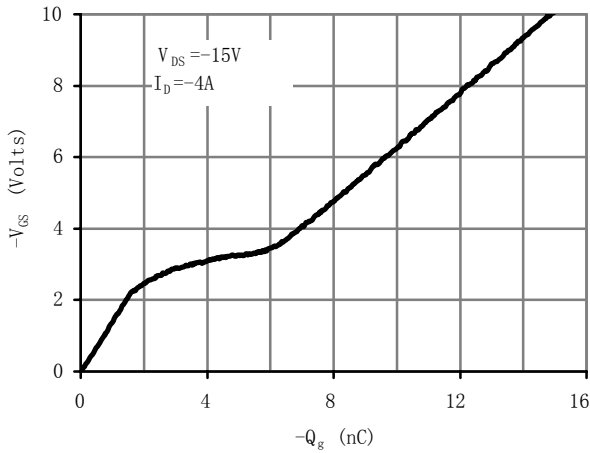


Figure 7: Gate-Charge Characteristics

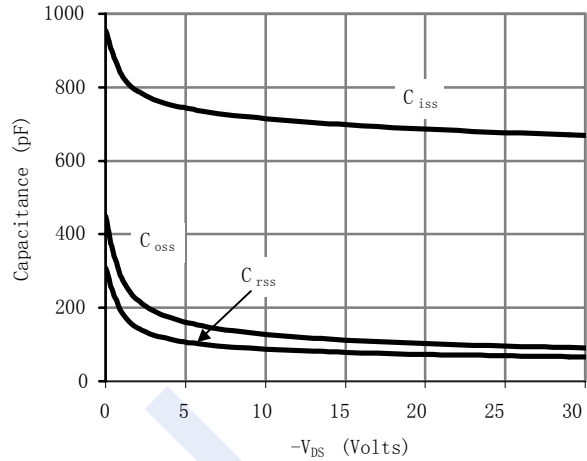


Figure 8: Capacitance Characteristics

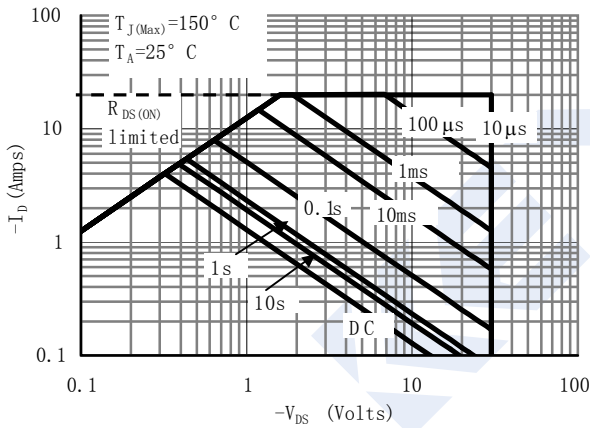


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

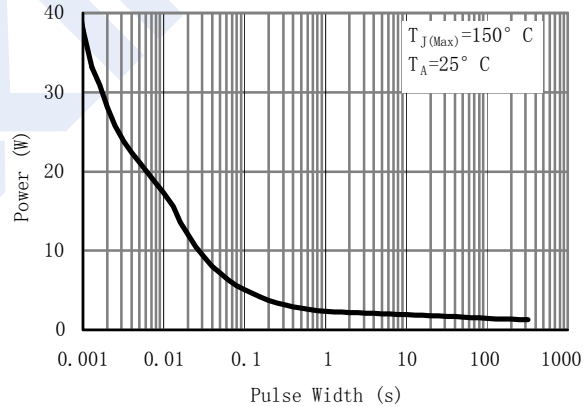


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

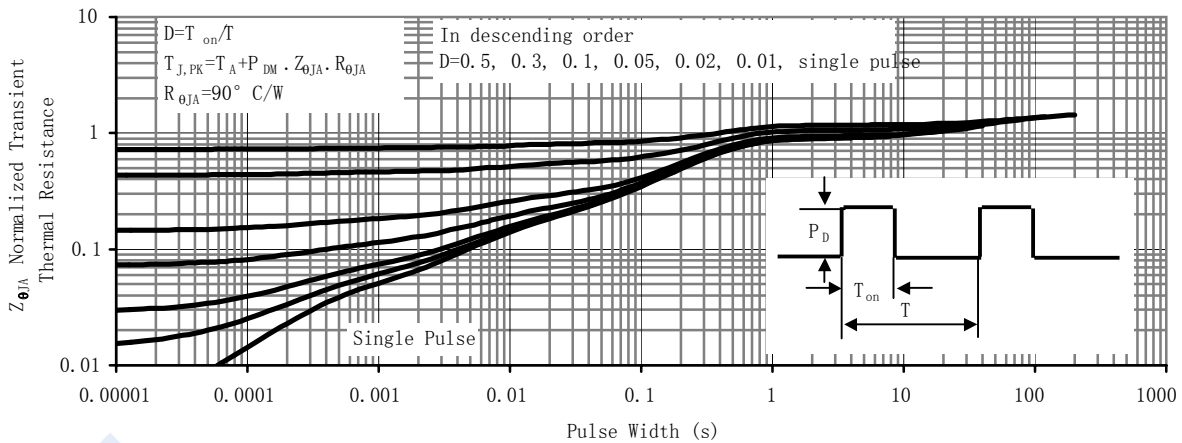


Figure 11: Normalized Maximum Transient Thermal Impedance

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