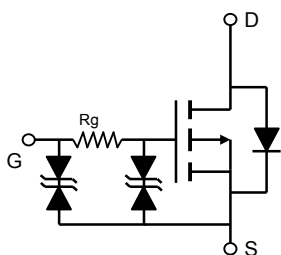
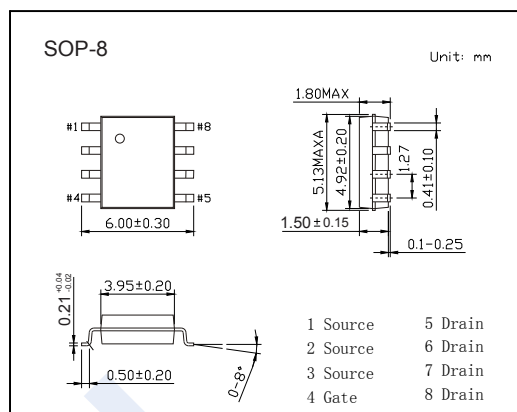


P-Channel MOSFET

AO4447A (KO4447A)

■ Features

- $V_{DS} (V) = -30V$
- $I_D = -17 A$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 7m\Omega$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 8m\Omega$ ($V_{GS} = -4.5V$)
- $R_{DS(ON)} < 9m\Omega$ ($V_{GS} = -4V$)
- ESD Rating: 2000V HBM



■ 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	$T_A = 25^\circ C$	I_D	-17	A
	$T_A = 70^\circ C$		-13	
Pulsed Drain Current		I_{DM}	-160	
Power Dissipation	$T_A = 25^\circ C$	P_D	3.1	W
	$T_A = 70^\circ C$		2	
Thermal Resistance.Junction- to-Ambient	$t \leq 10s$	R_{thJA}	40	$^\circ C/W$
	Steady-State		75	
Thermal Resistance.Junction- to-Lead		R_{thJL}	24	
Junction Temperature		T_J	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55 to 150	

P-Channel MOSFET

AO4447A (KO4447A)

■ 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}	$V_{DS} = -30\text{V}$, $V_{GS} = 0\text{V}$			-1	μA
		$V_{DS} = -30\text{V}$, $V_{GS} = 0\text{V}$, $T_J = 55^\circ\text{C}$			-5	
Gate-Body leakage current	I_{GSS}	$V_{DS} = 0\text{V}$, $V_{GS} = \pm 16\text{V}$			± 10	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = -250\ \mu\text{A}$	-0.8		-1.6	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -10\text{V}$, $I_D = -17\text{A}$			7	$\text{m}\Omega$
		$V_{GS} = -10\text{V}$, $I_D = -17\text{A}$, $T_J = 125^\circ\text{C}$			8.5	
		$V_{GS} = -4.5\text{V}$, $I_D = -15\text{A}$			8	
		$V_{GS} = -4\text{V}$, $I_D = -13\text{A}$			9	
On state drain current	$I_{D(on)}$	$V_{GS} = -10\text{V}$, $V_{DS} = -5\text{V}$	-160			A
Forward Transconductance	g_{FS}	$V_{DS} = -5\text{V}$, $I_D = -17\text{A}$		70		S
Input Capacitance	C_{iss}	$V_{GS} = 0\text{V}$, $V_{DS} = -15\text{V}$, $f = 1\text{MHz}$		4580	5500	pF
Output Capacitance	C_{oss}			755		
Reverse Transfer Capacitance	C_{rss}			564		
Gate resistance	R_g	$V_{GS} = 0\text{V}$, $V_{DS} = 0\text{V}$, $f = 1\text{MHz}$		160	210	Ω
Total Gate Charge (10V)	Q_g	$V_{GS} = -10\text{V}$, $V_{DS} = -15\text{V}$, $I_D = -17\text{A}$		87	105	nC
Total Gate Charge (4.5V)				41		
Gate Source Charge	Q_{gs}			12.8		
Gate Drain Charge	Q_{gd}			17		
Turn-On DelayTime	$t_{d(on)}$	$V_{GS} = -10\text{V}$, $V_{DS} = -15\text{V}$, $R_L = 0.9\Omega$, $R_{GEN} = 3\Omega$		180		ns
Turn-On Rise Time	t_r			260		
Turn-Off DelayTime	$t_{d(off)}$			1200		
Turn-Off Fall Time	t_f			9700		
Body Diode Reverse Recovery Time	t_{rr}	$I_F = -17\text{A}$, $dI/dt = 300\text{A}/\mu\text{s}$		32	40	nC
Body Diode Reverse Recovery Charge	Q_{rr}			77		
Maximum Body-Diode Continuous Current	I_S				-3	A
Diode Forward Voltage	V_{SD}	$I_S = -1\text{A}$, $V_{GS} = 0\text{V}$			-1	V

Note :The static characteristics in Figures 1 to 6 are obtained using $<300\mu\text{s}$ pulses, duty cycle 0.5% max.

■ Marking

Marking	4447A KC****
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P-Channel MOSFET

AO4447A (KO4447A)

■ Typical Characteristics

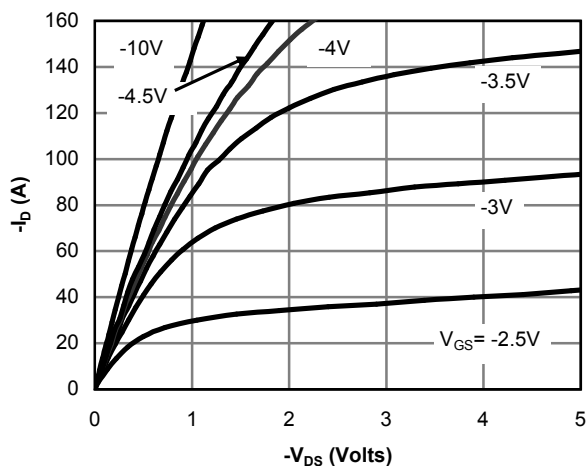


Figure 1: On-Region Characteristics(Note E)

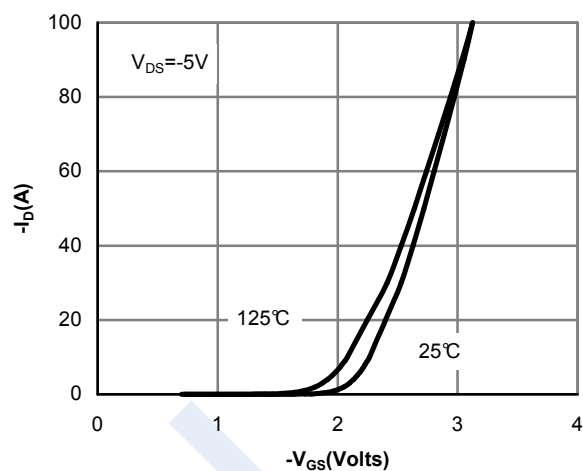


Figure 2: Transfer Characteristics(Note E)

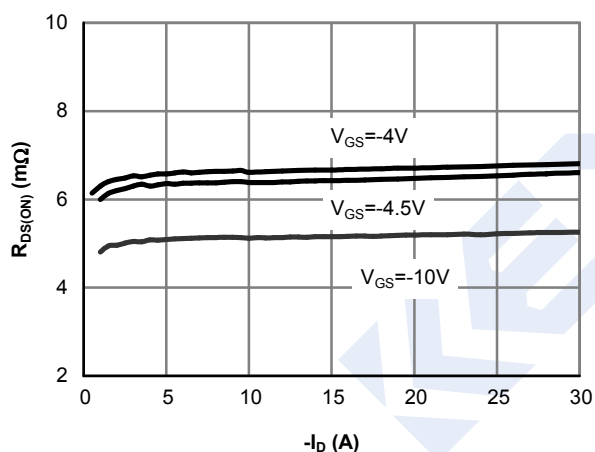


Figure 3: On-Resistance vs. Drain Current and Gate Voltage(Note E)

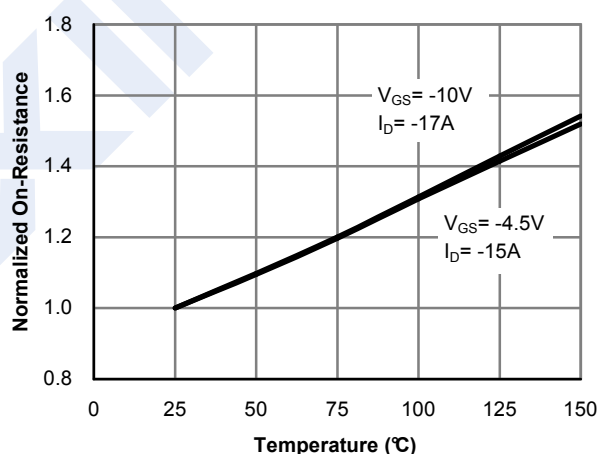


Figure 4: On-Resistance vs. Junction Temperature(Note E)

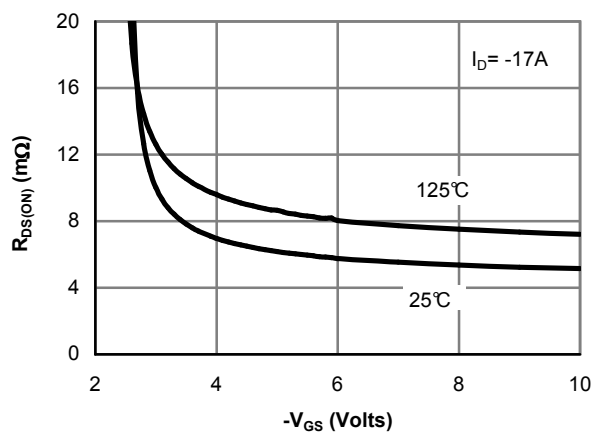


Figure 5: On-Resistance vs. Gate-Source Voltage(Note E)

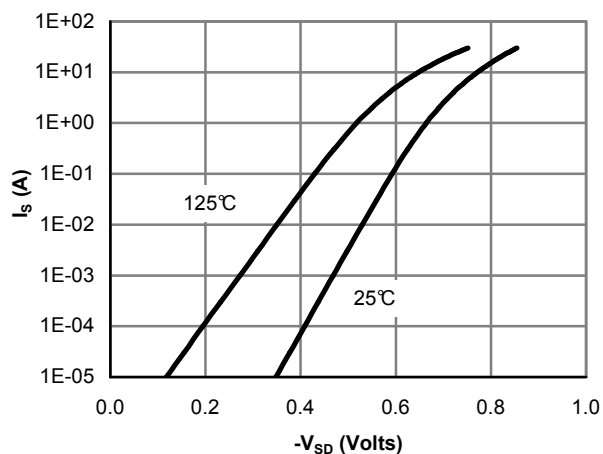


Figure 6: Body-Diode Characteristics(Note E)

P-Channel MOSFET

AO4447A (KO4447A)

■ Typical Characteristics

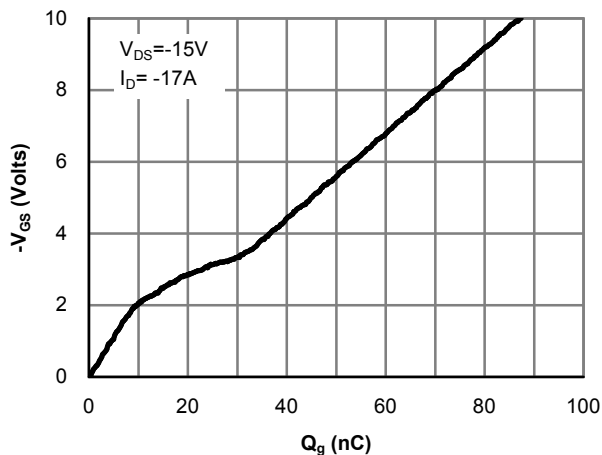


Figure 7: Gate-Charge Characteristics

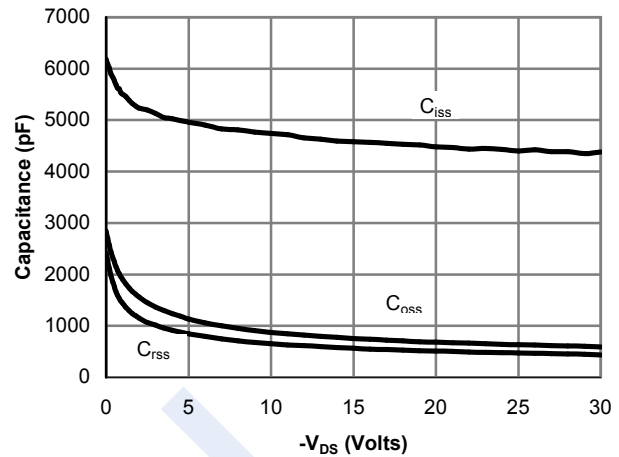


Figure 8: Capacitance Characteristics

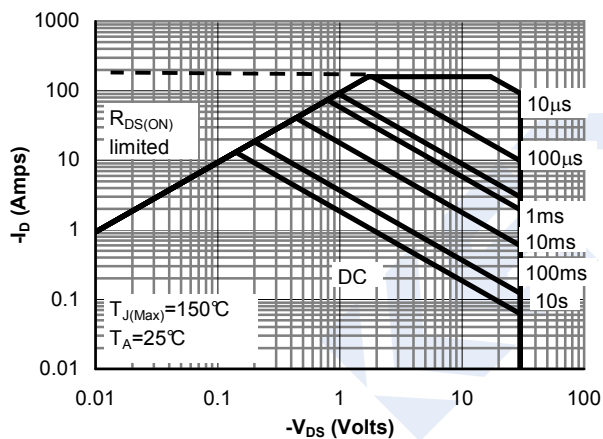


Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

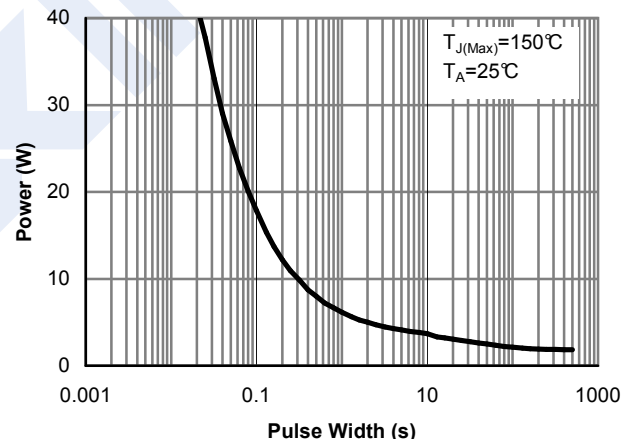


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note F)

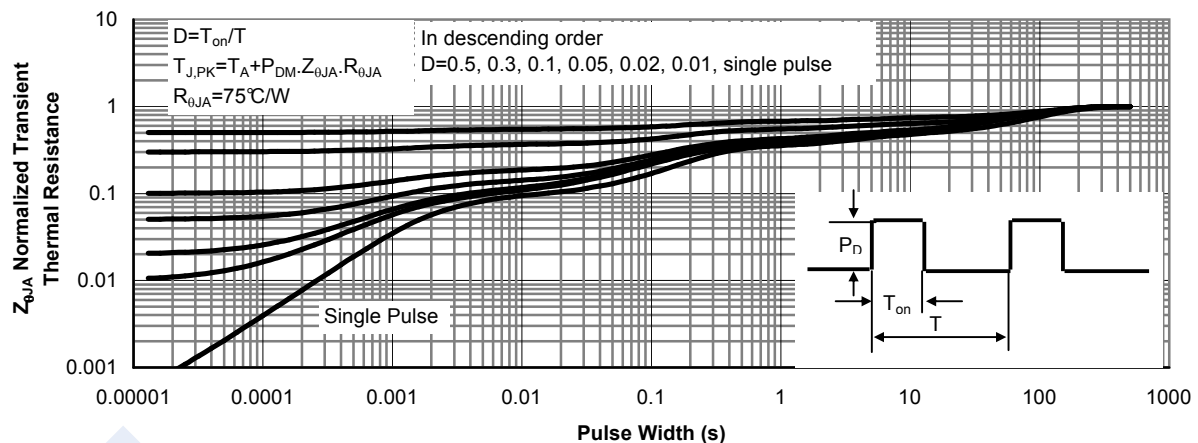


Figure 11: Normalized Maximum Transient Thermal Impedance (Note F)