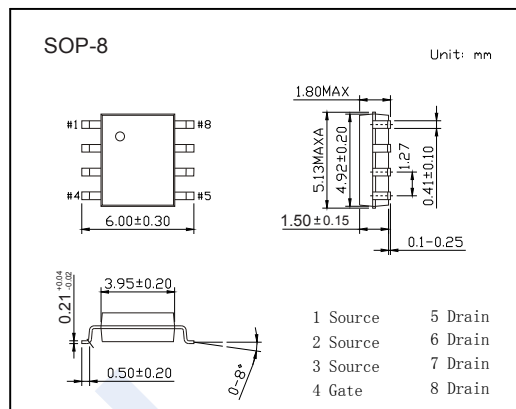
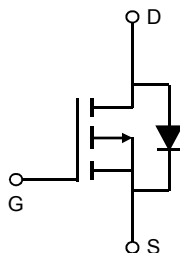


P-Channel MOSFET

AO4453 (KO4453)

■ Features

- $V_{DS} (V) \approx -12V$
- $I_D \approx -9 A$ ($V_{GS} \approx -4.5V$)
- $R_{DS(ON)} < 19m\Omega$ ($V_{GS} \approx -4.5V$)
- $R_{DS(ON)} < 22m\Omega$ ($V_{GS} \approx -3.3V$)
- $R_{DS(ON)} < 26m\Omega$ ($V_{GS} \approx -2.5V$)
- $R_{DS(ON)} < 36m\Omega$ ($V_{GS} \approx -1.8V$)
- $R_{DS(ON)} < 50m\Omega$ ($V_{GS} \approx -1.5V$)

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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-12	V
Gate-Source Voltage		V_{GS}	± 8	
Continuous Drain Current	$T_A = 25^\circ C$	I_D	-9	A
	$T_A = 70^\circ C$		-7	
Pulsed Drain Current		I_{DM}	-55	
Avalanche Current		I_{AS}	20	
Avalanche Energy	$L = 0.1mH$	E_{AS}	20	mJ
Power Dissipation	$T_A = 25^\circ C$	P_D	2.5	W
	$T_A = 70^\circ C$		1.6	
Thermal Resistance.Junction- to-Ambient	$t \leq 10s$	R_{thJA}	50	$^\circ C/W$
	Steady-State		85	
Thermal Resistance.Junction- to-Lead		R_{thJL}	30	$^\circ C$
Junction Temperature		T_J	150	
Junction Storage Temperature Range		T_{stg}	-55 to 150	

P-Channel MOSFET

AO4453 (KO4453)

■ 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	-12			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-12V, V _{GS} =0V			-1	μA
		V _{DS} =-12V, V _{GS} =0V, T _J =55°C			-5	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±8V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.3		-0.9	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-4.5V, I _D =-9A			19	mΩ
		V _{GS} =-4.5V, I _D =-9A T _J =125°C			25	
		V _{GS} =-3.3V, I _D =-7A			22	
		V _{GS} =-2.5V, I _D =-6A			26	
		V _{GS} =-1.8V, I _D =-4A			36	
		V _{GS} =-1.5V, I _D =-1A			50	
On state drain current	I _{D(ON)}	V _{GS} =-4.5V, V _{DS} =-5V	-55			A
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-9A		33		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-6V, f=1MHz		1370		pF
Output Capacitance	C _{oss}			350		
Reverse Transfer Capacitance	C _{rss}			258		
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		10	20	Ω
Total Gate Charge	Q _g	V _{GS} =-4.5V, V _{DS} =-6V, I _D =-9A		12.7	18	nC
Gate Source Charge	Q _{gs}			1.7		
Gate Drain Charge	Q _{gd}			3.4		
Turn-On DelayTime	t _{d(on)}	V _{GS} =-4.5V, V _{DS} =-6V, R _L =0.67Ω, R _{GEN} =3Ω		11		ns
Turn-On Rise Time	t _r			25		
Turn-Off DelayTime	t _{d(off)}			70		
Turn-Off Fall Time	t _f			41.5		
Body Diode Reverse Recovery Time	t _{rr}	I _F =-9A, di/dt=100A/us		20.7		nC
Body Diode Reverse Recovery Charge	Q _{rr}			5.2		
Maximum Body-Diode Continuous Current	I _S				-3.5	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 <300us pulses, duty cycle 0.5% max.

■ Marking

Marking	4453 KC****
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P-Channel MOSFET

AO4453 (KO4453)

■ Typical Characteristics

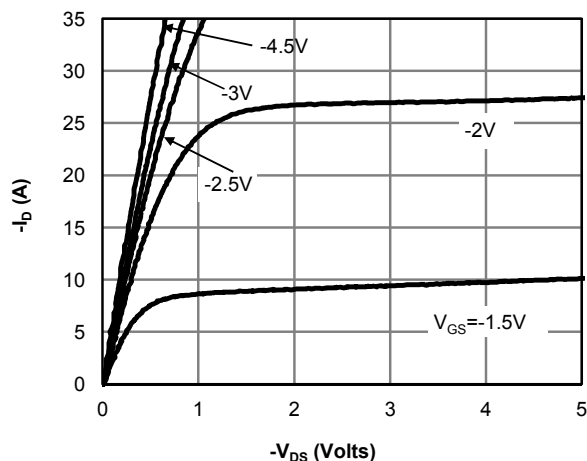


Fig 1: On-Region Characteristics (Note E)

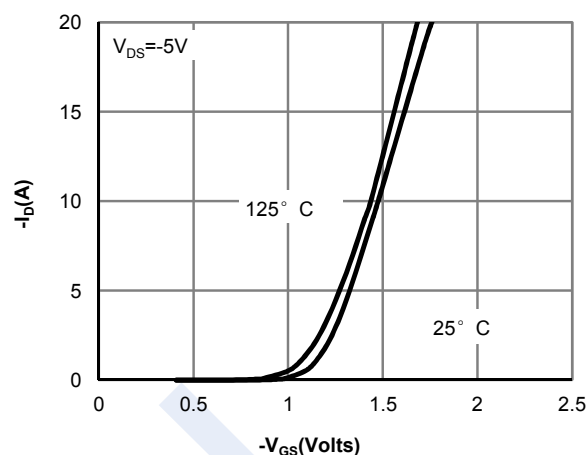


Figure 2: Transfer Characteristics (Note E)

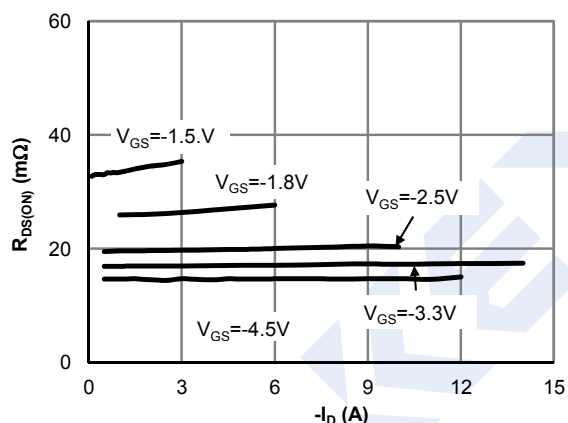


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

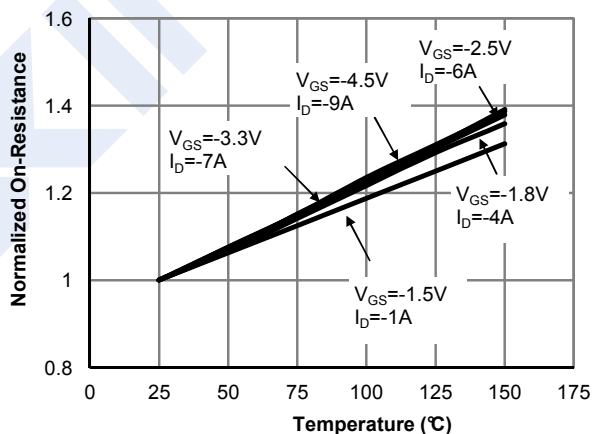


Figure 4: On-Resistance vs. Junction Temperature (Note E)

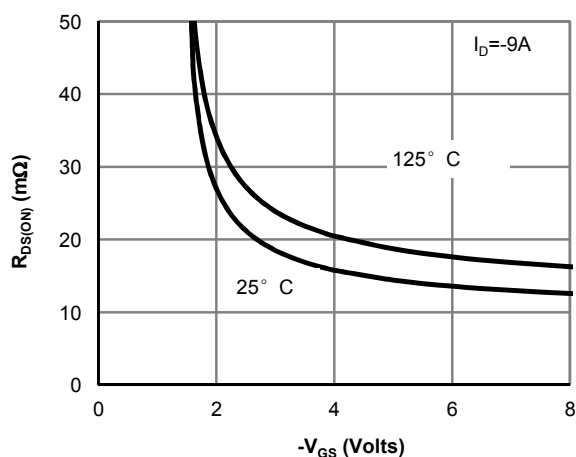


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

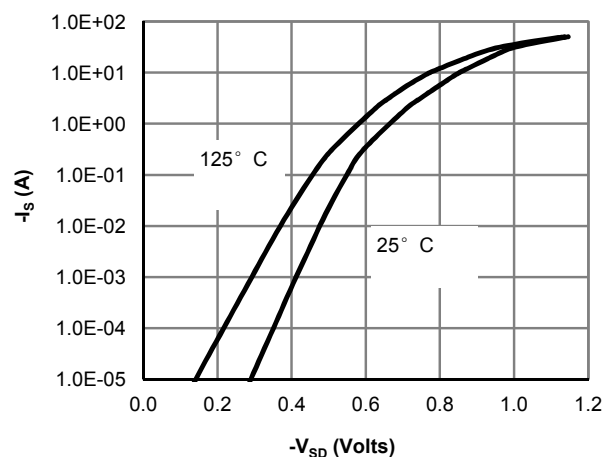
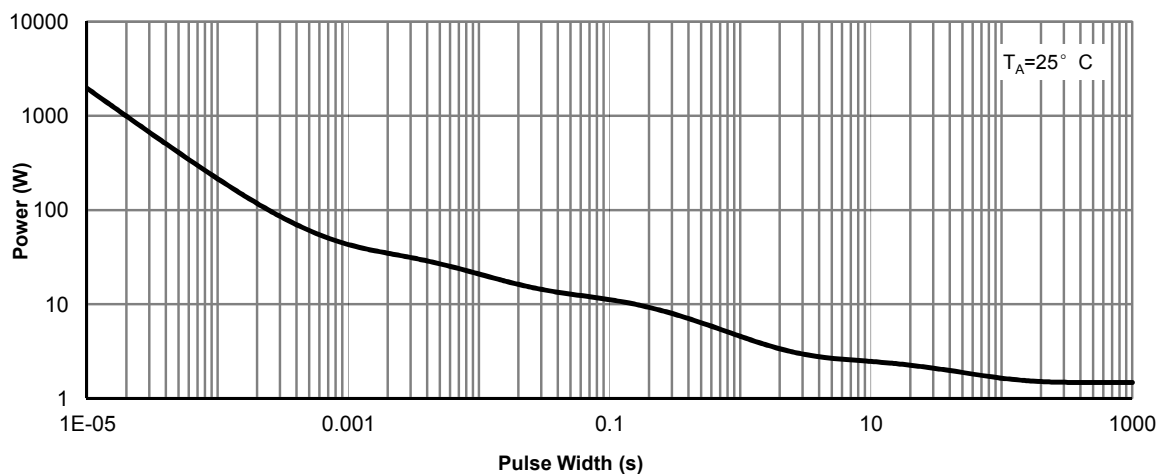
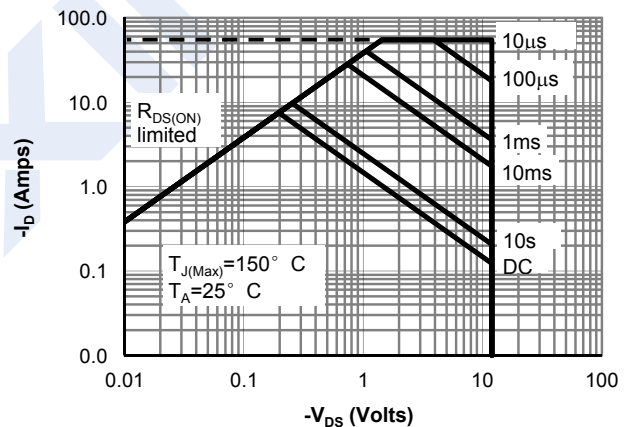
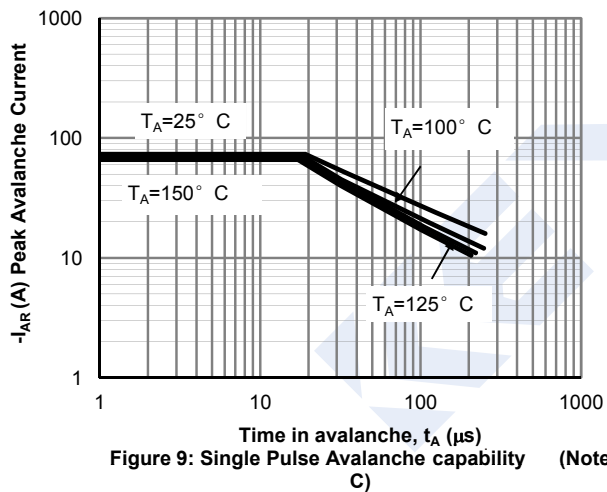
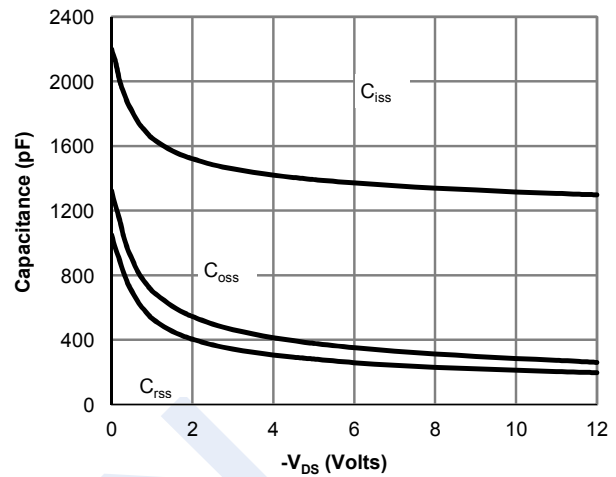
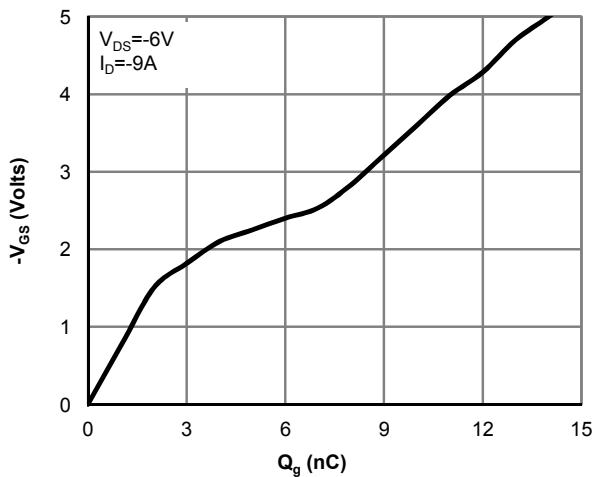


Figure 6: Body-Diode Characteristics (Note E)

P-Channel MOSFET

AO4453 (KO4453)

■ Typical Characteristics



P-Channel MOSFET

AO4453 (KO4453)

■ Typical Characteristics

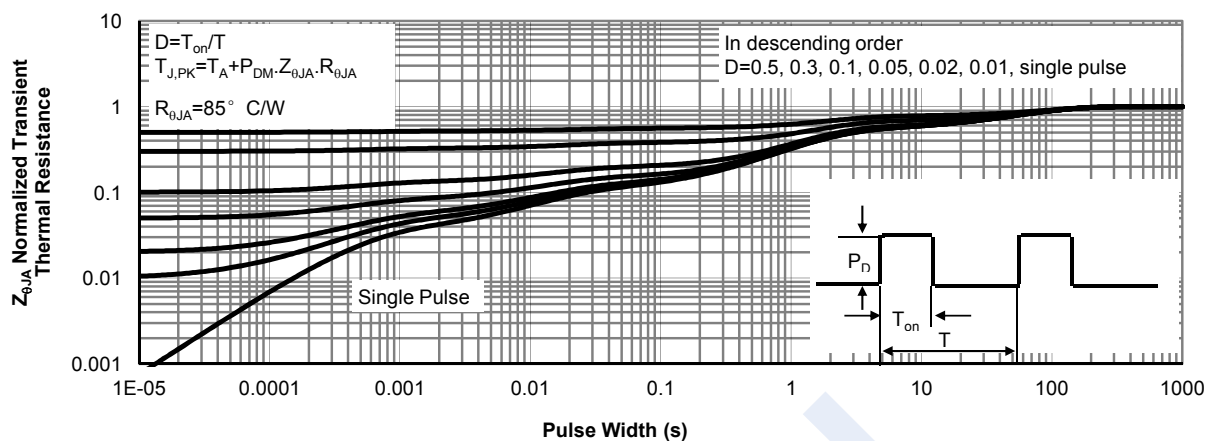


Figure 12: Normalized Maximum Transient Thermal Impedance (Note F)