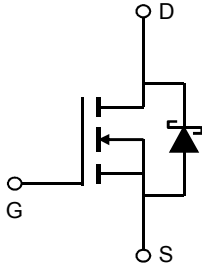
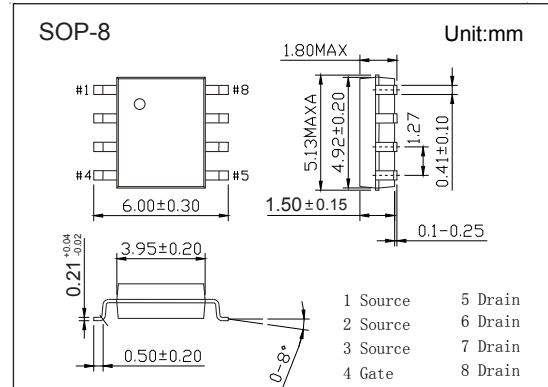


N-Channel MOSFET

AO4752 (KO4752)

■ Features

- $V_{DS} (V) = 30V$
- $I_D = 15 A (V_{GS} = 10V)$
- $R_{DS(ON)} < 8.8m\Omega (V_{GS} = 10V)$
- $R_{DS(ON)} < 15.5m\Omega (V_{GS} = 4.5V)$
- SRFET™ Soft Recovery MOSFET: Integrated Schottky Diode

■ 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	V
Continuous Drain Current	I_D	$T_A = 25^\circ C$	15
		$T_A = 70^\circ C$	12
Pulsed Drain Current	I_{DM}	102	A
Avalanche Current	I_{AS}	22	A
Repetitive Avalanche Energy	$L = 0.05mH$	E_{AS}	12
Power Dissipation	P_D	$T_A = 25^\circ C$	3.1
		$T_A = 70^\circ C$	2
Thermal Resistance.Junction- to-Ambient	R_{thJA}	$t \leq 10s$	40
		Steady-State	75
Thermal Resistance.Junction- to-Lead	R_{thJL}	24	$^\circ C/W$
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	$^\circ C$

N-Channel MOSFET

AO4752 (KO4752)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =10mA, V _{GS} =0V	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V			0.5	mA
		V _{DS} =30V, V _{GS} =0V, T _J =125°C			100	
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250 μA	1.5		2.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =15A			8.8	mΩ
		V _{GS} =10V, I _D =15A, T _J =125°C			12.5	
		V _{GS} =4.5V, I _D =10A			15.5	
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =15A		71		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =15V, f=1MHz		605		pF
Output Capacitance	C _{oss}			275		
Reverse Transfer Capacitance	C _{rss}			36.5		
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz	1		3	Ω
Total Gate Charge (10V)	Q _g	V _{GS} =10V, V _{DS} =15V, I _D =15A		11	15	nC
Total Gate Charge (4.5V)				5.5	8	
Gate Source Charge	Q _{gs}			2		
Gate Drain Charge	Q _{gd}			2.6		
Turn-On Delay Time	t _{d(on)}		V _{GS} =10V, V _{DS} =15V, R _L =1Ω, R _{GEN} =3Ω		5	
Turn-On Rise Time	t _r			2.5		
Turn-Off Delay Time	t _{d(off)}			17		
Turn-Off Fall Time	t _f			3		
Body Diode Reverse Recovery Time	t _{rr}	I _F =15A, di/dt=500A/μs		11.5		nC
Body Diode Reverse Recovery Charge	Q _{rr}			12.5		
Maximum Body-Diode Continuous Current	I _S				4	A
Diode Forward Voltage	V _{SD}	I _S =0.2A, V _{GS} =0V			0.65	V

Note. The static characteristics in Figures 1 to 6 are obtained using <300 μs pulses, duty cycle 0.5% max.

■ Marking

Marking	4752
	KC****

N-Channel MOSFET AO4752 (KO4752)

■ Typical Characteristics

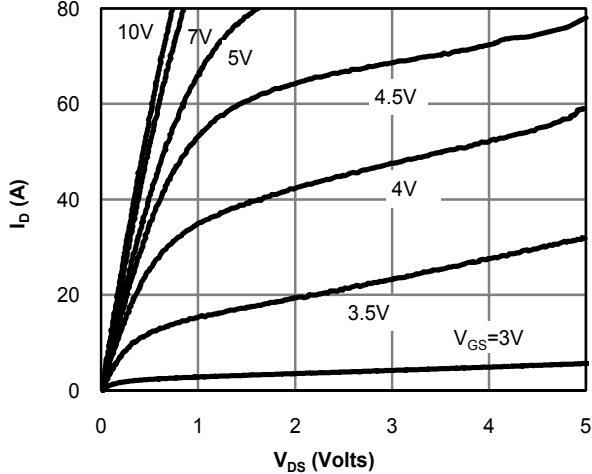


Fig 1: On-Region Characteristics (Note E)

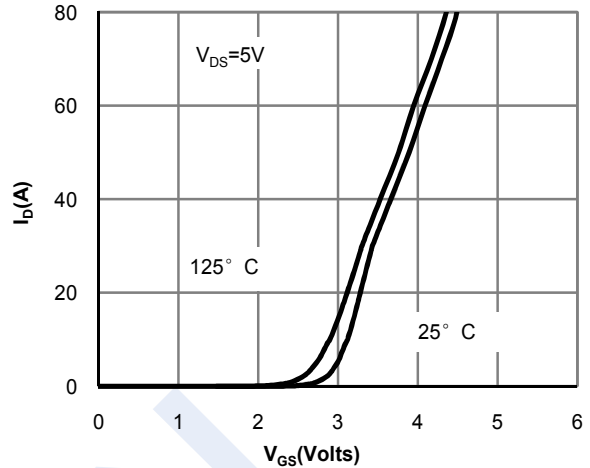


Figure 2: Transfer Characteristics (Note E)

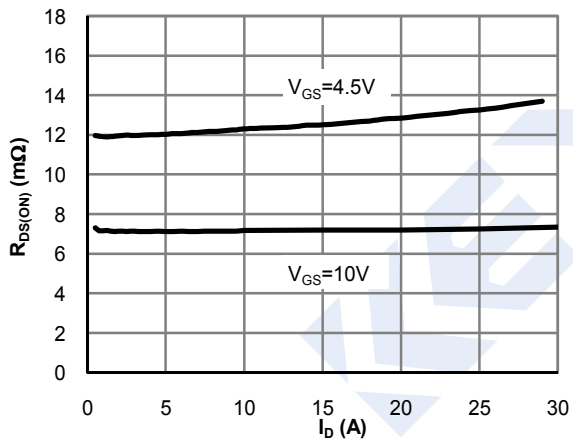


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

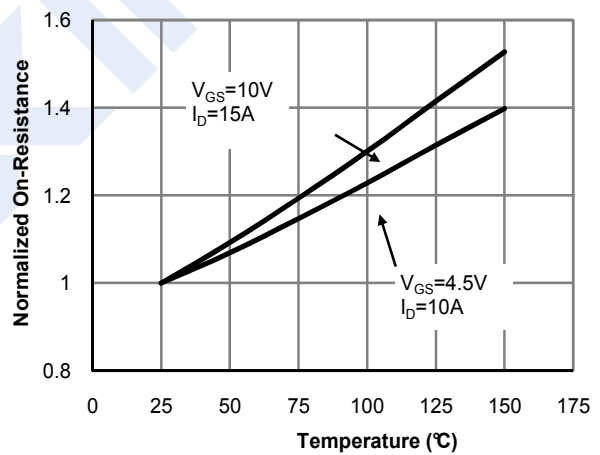


Figure 4: On-Resistance vs. Junction Temperature (Note E)

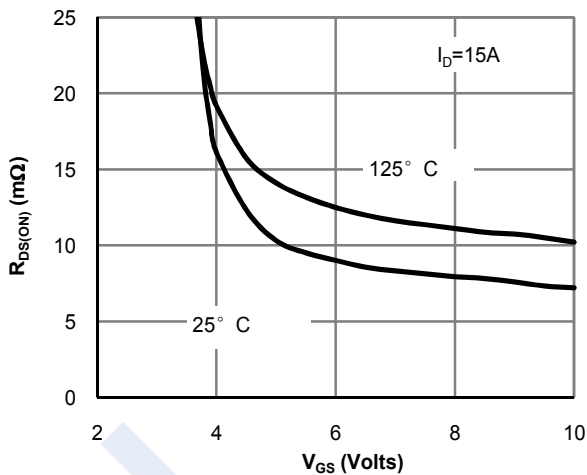


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

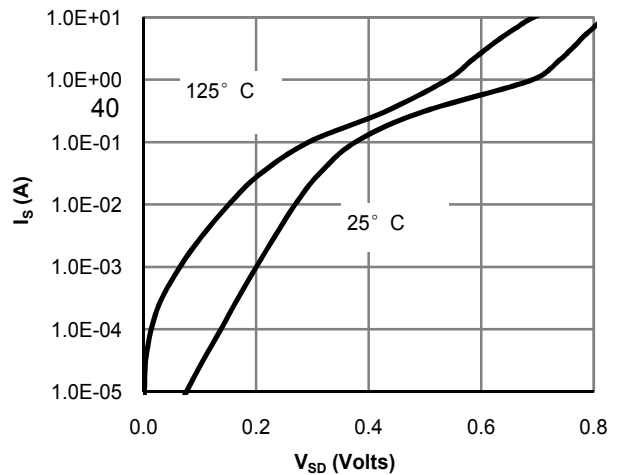


Figure 6: Body-Diode Characteristics (Note E)

N-Channel MOSFET

AO4752 (KO4752)

■ Typical Characteristics

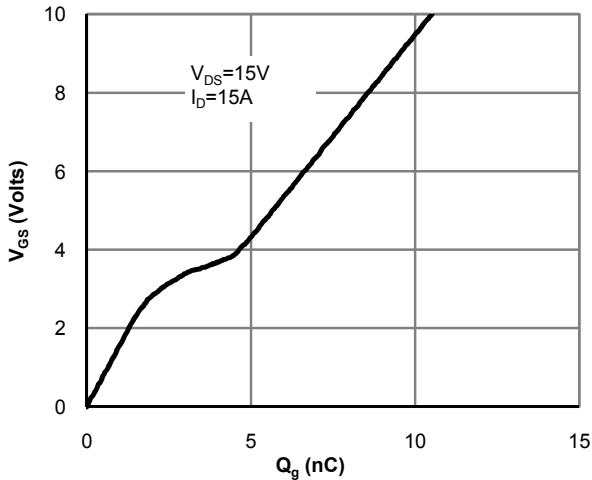


Figure 7: Gate-Charge Characteristics

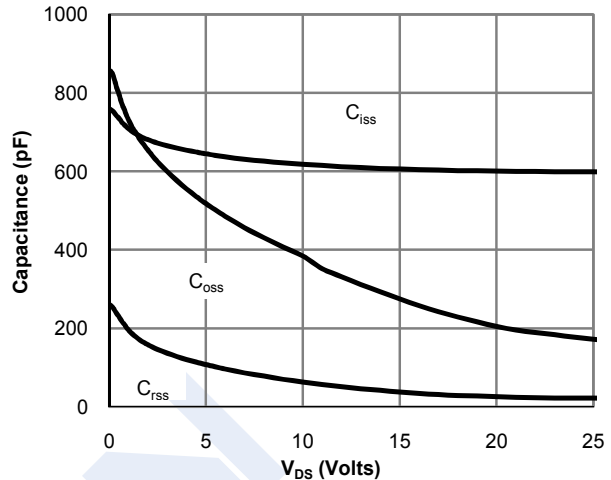


Figure 8: Capacitance Characteristics

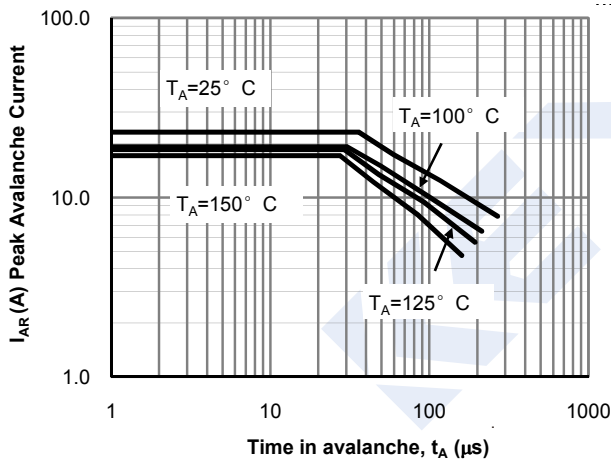


Figure 9: Single Pulse Avalanche capability (Note C)

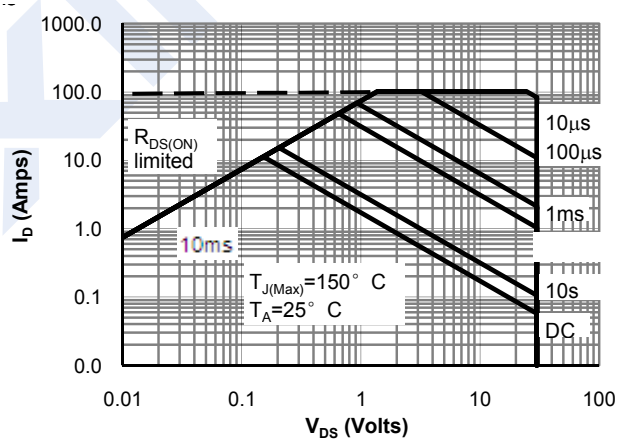


Figure 10: Maximum Forward Biased Safe Operating Area (Note F)

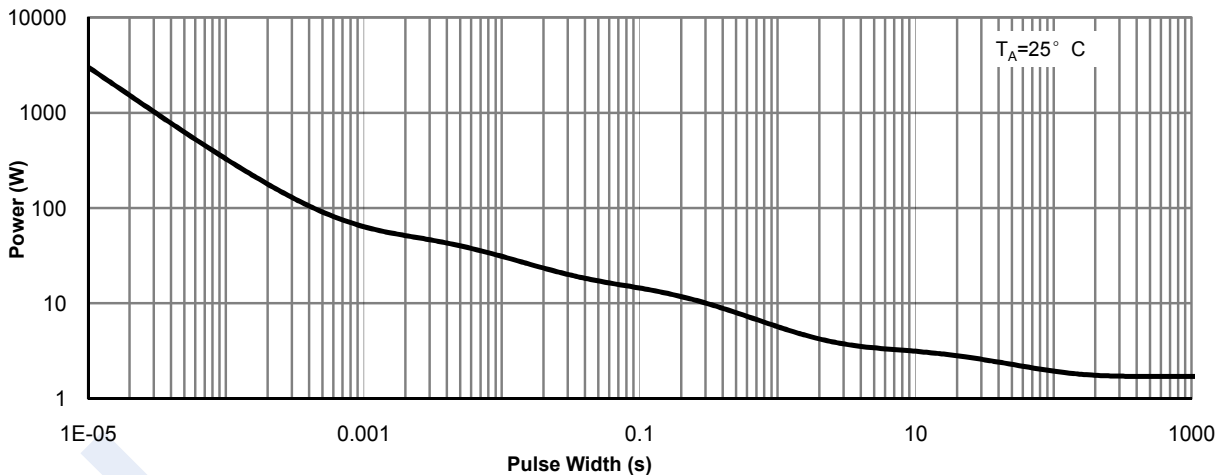


Figure 11: Single Pulse Power Rating Junction-to-Ambient (Note F)

N-Channel MOSFET AO4752 (KO4752)

■ Typical Characteristics

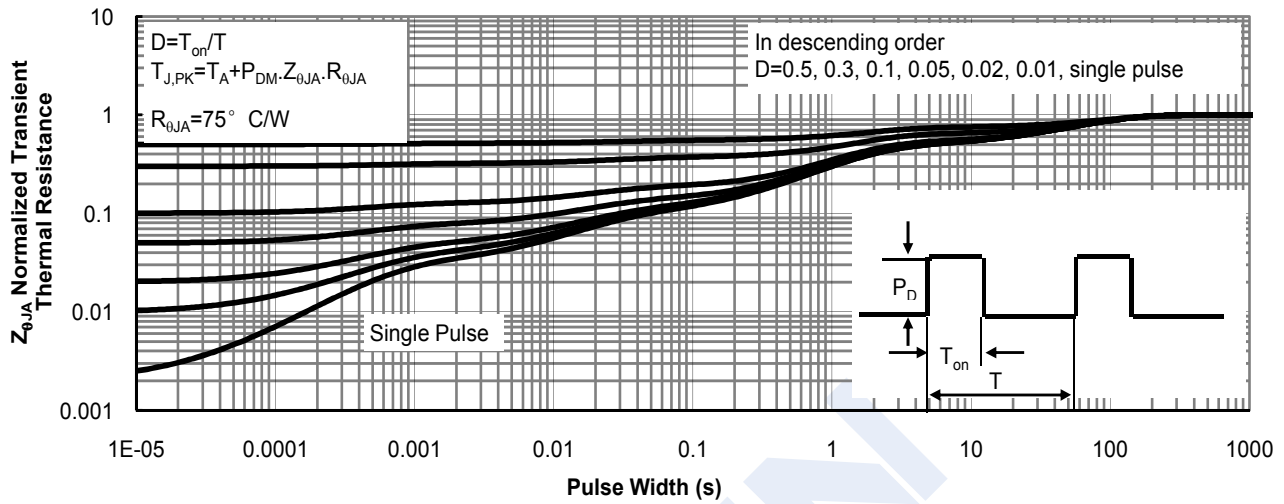


Figure 12: Normalized Maximum Transient Thermal Impedance (Note F)