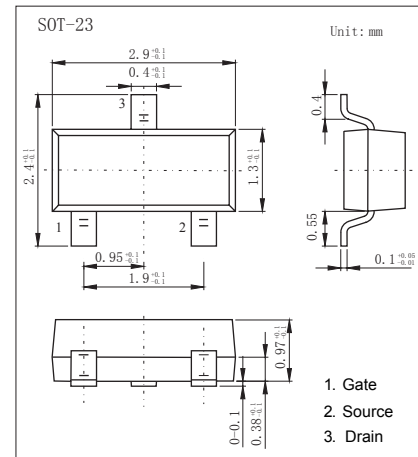
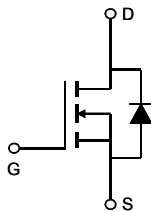


N-Channel MOSFET

AO3442 (KO3442)

Features

- $V_{DS} (V) = 100V$
- $I_D = 1 A (V_{GS} = 10V)$
- $R_{DS(ON)} < 630m\Omega (V_{GS} = 10V)$
- $R_{DS(ON)} < 720m\Omega (V_{GS} = 4.5V)$



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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	100	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current	$T_A = 25^\circ C$	I_D	1	A
	$T_A = 70^\circ C$		0.8	
Pulsed Drain Current		I_{DM}	4	
Power Dissipation	$T_A = 25^\circ C$	P_D	1.4	W
	$T_A = 70^\circ C$		0.9	
Thermal Resistance.Junction- to-Ambient	$t \leq 10s$	R_{thJA}	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

AO3442 (KO3442)

■ 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	100			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =100 V, V _{GS} =0V			1	μA
		V _{DS} =100 V, V _{GS} =0V, T _J =55°C			5	
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	1.7		2.9	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =1A			630	mΩ
		V _{GS} =10V, I _D =1A T _J =125°C			1200	
		V _{GS} =4.5V, I _D =0.8A			720	
On state drain current	I _{D(ON)}	V _{GS} =10V, V _{DS} =5V	4			A
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =1A		2.8		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =50V, f=1MHz		100		pF
Output Capacitance	C _{oss}			13		
Reverse Transfer Capacitance	C _{rss}			5		
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz	2.5		7.5	Ω
Total Gate Charge (10V)	Q _g	V _{GS} =10V, V _{DS} =50V, I _D =1A		2.8	6	nC
Total Gate Charge (4.5V)				1.5	3	
Gate Source Charge	Q _{gs}			0.4		
Gate Drain Charge	Q _{gd}			0.8		
Turn-On DelayTime	t _{d(on)}			5		
Turn-On Rise Time	t _r	V _{GS} =10V, V _{DS} =50V, R _L =50 Ω, R _G =3 Ω		4		ns
Turn-Off DelayTime	t _{d(off)}			12		
Turn-Off Fall Time	t _f			5		
Body Diode Reverse Recovery Time	t _{rr}			52		
Body Diode Reverse Recovery Charge	Q _{rr}	I _F = 5.6A, di/di= 100A/us		60		nC
Maximum Body-Diode Continuous Current	I _S				1	A
Diode Forward Voltage	V _{SD}	I _S =1A, V _{GS} =0V			1.2	V

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

■ Marking

Marking	BC**
---------	------

N-Channel MOSFET

AO3442 (KO3442)

■ Typical Characteristics

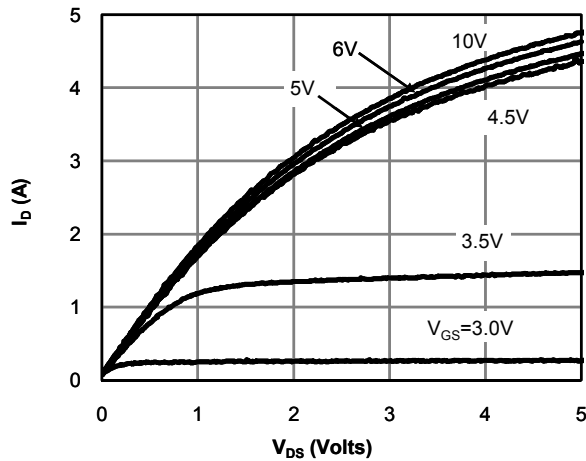


Fig 1: On-Region Characteristics (Note E)

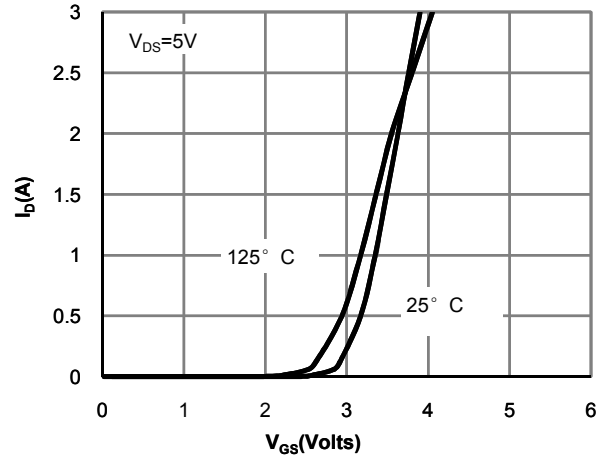


Figure 2: Transfer Characteristics (Note E)

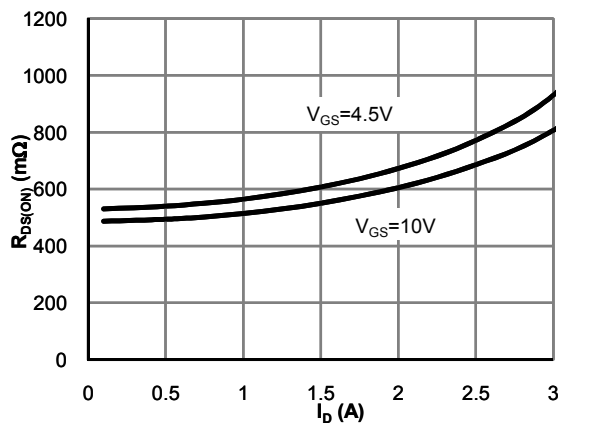


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

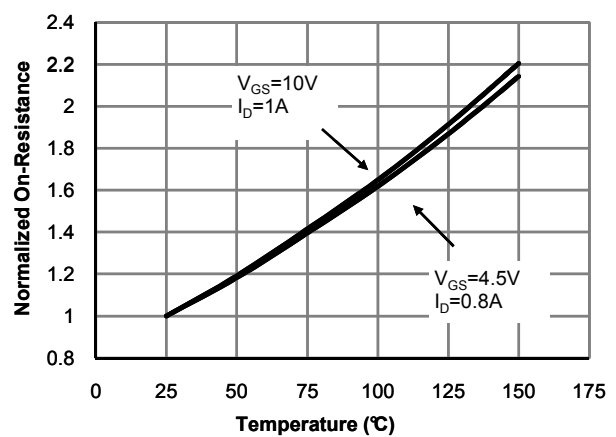


Figure 4: On-Resistance vs. Junction Temperature (Note E)

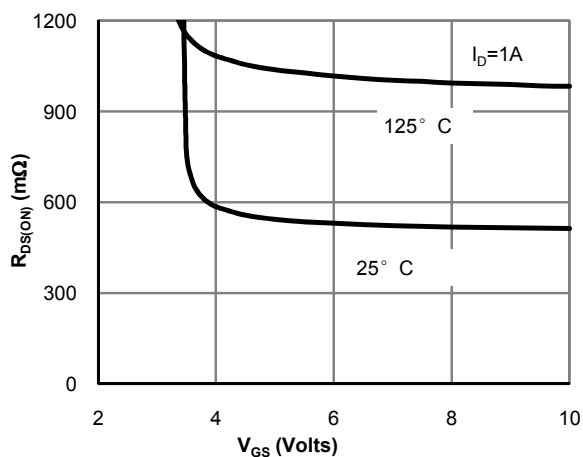


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

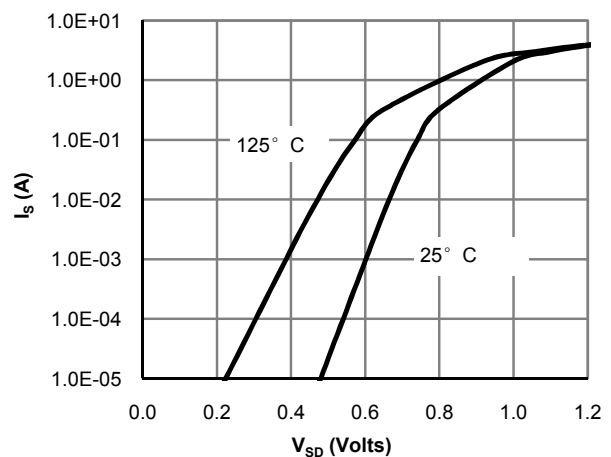


Figure 6: Body-Diode Characteristics (Note E)

N-Channel MOSFET

AO3442 (KO3442)

■ Typical Characteristics

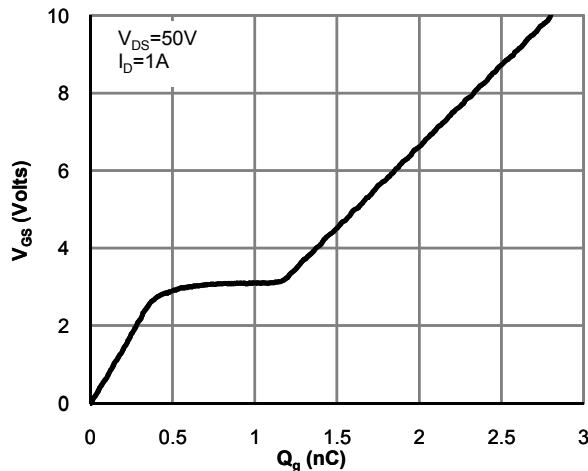


Figure 7: Gate-Charge Characteristics

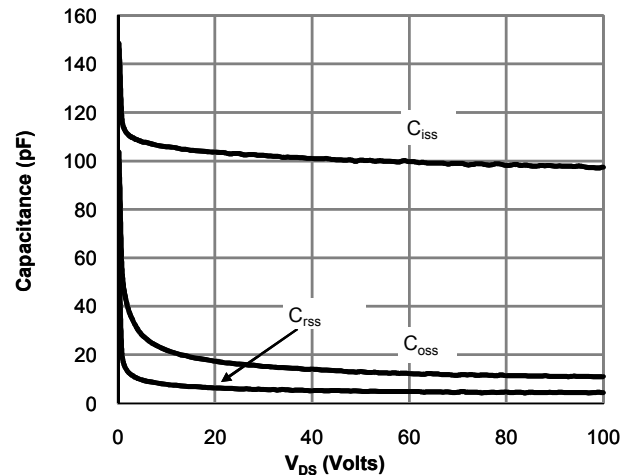


Figure 8: Capacitance Characteristics

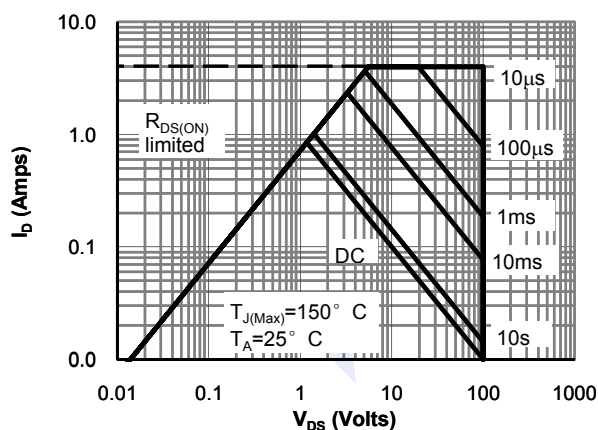


Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

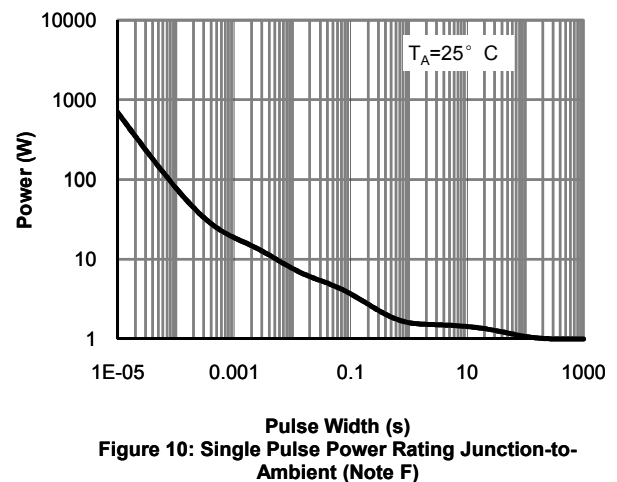


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note F)

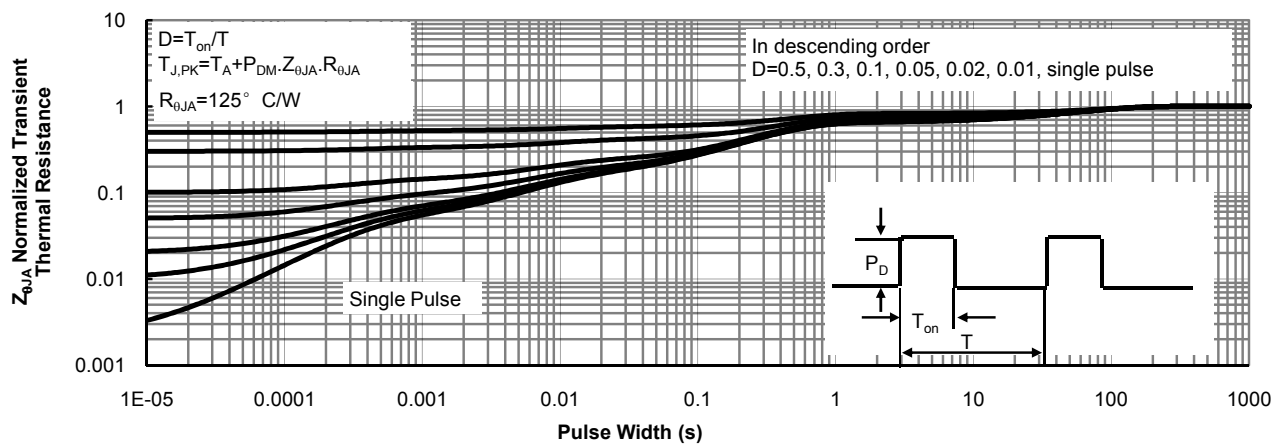


Figure 11: Normalized Maximum Transient Thermal Impedance (Note F)