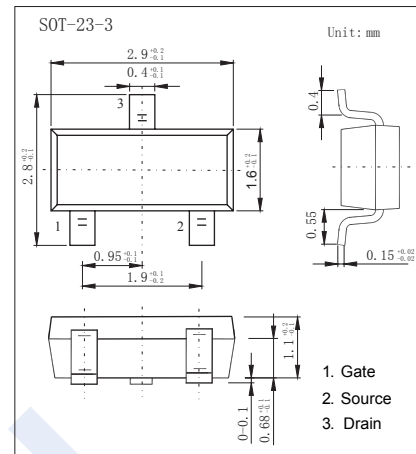
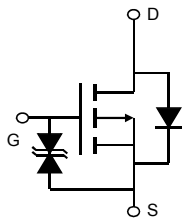


P-Channel MOSFET

AO3421E (KO3421E)

■ Features

- $V_{DS} (V) \approx -30V$
- $I_D \approx -3 A (V_{GS} \approx -10V)$
- $R_{DS(ON)} < 95m\Omega (V_{GS} \approx -10V)$
- $R_{DS(ON)} < 160m\Omega (V_{GS} \approx -4.5V)$



■ 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	$T_A=25^\circ C$	A
		$T_A=70^\circ C$	
Pulsed Drain Current	I_{DM}	-18	
Power Dissipation	P_D	$T_A=25^\circ C$	W
		$T_A=70^\circ C$	
Thermal Resistance.Junction- to-Ambient	R_{thJA}	$t \leq 10s$	$^\circ C/W$
		Steady-State	
Thermal Resistance.Junction- to-Lead	R_{thJL}	80	
Junction Temperature	T_J	150	$^\circ C$
Junction Storage Temperature Range	T_{stg}	-55 to 150	

P-Channel MOSFET

AO3421E (KO3421E)

■ 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	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
		V _{DS} =-30V, V _{GS} =0V, T _J =55°C			-5	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±16V			±10	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250 μA	-1.4		-2.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-3A			95	mΩ
		V _{GS} =-10V, I _D =-3A T _J =125°C			135	
		V _{GS} =-4.5V, I _D =-2A			160	
On state drain current	I _{D(ON)}	V _{GS} =-10V, V _{DS} =-5V	-18			A
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-3A		6		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-15V, f=1MHz		215		pF
Output Capacitance	C _{oss}			46.5		
Reverse Transfer Capacitance	C _{rss}			27.5		
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		9.5	19	Ω
Total Gate Charge (10V)	Q _g	V _{GS} =-10V, V _{DS} =-15V, I _D =-3A		4.6	8	nC
Total Gate Charge (4.5V)				2.2	4	
Gate Source Charge	Q _{gs}			0.85		
Gate Drain Charge	Q _{gd}			1.2		
Turn-On DelayTime	t _{d(on)}		V _{GS} =-10V, V _{DS} =-15V, R _L =5Ω, R _{GEN} =3Ω		8	
Turn-On Rise Time	t _r			4		
Turn-Off DelayTime	t _{d(off)}			13.5		
Turn-Off Fall Time	t _f			4		
Body Diode Reverse Recovery Time	t _{rr}	I _F =-3A, di/dt=500A/μs		9		nC
Body Diode Reverse Recovery Charge	Q _{rr}			16		
Maximum Body-Diode Continuous Current	I _S				-1.5	A
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V			-1	V

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

■ Marking

Marking	RP**
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P-Channel MOSFET AO3421E (KO3421E)

■ Typical Characteristics

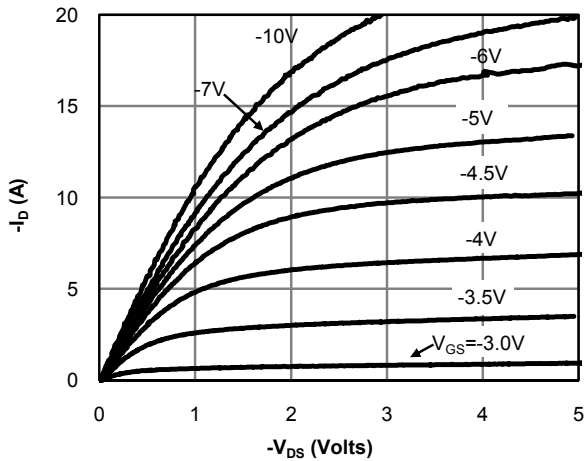


Figure 1: On-Region Characteristics (Note E)

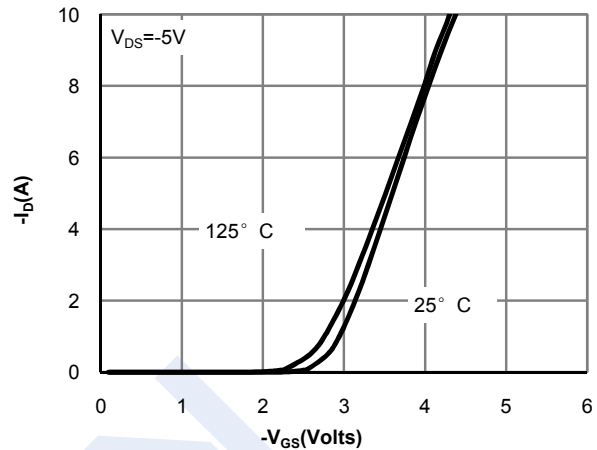


Figure 2: Transfer Characteristics (Note E)

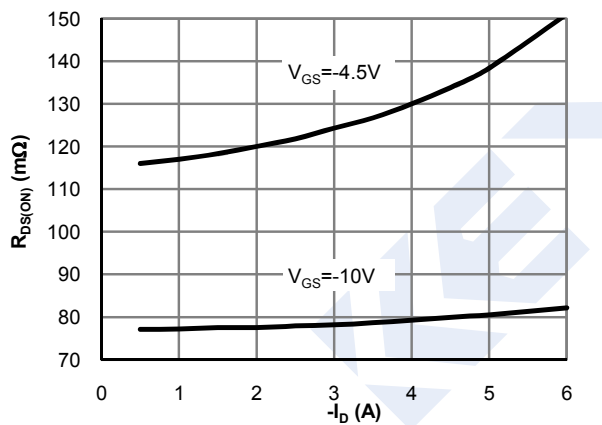


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

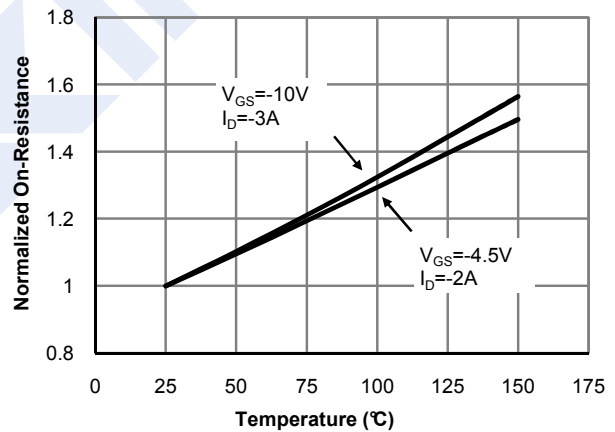


Figure 4: On-Resistance vs. Junction Temperature (Note E)

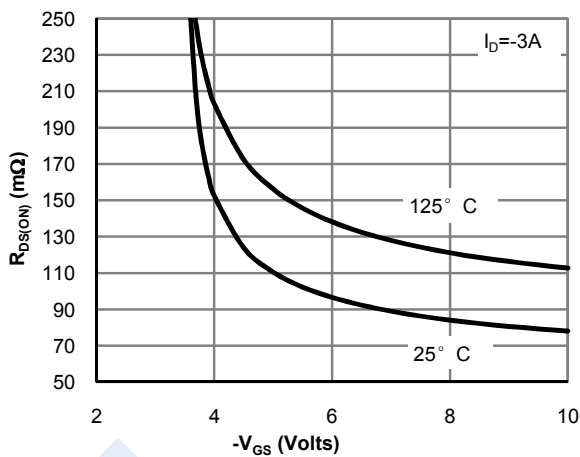


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

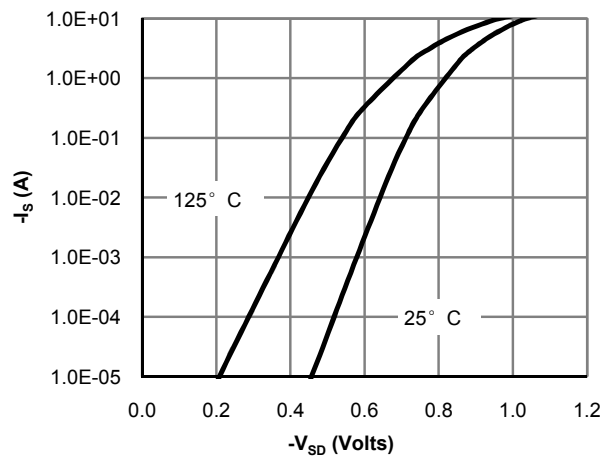


Figure 6: Body-Diode Characteristics (Note E)

P-Channel MOSFET AO3421E (KO3421E)

■ Typical Characteristics

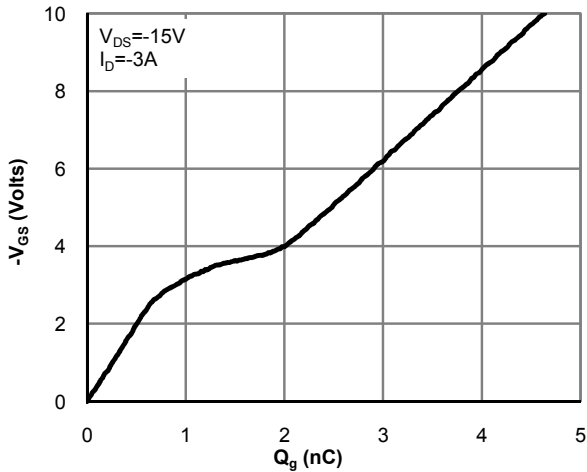


Figure 7: Gate-Charge Characteristics

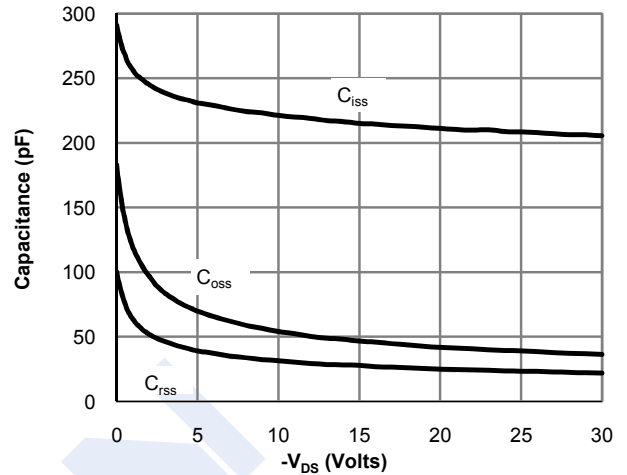


Figure 8: Capacitance Characteristics

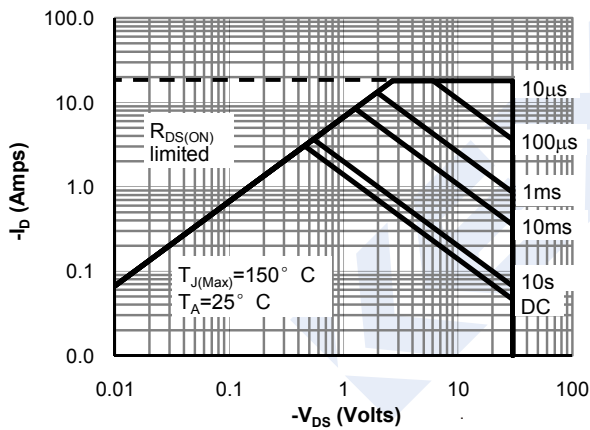


Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

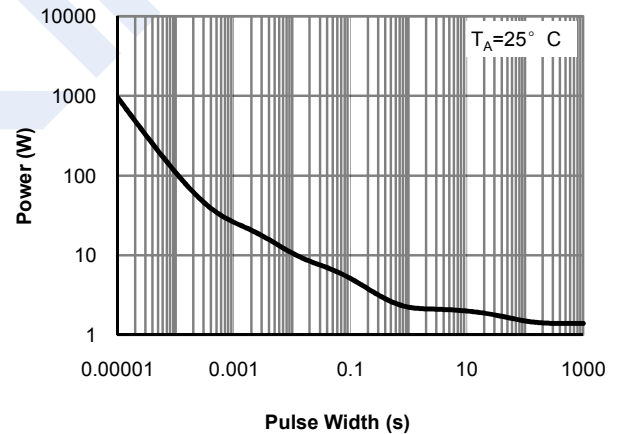


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note F)

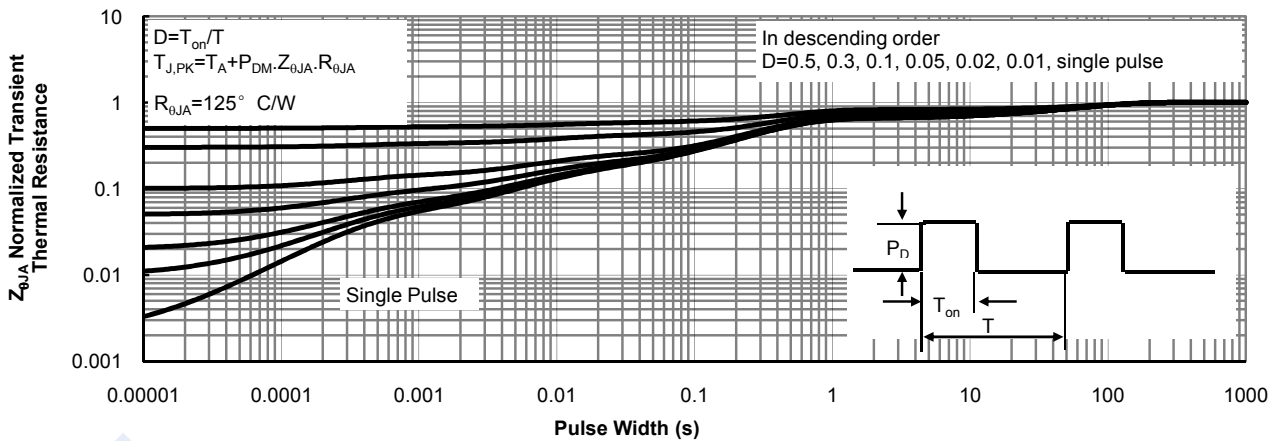


Figure 11: Normalized Maximum Transient Thermal Impedance (Note F)