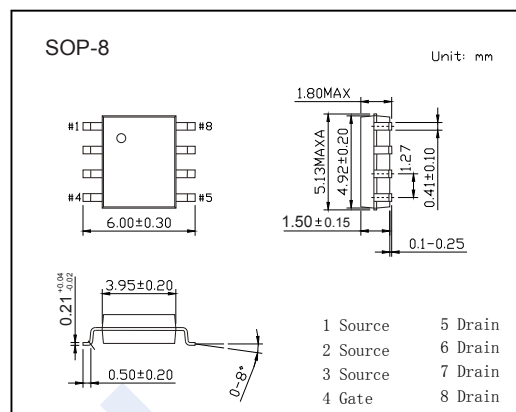
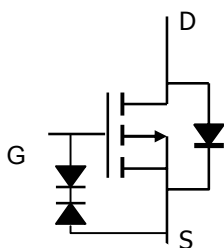


P-Channel MOSFET

AO4437 (KO4437)

■ Features

- V_{DS} (V) ≈ -12 V
- I_D ≈ -11 A ($V_{GS} \approx -4.5$ V)
- $R_{DS(ON)} < 16$ m Ω ($V_{GS} \approx -4.5$ V)
- $R_{DS(ON)} < 20$ m Ω ($V_{GS} \approx -2.5$ V)
- $R_{DS(ON)} < 25$ m Ω ($V_{GS} \approx -1.8$ V)
- ESD Rating: 4KV HBM

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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-12	V
Gate-Source Voltage		V_{GS}	± 8	
Continuous Drain Current	$T_A = 25^\circ\text{C}$	I_D	-11	A
	$T_A = 70^\circ\text{C}$		-9	
Pulsed Drain Current		I_{DM}	-20	
Power Dissipation	$T_A = 25^\circ\text{C}$	P_D	3	W
	$T_A = 70^\circ\text{C}$		2.1	
Thermal Resistance.Junction- to-Ambient	$t \leq 10$ s	R_{thJA}	40	$^\circ\text{C/W}$
	Steady-State		75	
Thermal Resistance.Junction- to-Lead		R_{thJL}	30	
Junction Temperature		T_J	150	$^\circ\text{C}$
Junction Storage Temperature Range		T_{stg}	-55 to 150	

P-Channel MOSFET

AO4437 (KO4437)

■ 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} =-9.6V, V _{GS} =0V			-1	μA
		V _{DS} =-9.6V, V _{GS} =0V, T _J =55°C			-5	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±4.5V			±1	μA
		V _{DS} =0V, V _{GS} =±8V			±10	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250 μA	-0.3		-1	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-4.5V, I _D =-11A			16	mΩ
		V _{GS} =-4.5V, I _D =-11A T _J =125°C			21	
		V _{GS} =-2.5V, I _D =-10A			20	
		V _{GS} =-1.8V, I _D =-6A			25	
On state drain current	I _{D(on)}	V _{GS} =-4.5V, V _{DS} =-5V	-20			A
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-11A		38		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-6V, f=1MHz		3960	4750	pF
Output Capacitance	C _{oss}			910		
Reverse Transfer Capacitance	C _{rss}			757		
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		6.9	8.5	Ω
Total Gate Charge	Q _g	V _{GS} =-4.5V, V _{DS} =-6V, I _D =-11A		37	47	nC
Gate Source Charge	Q _{gs}			4.5		
Gate Drain Charge	Q _{gd}			11		
Turn-On DelayTime	t _{d(on)}	V _{GS} =-4.5V, V _{DS} =-6V, R _L =0.55Ω, R _{GEN} =3Ω		15		ns
Turn-On Rise Time	t _r			43		
Turn-Off DelayTime	t _{d(off)}			158		
Turn-Off Fall Time	t _f			95		
Body Diode Reverse Recovery Time	t _{rr}	I _F =-11A, dI/dt=100A/us		64		nC
Body Diode Reverse Recovery Charge	Q _{rr}			50		
Maximum Body-Diode Continuous Current	I _S				-4.5	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 <300 μs pulses, duty cycle 0.5% max.

■ Marking

Marking	4437 KC****
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P-Channel MOSFET

AO4437 (KO4437)

■ Typical Characteristics

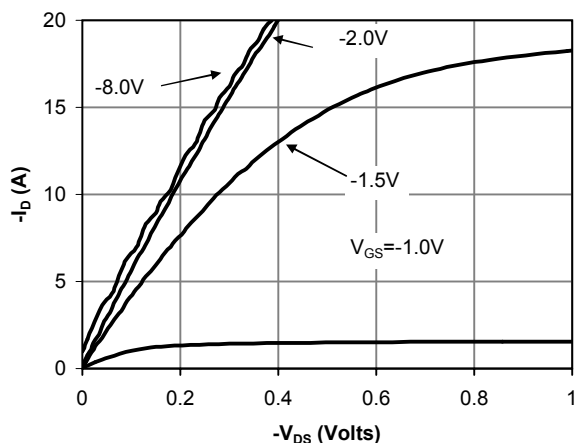


Fig 1: On-Region Characteristics

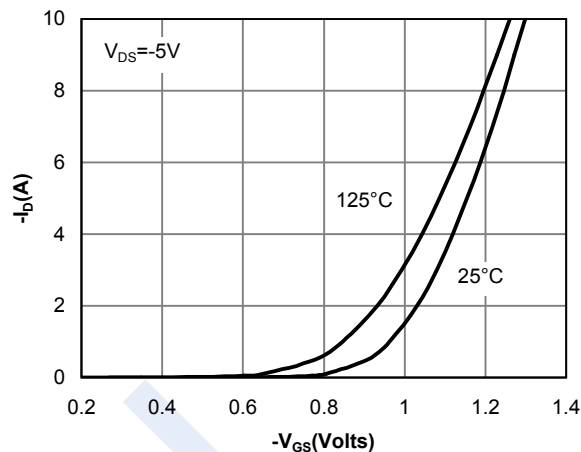


Figure 2: Transfer Characteristics

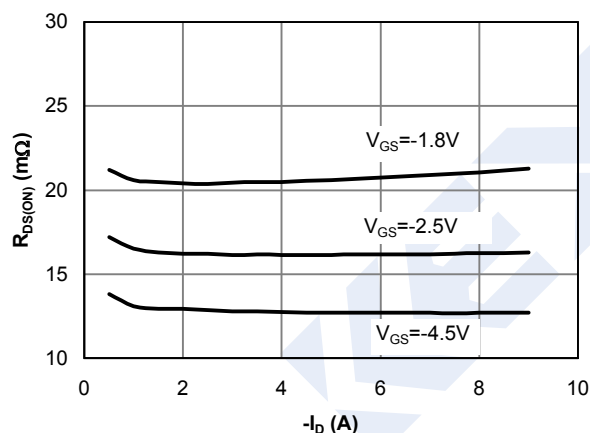


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

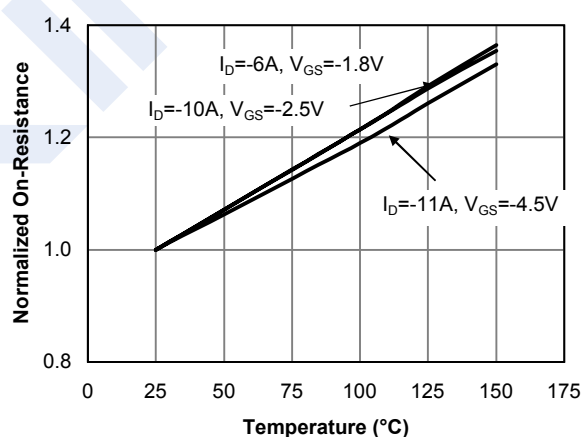


Figure 4: On-Resistance vs. Junction Temperature

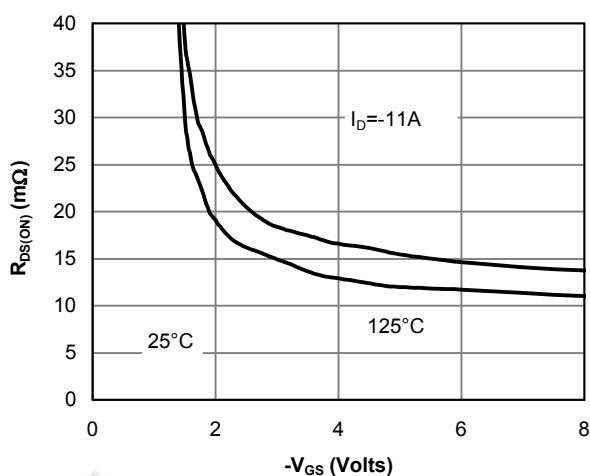


Figure 5: On-Resistance vs. Gate-Source Voltage

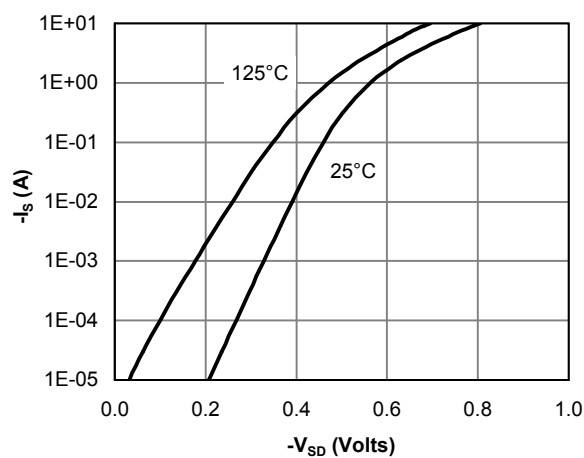


Figure 6: Body-Diode Characteristics

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■ Typical Characteristics

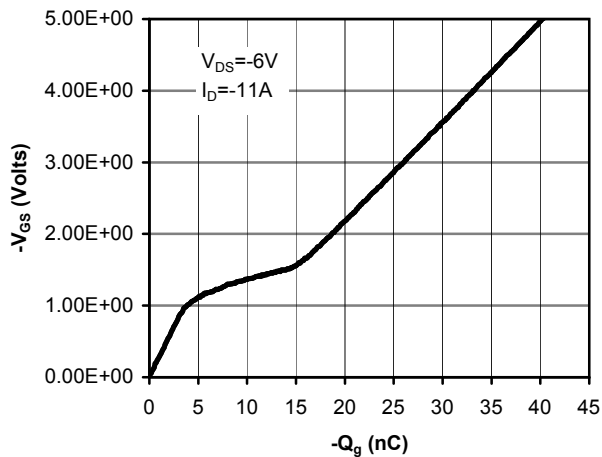


Figure 7: Gate-Charge Characteristics

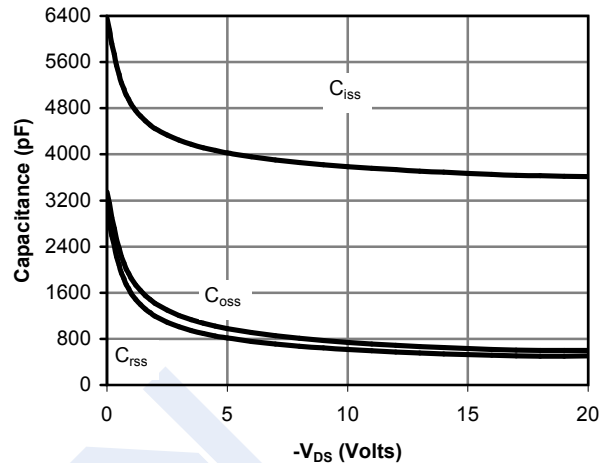


Figure 8: Capacitance Characteristics

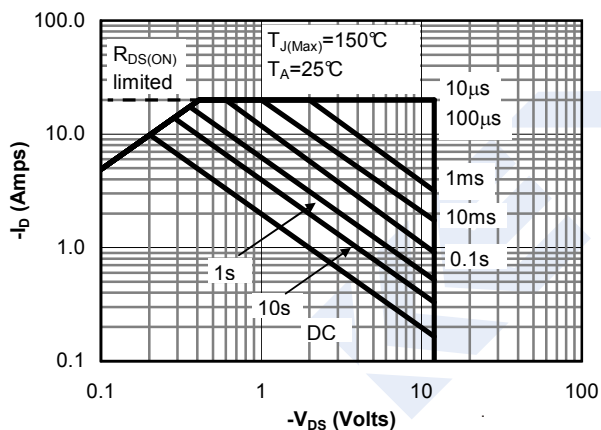


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

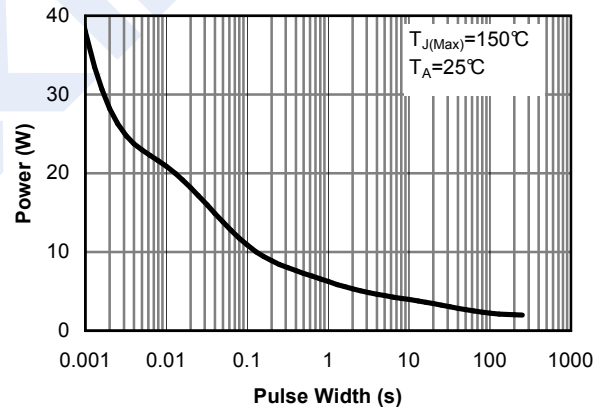


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

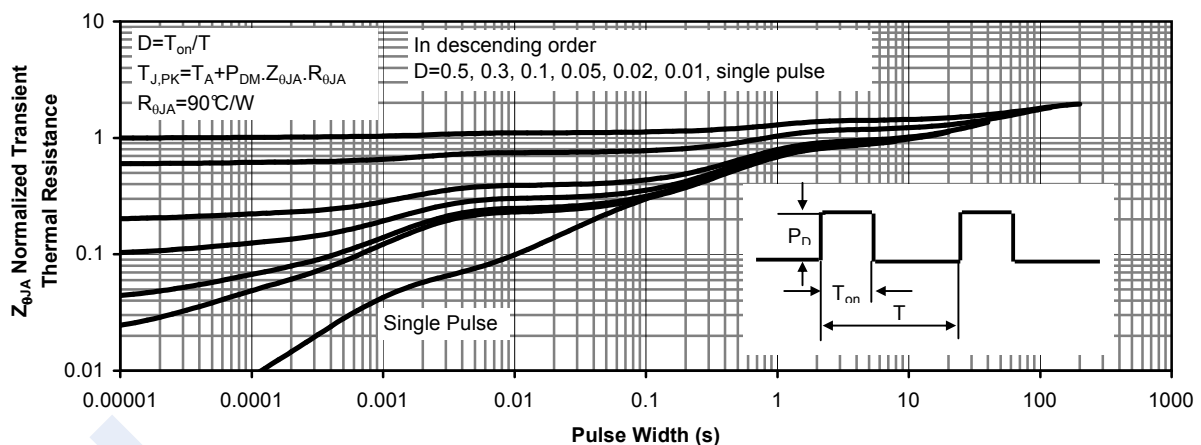


Figure 11: Normalized Maximum Transient Thermal Impedance