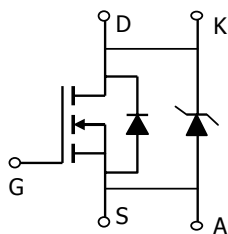
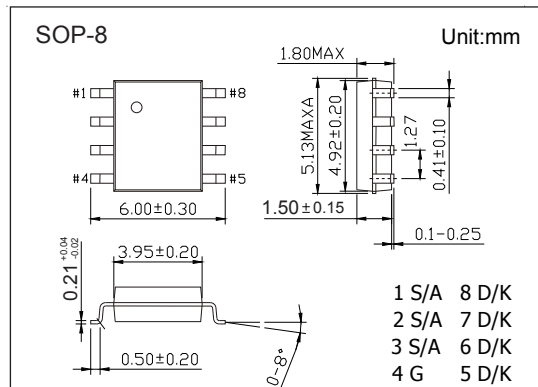


N-Channel MOSFET

AO4702 (KO4702)

■ Features

- $V_{DS} (V) = 30V$
- $I_D = 11 A$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 16m\Omega$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 25m\Omega$ ($V_{GS} = 4.5V$)
- $V_{DS} (V) = 30V$, $I_F = 3A$, $V_F < 0.5V @ 1A$

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

Parameter		Symbol	MOSFET	Schottky	Unit
Drain-Source Voltage		V _{DS}	30		V
Gate-Source Voltage		V _{GS}	± 20		
Schottky Reverse Voltage		V _{KA}		30	
Continuous Drain Current	T _A =25°C	I _D	11		A
	T _A =70°C		9.3		
Pulsed Drain Current		I _{DM}	50		
Continuous Forward Current	T _A =25°C	I _F		4.4	
	T _A =70°C			3.2	
Pulsed Diode Forward Current		I _{FM}		30	
Power Dissipation	T _A =25°C	P _D	3	3	W
	T _A =70°C		2	2	
Thermal Resistance.Junction- to-Ambient	t ≤ 10s	R _{thJA}	40	40	°C/W
	Steady-State		75	75	
Thermal Resistance.Junction- to-Lead		R _{thJL}	24	30	°C
Junction Temperature		T _J	150		
Storage Temperature Range		T _{stg}	-55 to 150		

N-Channel MOSFET

AO4702 (KO4702)

■ 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			0.05	mA
		V _{DS} =30V, V _{GS} =0V, T _J =125°C			10	
		V _{DS} =30V, V _{GS} =0V, T _J =150°C			20	
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		3	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =11A			16	mΩ
		V _{GS} =10V, I _D =11A, T _J =125°C			21	
		V _{GS} =4.5V, I _D =8A			25	
On State Drain Current	I _{D(on)}	V _{GS} =4.5V, V _{DS} =5V	40			A
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =11A		25		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =15V, f=1MHz		1040	1250	pF
Output Capacitance	C _{oss}			212		
Reverse Transfer Capacitance	C _{rss}			121		
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		0.7	0.85	Ω
Total Gate Charge (10V)	Q _g	V _{GS} =10V, V _{DS} =15V, I _D =11A		19.8	24	nC
Total Gate Charge (4.5V)				9.8	12	
Gate Source Charge	Q _{gs}			2.5		
Gate Drain Charge	Q _{gd}			3.5		
Turn-On DelayTime	t _{d(on)}			4.5	7	
Turn-On Rise Time	t _r	V _{GS} =10V, V _{DS} =15V, R _L =1.35Ω, R _{GEN} =3Ω		3.9	7	ns
Turn-Off DelayTime	t _{d(off)}			17.4	30	
Turn-Off Fall Time	t _f			3.2	5.7	
Body Diode Reverse Recovery Time	t _{rr}	I _F =11A, dI/dt=100A/μs		19	23	nC
Body Diode Reverse Recovery Charge	Q _{rr}			9	11	
Body-Diode + Schottky Continuous Current	I _S				5	A
Diode + Schottky Forward Voltage	V _{SD}	I _S =1A, V _{GS} =0V			0.5	V

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

■ Marking

Marking	4702 KC****
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N-Channel MOSFET

AO4702 (KO4702)

■ Typical Characteristics

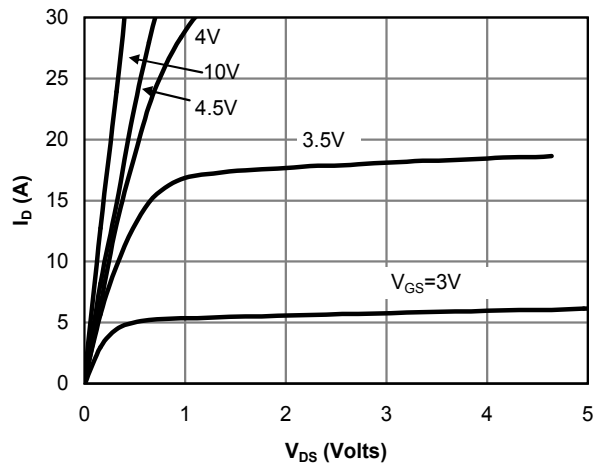


Fig 1: On-Region Characteristics

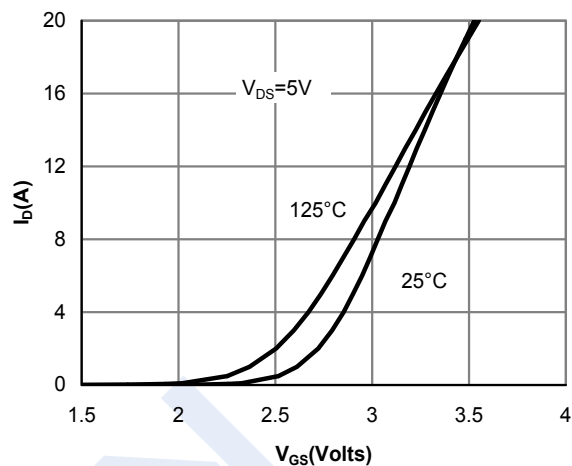


Figure 2: Transfer Characteristics

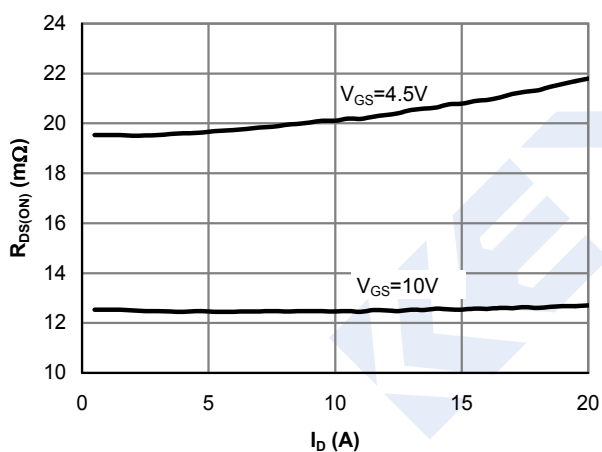


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

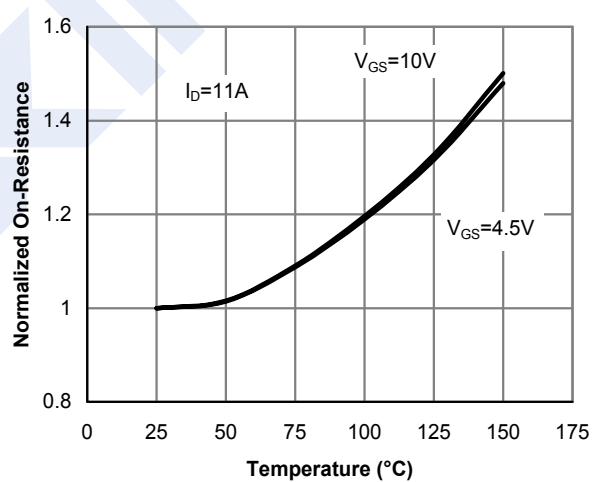


Figure 4: On-Resistance vs. Junction Temperature

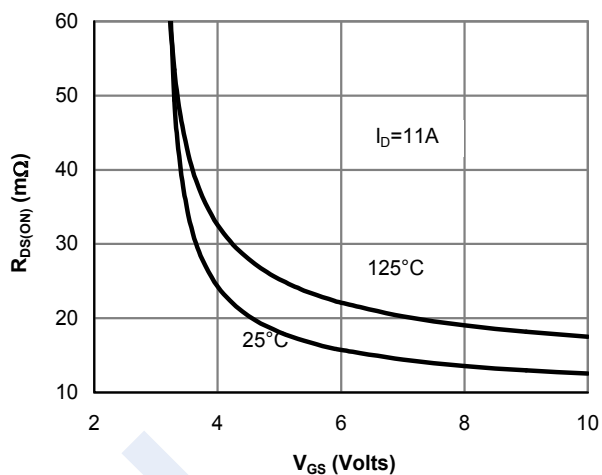


Figure 5: On-Resistance vs. Gate-Source Voltage

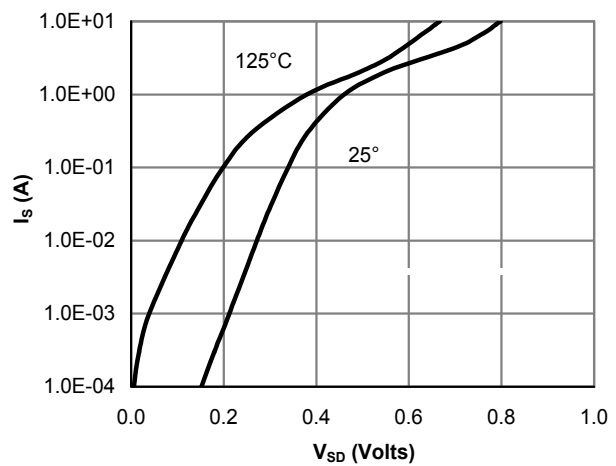


Figure 6: Body-Diode Characteristics

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■ Typical Characteristics

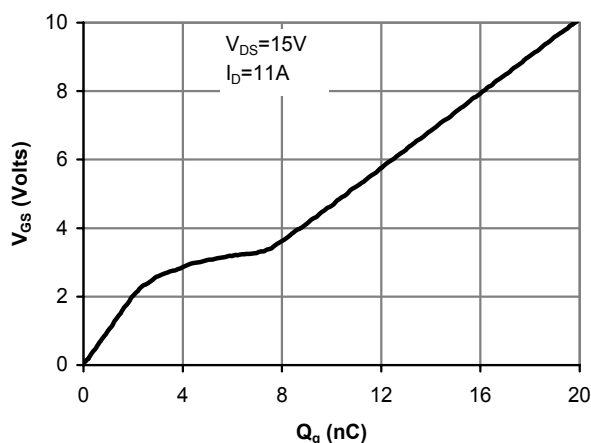


Figure 7: Gate-Charge Characteristics

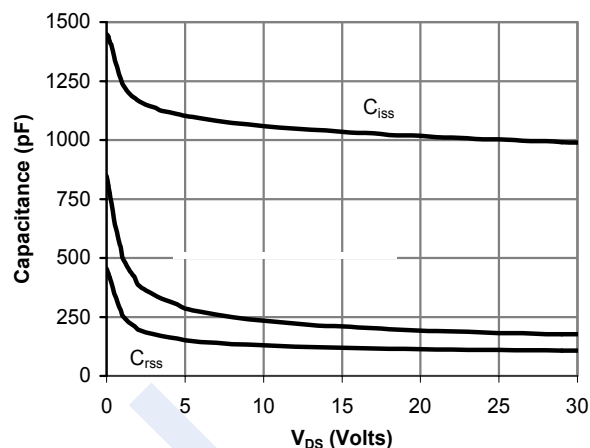


Figure 8: Capacitance Characteristics

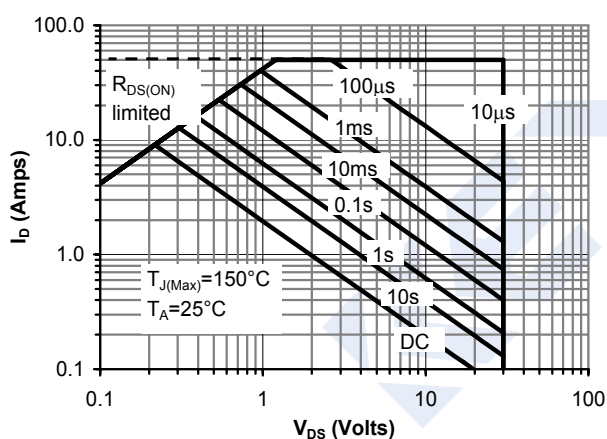


Figure 9: Maximum Forward Biased Safe Operating Area

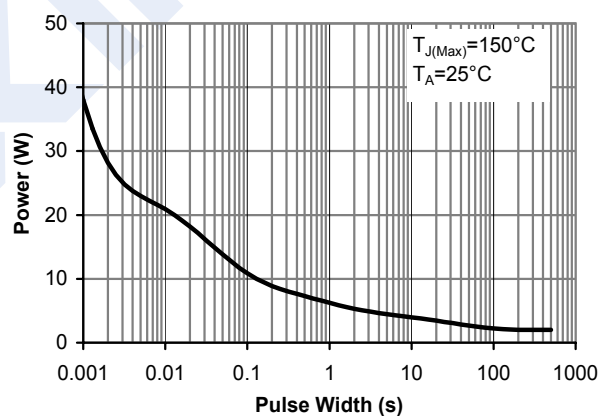


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

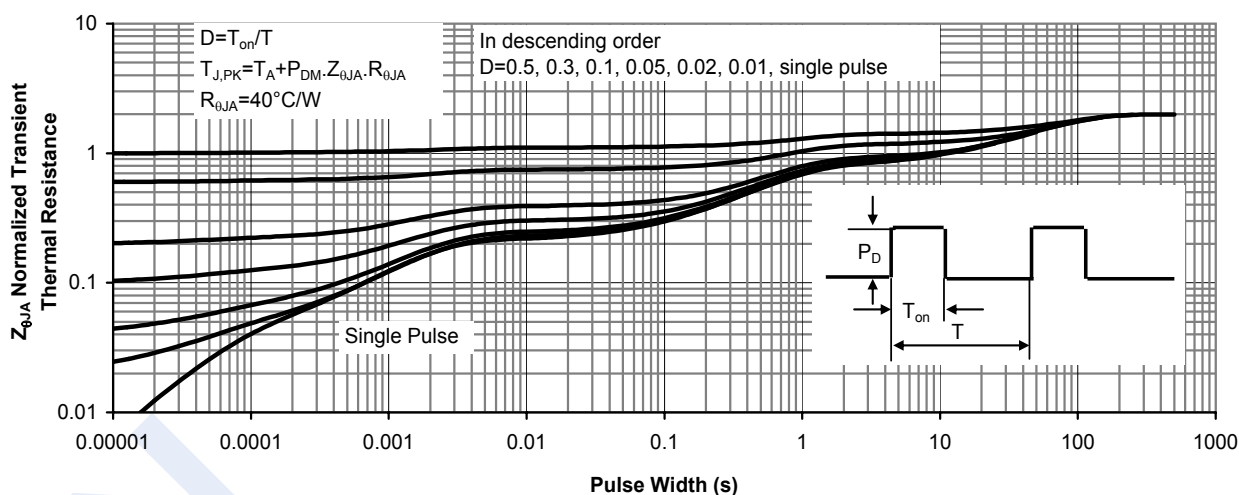


Figure 11: Normalized Maximum Transient Thermal Impedance