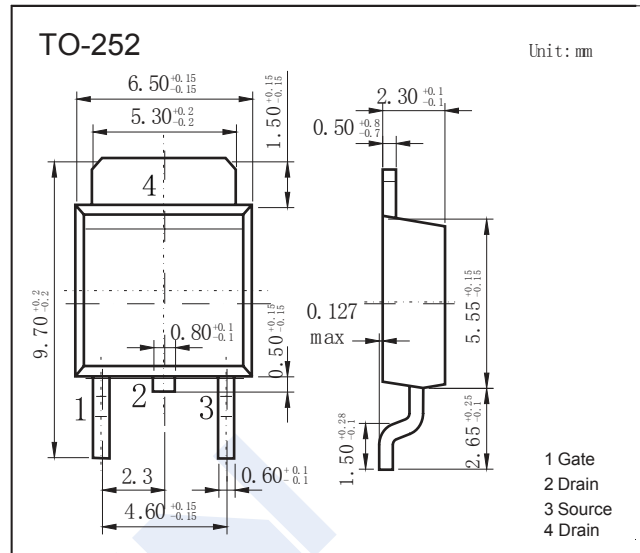


N-Channel Enhancement MOSFET

AOD464 (KOD464)

■ Features

- $V_{DS}(V) = 105V$
- $I_D = 40A$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 28m\Omega$ ($V_{GS} = 10V$) @20A
- $R_{DS(ON)} < 31m\Omega$ ($V_{GS} = 6V$)



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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V _{DS}	105	V
Gate-Source Voltage		V _{GS}	± 25	
Continuous Drain Current	TC=25°C	I _D	40	A
	TC=100°C		28	
Pulsed Drain Current		I _{DM}	80	
Avalanche Current		I _{AR}	20	
Repetitive avalanche energy L=0.1mH		E _{AR}	20	mJ
Power Dissipation	TC=25°C	P _D	100	W
	TC=100°C		50	
Power Dissipation	T _A =25°C	P _{DSM}	2.3	
	T _A =70°C		1.5	
Thermal Resistance.Junction- to-Ambient t ≤ 10s		R _{θJA}	18	°C/W
Thermal Resistance.Junction- to-Ambient			55	
Thermal Resistance.Junction- to-Case		R _{θJC}	1.5	
Junction Temperature		T _J	175	°C
Storage Temperature Range		T _{stg}	-55 to 175	

N-Channel Enhancement MOSFET

AOD464 (KOD464)

■ 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	105			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =84V, V _{GS} =0V			1	μA
		V _{DS} =84V, V _{GS} =0V, T _J =55°C			5	
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±25V			100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250 μA	2.5		4	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =20A			28	mΩ
		V _{GS} =10V, I _D =20A, T _J =125°C			40	
		V _{GS} =6V, I _D =20A			31	
On State Drain Current	I _{D(on)}	V _{GS} =10V, V _{DS} =5V	80			A
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =20A		50		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =25V, f=1MHz		2038	2445	pF
Output Capacitance	C _{oss}			204		
Reverse Transfer Capacitance	C _{rss}			85		
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz			1.56	Ω
Total Gate Charge	Q _{g(10V)}	V _{GS} =10V, V _{DS} =50V, I _D =20A		38.5	46	nC
Gate Source Charge	Q _{gs}			8		
Gate Drain Charge	Q _{gd}			10		
Turn-On DelayTime	t _{d(on)}	V _{GS} =10V, V _{DS} =50V, R _L =2.7 Ω, R _{GEN} =3 Ω		12.7		ns
Turn-On Rise Time	t _r			8.2		
Turn-Off DelayTime	t _{d(off)}			31.5		
Turn-Off Fall Time	t _f			11.2		
Body Diode Reverse Recovery Time	t _{rr}	I _F =20A, di/dt=100A/μs		59.6	74	
Body Diode Reverse Recovery Charge	Q _{rr}	I _F =20A, di/dt=100A/μs		161		nC
Maximum Body-Diode Continuous Current	I _S				55	A
Diode Forward Voltage	V _{SD}	I _S =1A, V _{GS} =0V			1	V

N-Channel Enhancement MOSFET

AOD464 (KOD464)

■ Typical Characteristics

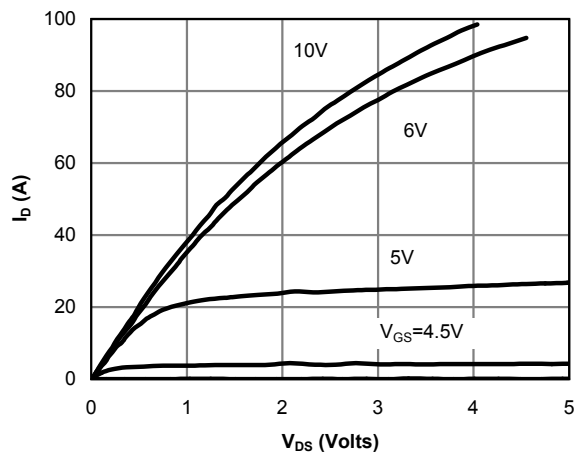


Fig 1: On-Region Characteristics

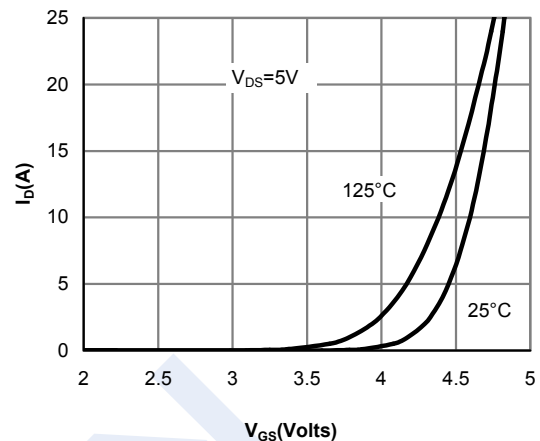


Figure 2: Transfer Characteristics

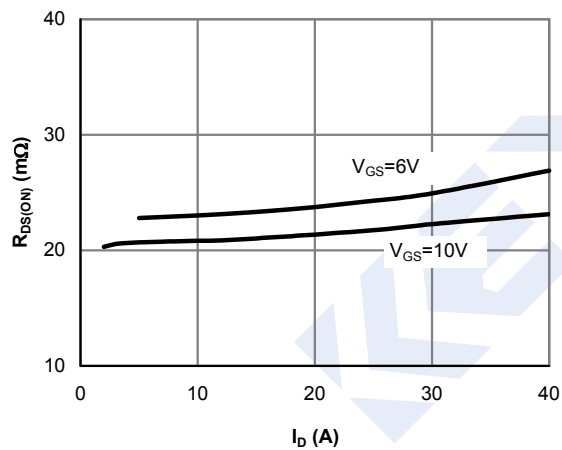


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

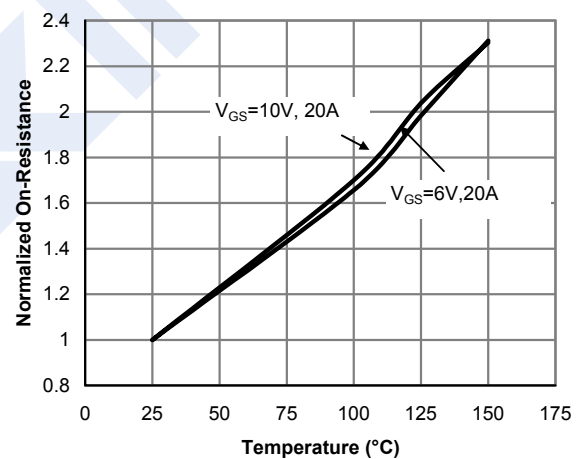


Figure 4: On-Resistance vs. Junction Temperature

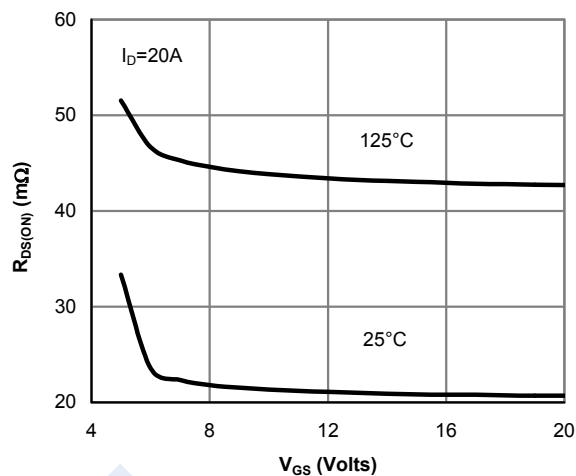


Figure 5: On-Resistance vs. Gate-Source Voltage

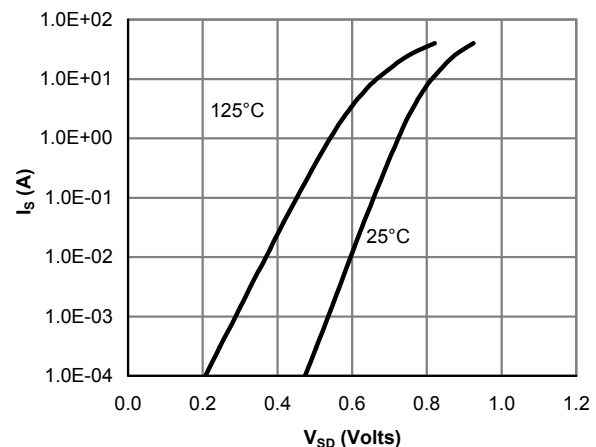


Figure 6: Body-Diode Characteristics

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■ Typical Characteristics

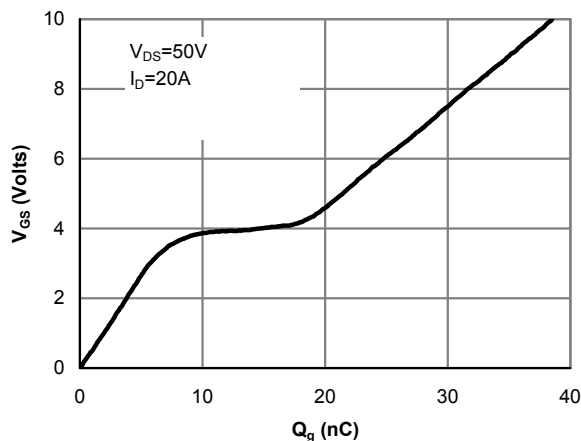


Figure 7: Gate-Charge Characteristics

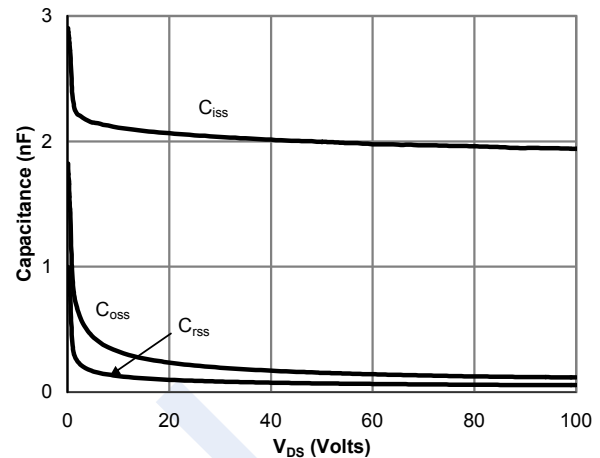


Figure 8: Capacitance Characteristics

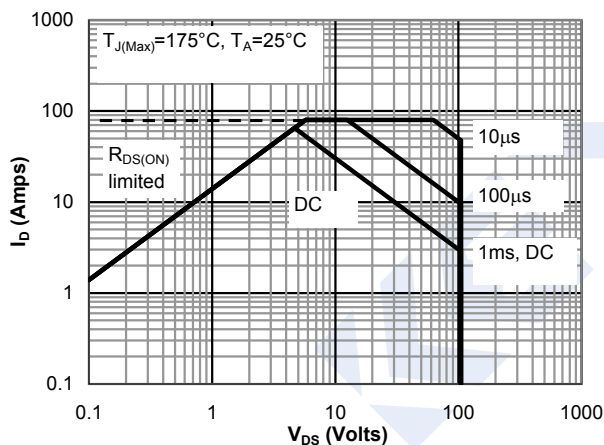


Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

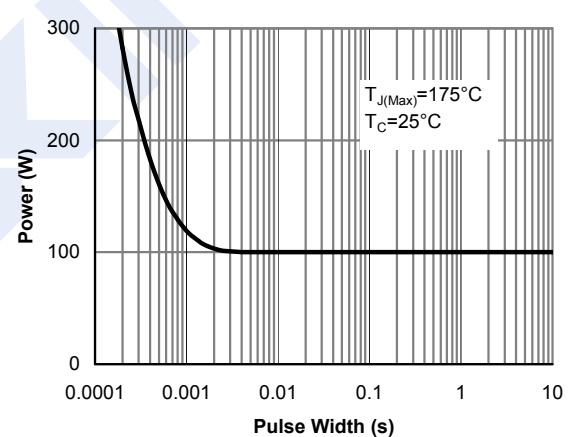


Figure 10: Single Pulse Power Rating Junction-to-Case (Note F)

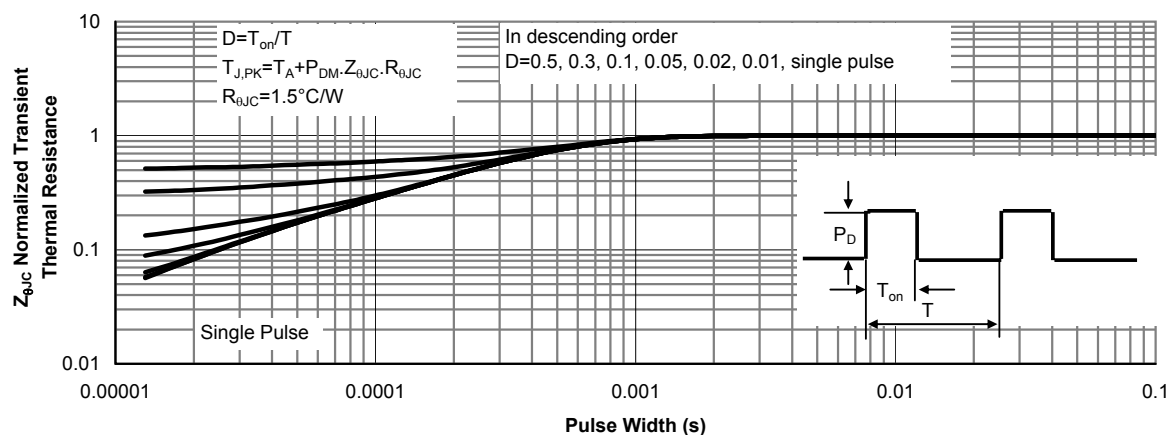


Figure 11: Normalized Maximum Transient Thermal Impedance (Note F)

N-Channel Enhancement MOSFET

AOD464 (KOD464)

■ Typical Characteristics

