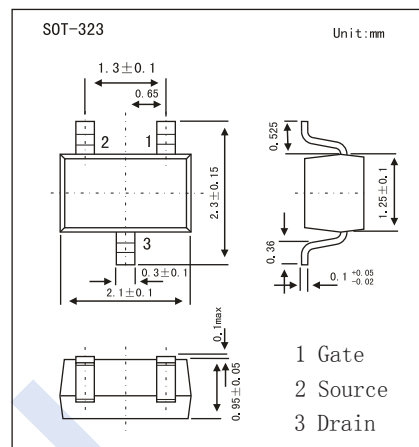
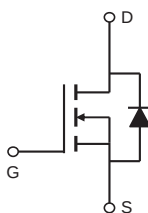


N-Channel MOSFET

AO7400 (KO7400)

■ Features

- V_{DS} (V) = 30V
- I_D = 1.7 A (V_{GS} = 10V)
- $R_{DS(ON)}$ < 55m Ω (V_{GS} = 10V)
- $R_{DS(ON)}$ < 65m Ω (V_{GS} = 4.5V)
- $R_{DS(ON)}$ < 85m Ω (V_{GS} = 2.5V)

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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 12	
Continuous Drain Current	I_D	1.7	A
		1.3	
Pulsed Drain Current	I_{DM}	15	W
Power Dissipation	P_D	0.35	
		0.22	
Thermal Resistance.Junction- to-Ambient $t \leq 10s$ Steady-State	R_{thJA}	360	$^\circ\text{C/W}$
		425	
Thermal Resistance.Junction- to-Case	R_{thJC}	320	$^\circ\text{C}$
Junction Temperature	T_J	150	
Storage Temperature Range	T_{stg}	-55 to 150	

N-Channel MOSFET

AO7400 (KO7400)

■ 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} =±12V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250 μA	0.5	1	1.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =1.7A		45	55	mΩ
		V _{GS} =10V, I _D =1.7A, T _J =125°C		70	84	
		V _{GS} =4.5V, I _D =1.5A		50	65	
		V _{GS} =2.5V, I _D =1A		61	85	
On State Drain Current	I _{D(on)}	V _{GS} =10V, V _{DS} =5V	15			A
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =1.7A		14		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =15V, f=1MHz	185	235	285	pF
Output Capacitance	C _{oss}		25	35	45	
Reverse Transfer Capacitance	C _{rss}		10	18	25	
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz	2.1	4.3	6.5	Ω
Total Gate Charge (10V)	Q _g	V _{GS} =10V, V _{DS} =15V, I _D =1.7A		10	12	nC
Total Gate Charge (4.5V)				4.7		
Gate Source Charge	Q _{gs}			0.95		
Gate Drain Charge	Q _{gd}			1.6		
Turn-On DelayTime	t _{d(on)}	V _{GS} =10V, V _{DS} =15V, R _L =8Ω, R _{GEN} =3Ω		3.5		ns
Turn-On Rise Time	t _r			1.5		
Turn-Off DelayTime	t _{d(off)}			17.5		
Turn-Off Fall Time	t _f			2.5		
Body Diode Reverse Recovery Time	t _{rr}	I _F =1.7A, dI/dt=100A/μs		8.5	11	nC
Body Diode Reverse Recovery Charge	Q _{rr}			2.6	3.5	
Maximum Body-Diode Continuous Current	I _S				1.5	A
Diode Forward Voltage	V _{SD}	I _S =1A, V _{GS} =0V		0.75	1	V

N-Channel MOSFET

AO7400 (KO7400)

Typical Characteristics

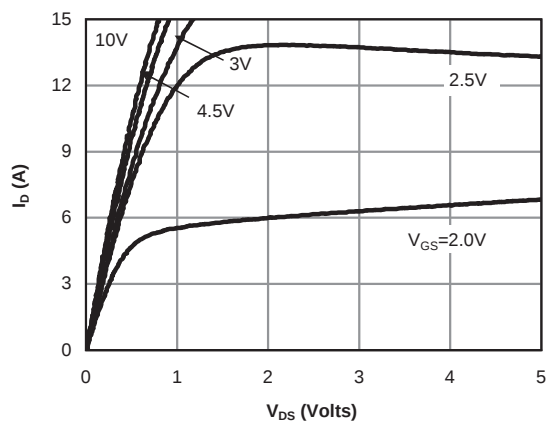


Fig 1: On-Region Characteristics

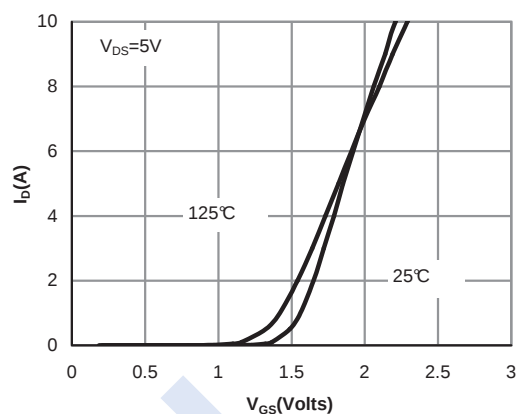


Figure 2: Transfer Characteristics

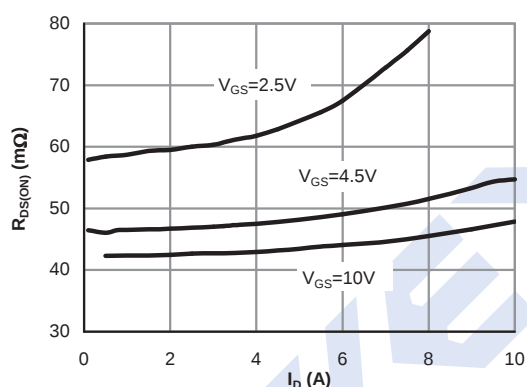


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

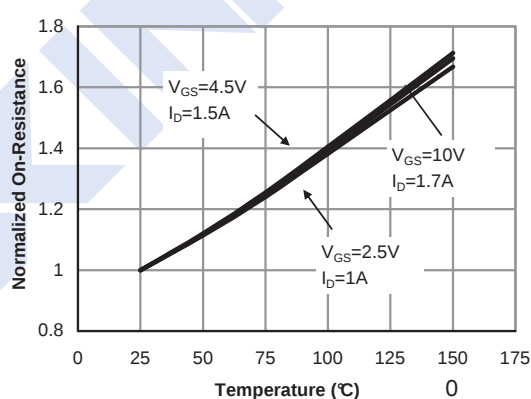


Figure 4: On-Resistance vs. Junction Temperature

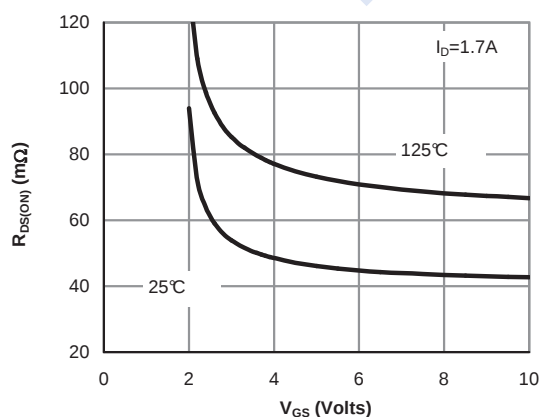


Figure 5: On-Resistance vs. Gate-Source Voltage

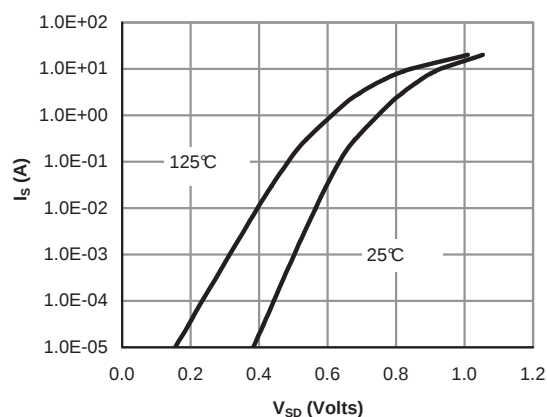


Figure 6: Body-Diode Characteristics

N-Channel MOSFET

AO7400 (KO7400)

■ Typical Characteristics

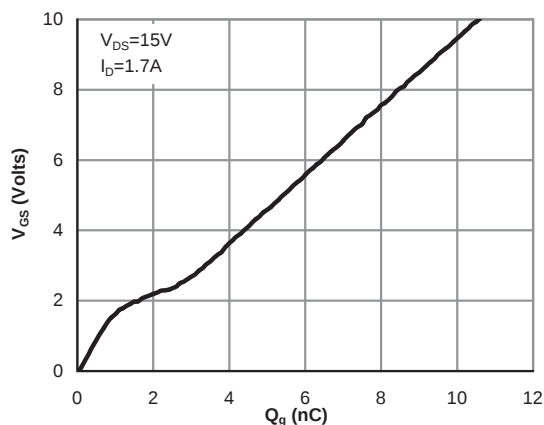


Figure 7: Gate-Charge Characteristics

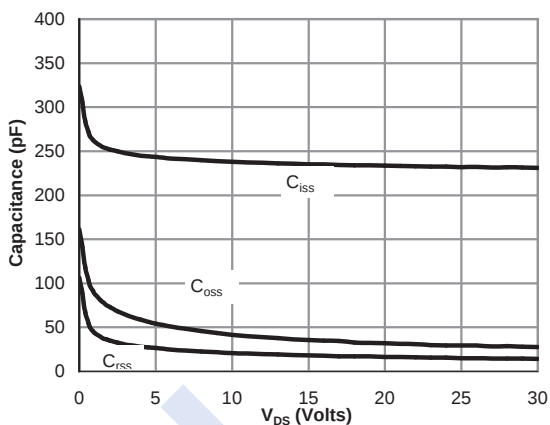


Figure 8: Capacitance Characteristics

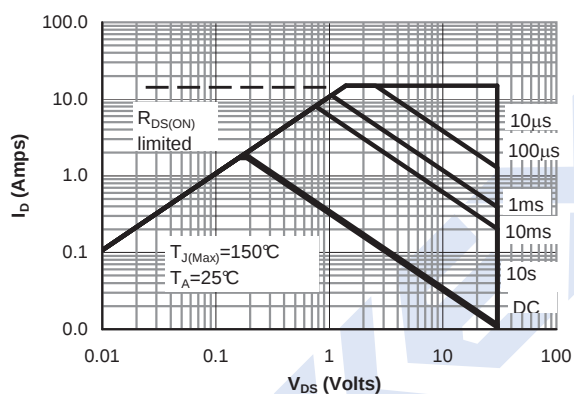


Figure 9: Maximum Forward Biased Safe Operating Area

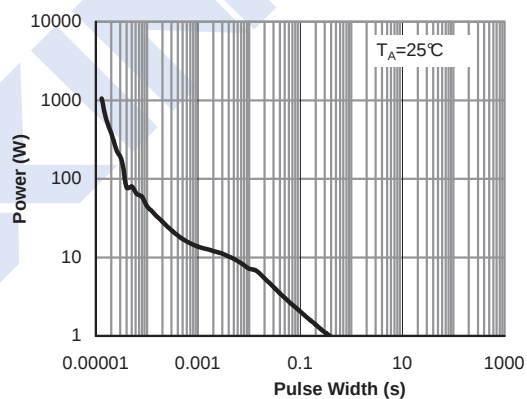


Figure 10: Single Pulse Power Rating Junction-to-Ambient

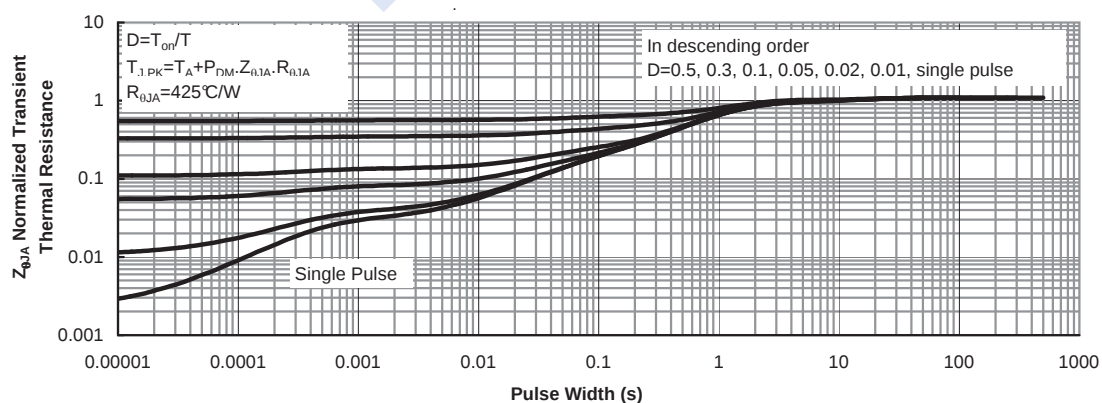


Figure 11: Normalized Maximum Transient Thermal Impedance