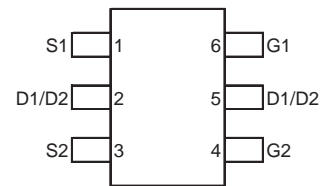
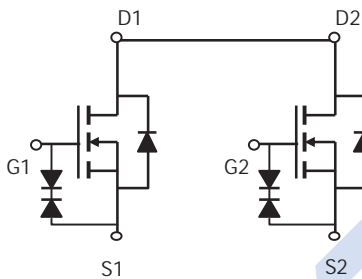
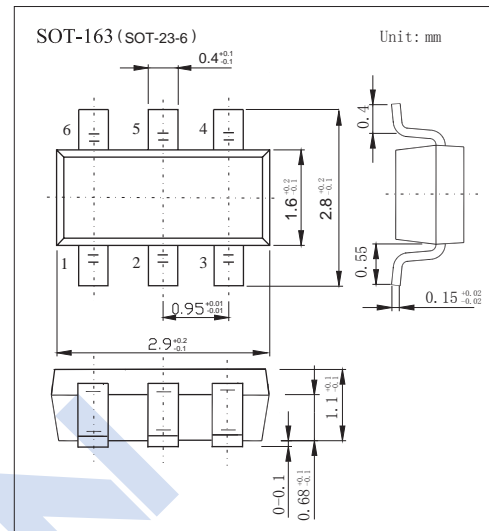


Dual N-Channel MOSFET

2KK5019

■ Features

- $V_{DS} (V) = 20V$
- $I_D = 7 A$
- $R_{DS(ON)} < 20m\Omega$ ($V_{GS} = 4.5V$)
- $R_{DS(ON)} < 30m\Omega$ ($V_{GS} = 2.5V$)
- $R_{DS(ON)} < 50m\Omega$ ($V_{GS} = 1.8V$)
- ESD Rating: 2KV HBM



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

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V_{DS}	20	V	
Gate-Source Voltage	V_{GS}	± 8		
Continuous Drain Current	I_D	$T_A=25^\circ C$	7	A
		$T_A=70^\circ C$	5.7	
Pulsed Drain Current	I_{DM}	25		
Power Dissipation	P_D	$T_A=25^\circ C$	1.5	W
		$T_A=70^\circ C$	1	
Thermal Resistance.Junction- to-Ambient	R_{thJA}	$t \leq 10s$	90	$^\circ C/W$
		Steady-State	130	
Thermal Resistance.Junction- to-Lead	R_{thJL}	72		
Junction Temperature	T_J	150	$^\circ C$	
Storage Temperature Range	T_{stg}	-55 to 150		

Dual N-Channel MOSFET

2KK5019

■ 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	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0V			1	μA
		V _{DS} =20V, V _{GS} =0V, T _J =55°C			5	
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±8V			±10	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250 μA	0.4		1.1	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =4.5V, I _D =7A			20	mΩ
		V _{GS} =2.5V, I _D =5.5A			30	
		V _{GS} =1.8V, I _D =5A			50	
On State Drain Current	I _{D(ON)}	V _{GS} =4.5V, V _{DS} =5V	25			A
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =7A		12		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =10V, f=1MHz		1200		pF
Output Capacitance	C _{oss}			160		
Reverse Transfer Capacitance	C _{rss}			80		
Total Gate Charge	Q _g	V _{GS} =4.5V, V _{DS} =10V, I _D =7A			14	nC
Gate Source Charge	Q _{gs}			4.2		
Gate Drain Charge	Q _{gd}			2.6		
Turn-On DelayTime	t _{d(on)}	V _{GS} =4.5V, V _{DS} =10V, R _L =1.54Ω, R _G =3Ω		270		ns
Turn-On Rise Time	t _r			320		
Turn-Off DelayTime	t _{d(off)}			3		
Turn-Off Fall Time	t _f			2.2		
Body Diode Reverse Recovery Time	t _{rr}			30		
Body Diode Reverse Recovery Charge	Q _{rr}	I _F =7A, V _{GS} =-9V, di/dt=100A/μs		6.5		nC
Maximum Body-Diode Continuous Current	I _S				2	A
Diode Forward Voltage	V _{SD}	I _S =1A, V _{GS} =0V			1	V

■ Marking

Marking	KAI
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Dual N-Channel MOSFET 2KK5019

■ Typical Characteristics

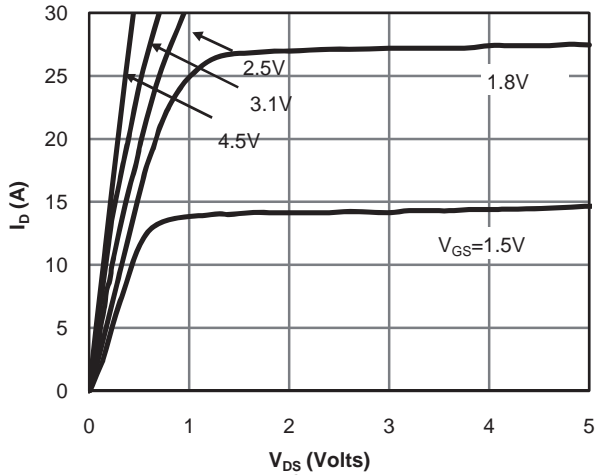


Fig 1: On-Region Characteristics

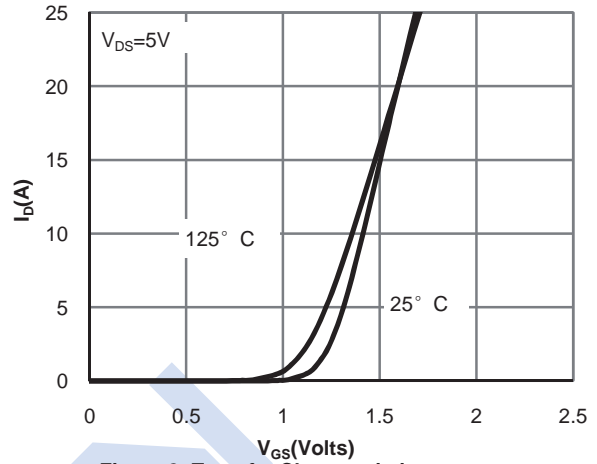


Figure 2: Transfer Characteristics

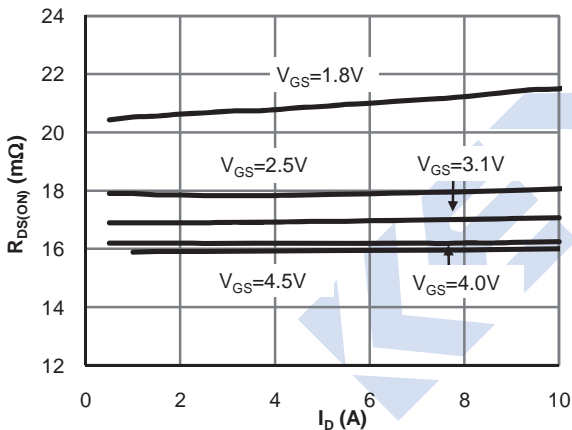


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

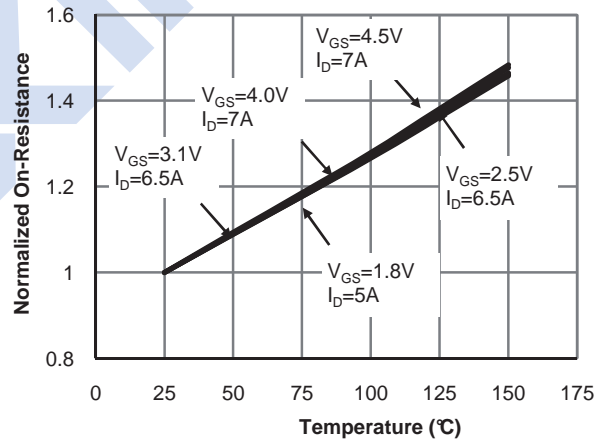


Figure 4: On-Resistance vs. Junction Temperature

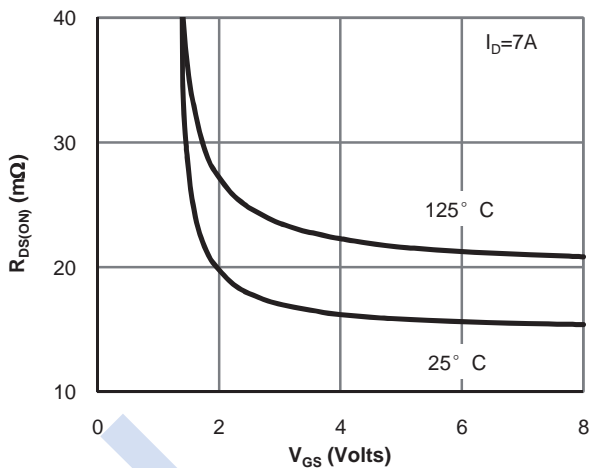


Figure 5: On-Resistance vs. Gate-Source Voltage

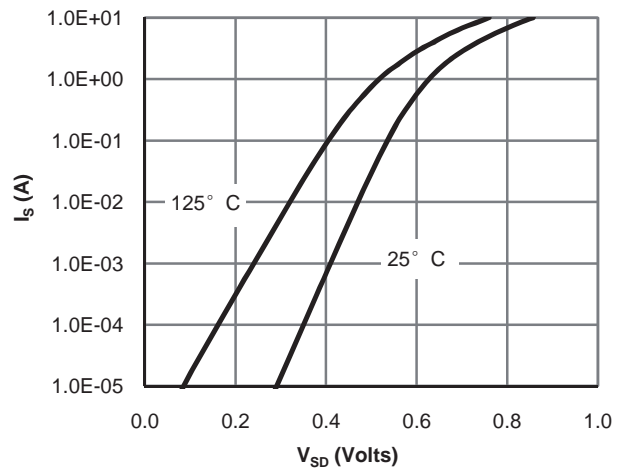


Figure 6: Body-Diode Characteristics

Dual N-Channel MOSFET 2KK5019

■ Typical Characteristics

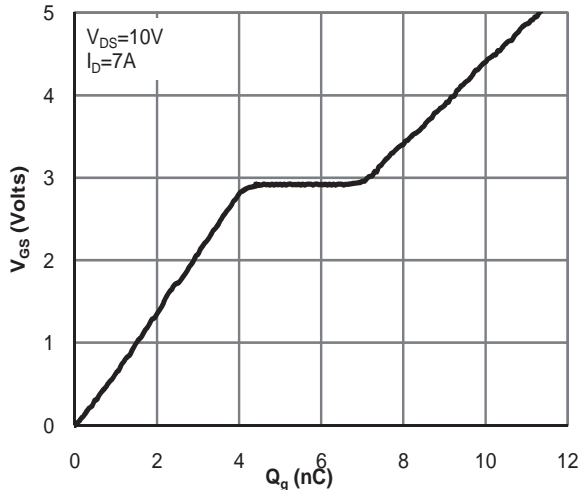


Figure 7: Gate-Charge Characteristics

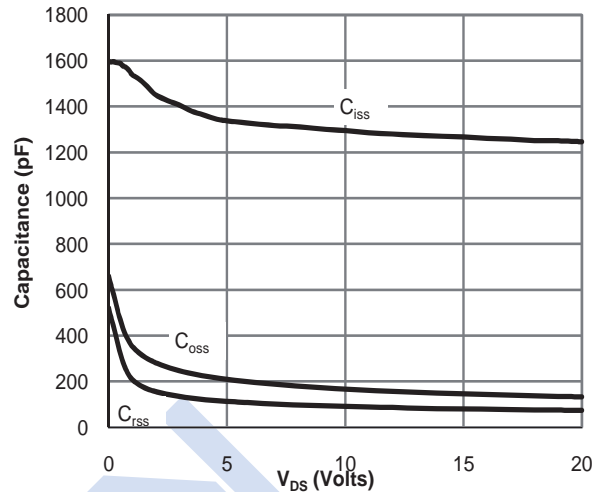


Figure 8: Capacitance Characteristics

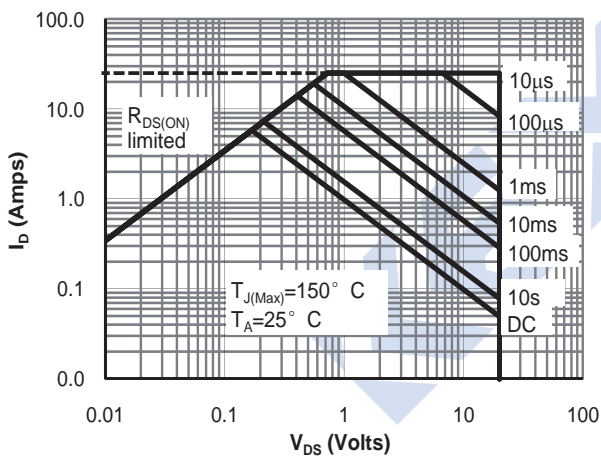


Figure 9: Maximum Forward Biased Safe Operating Area

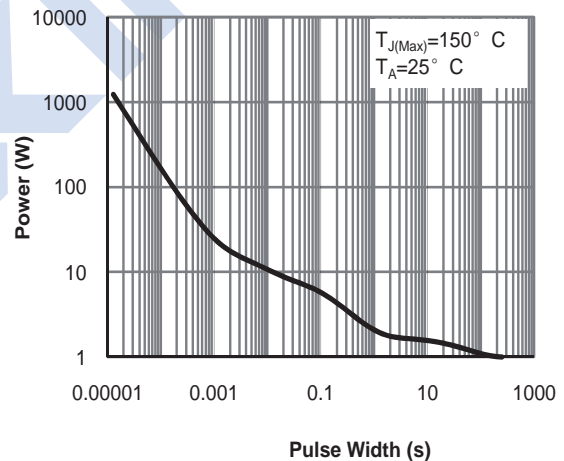


Figure 10: Single Pulse Power Rating Junction-to-Ambient

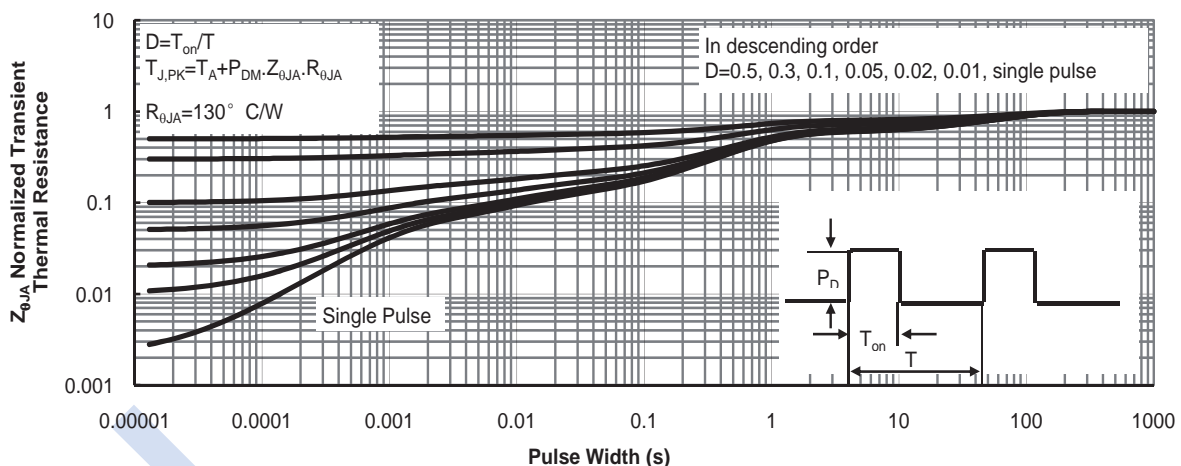


Figure 11: Normalized Maximum Transient Thermal Impedance