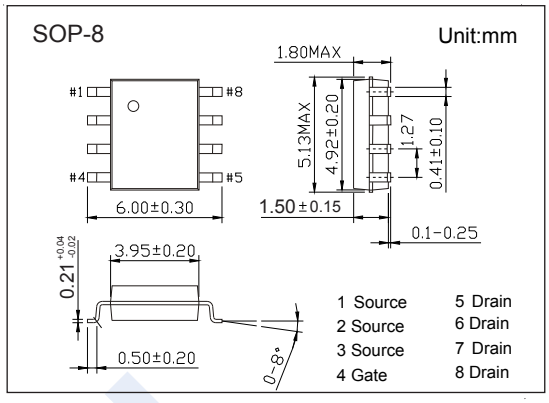
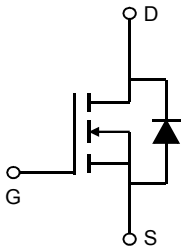
N-Channel MOSFET
2KK5088



■ Features

- $V_{DS\,(V)}$ = 30V
- I_D = 10 A (V_{GS} = 10V)
- $R_{DS(ON)}$ < 12mΩ (V_{GS} = 10V)
- $R_{DS(ON)}$ < 16mΩ (V_{GS} = 4.5V)



■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	±20	
V_{DS} Spike	100ns	V_{SPIKE}	36	
Continuous Drain Current	T_A=25℃	I_D	10	A
	T_A=100℃		6.0	
Pulsed Drain Current		I_{DM}	50	
Avalanche Current		I_{AS}	15	
Avalanche Energy	L=0.1mH	E_{AS}	11	mJ
Power Dissipation	T_A=25℃	P_D	2.5	W
	T_A=70℃		1.6	
Thermal Resistance.Junction- to-Ambient	t ≤ 10s	R_{thJA}	50	℃/W
	Steady-State		85	
Thermal Resistance.Junction- to-Lead		R_{thJL}	30	
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{stg}	-55 to 150	

N-Channel MOSFET

2KK5088

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=250μA, V_{GS}=0V	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V, V_{GS}=0V			1	uA
		V_{DS}=30V, V_{GS}=0V, T_J=55℃			5	
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=250uA	1.0		3.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=10A			12	mΩ
		V_{GS}=10V, I_D=10A T_J=125℃			18	
		V_{GS}=4.5V, I_D=8A			16	
Forward Transconductance	g_{FS}	V_{DS}=4.5V, I_D=8A	15			S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=15V, f=1MHz		1550		pF
Output Capacitance	C_{oss}			300		
Reverse Transfer Capacitance	C_{rss}			180		
Gate Resistance	R_g	V_{GS}=0V, V_{DS}=0V, f=1MHz	1		3	Ω
Total Gate Charge (10V)	Q_g	V_{GS}=10V, V_{DS}=15V, I_D=10A		13		nC
Total Gate Charge (4.5V)				5.8		
Gate Source Charge	Q_{gs}			5.5		
Gate Drain Charge	Q_{gd}			3.5		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=10V, V_{DS}=15V, R_L=1.25Ω, R_{GEN}=3Ω		30		ns
Turn-On Rise Time	t_r			20		
Turn-Off DelayTime	$t_{d(off)}$			100		
Turn-Off Fall Time	t_f			80		
Body Diode Reverse Recovery Time	t_{rr}	I_F= 10A, dI/dt= 500A/us		9.7		
Body Diode Reverse Recovery Charge	Q_{rr}			11.5		nC
Maximum Body-Diode Continuous Current	I_S				3.5	A
Diode Forward Voltage	V_{SD}	I_S=1A,V_{GS}=0V			1	V

■ Marking

Marking	K5088 KC****

N-Channel MOSFET
2KK5088

■ Typical Characterisitics

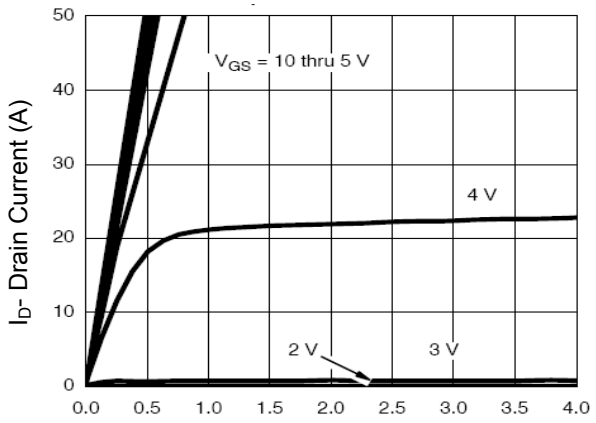


Figure 1 Output Characteristics

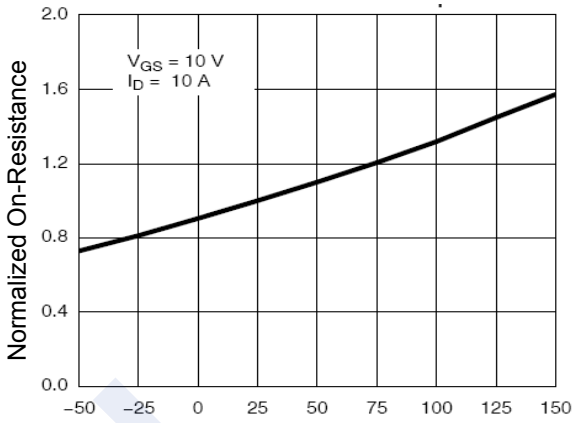


Figure 4 Rdson-JunctionTemperature

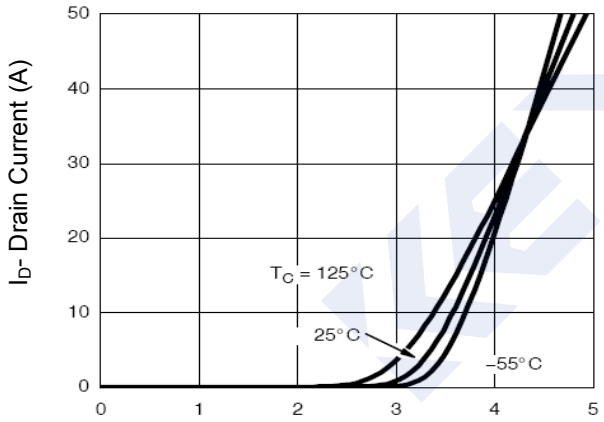


Figure 2 Transfer Characteristics

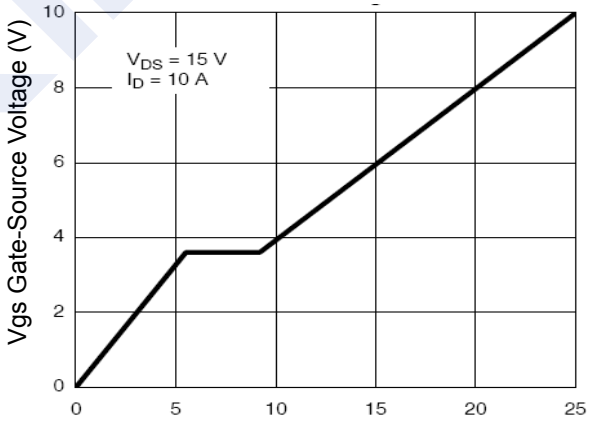


Figure 5 Gate Charge

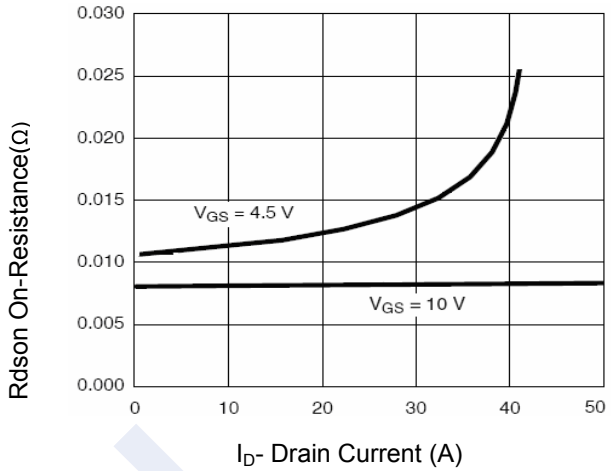


Figure 3 Rdson- Drain Current

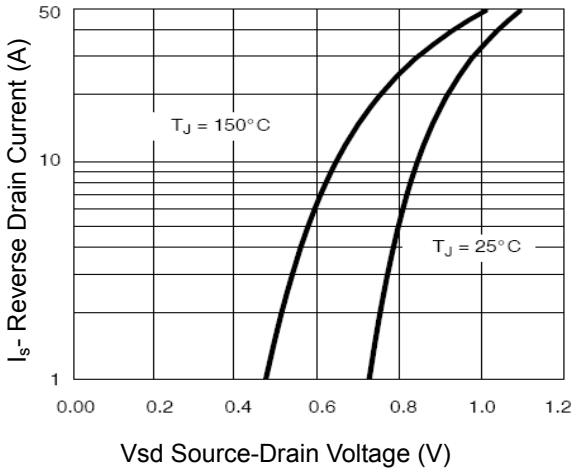


Figure 6 Source- Drain Diode Forward

N-Channel MOSFET

2KK5088

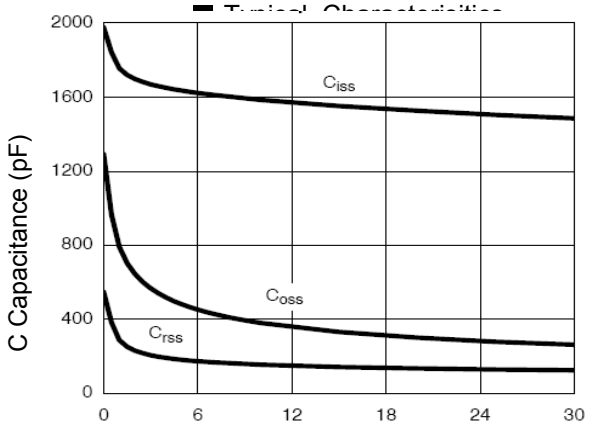


Figure 7 Capacitance vs Vds

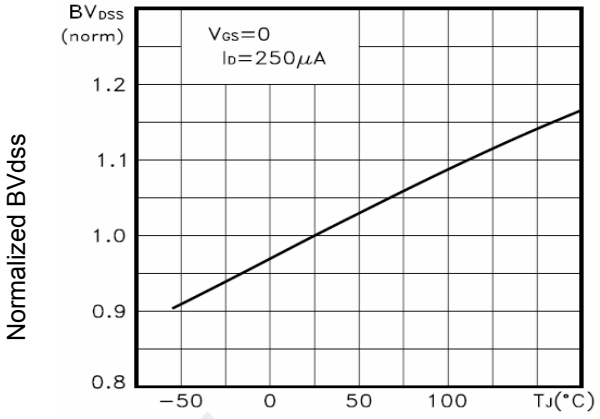


Figure 9 BV_{DSS} vs Junction Temperature

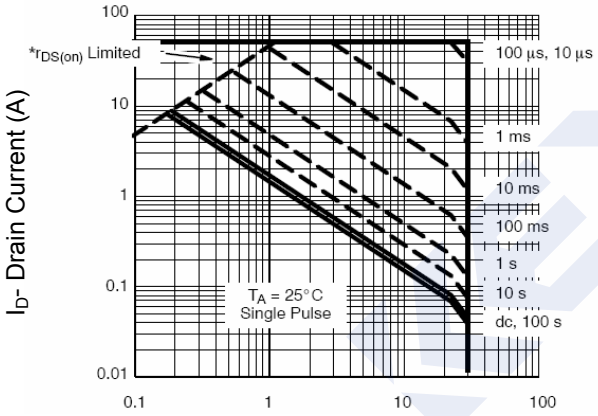


Figure 8 Safe Operation Area

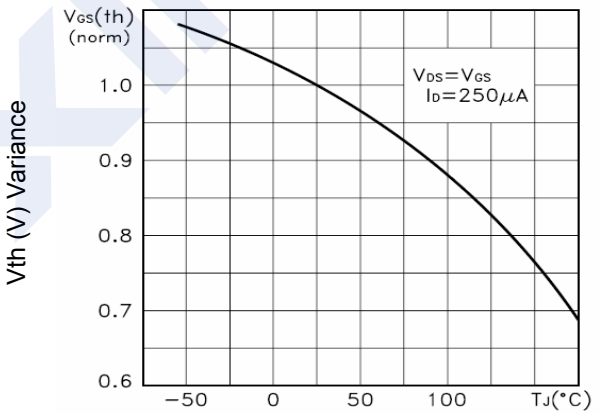


Figure 10 $V_{GS(th)}$ vs Junction Temperature

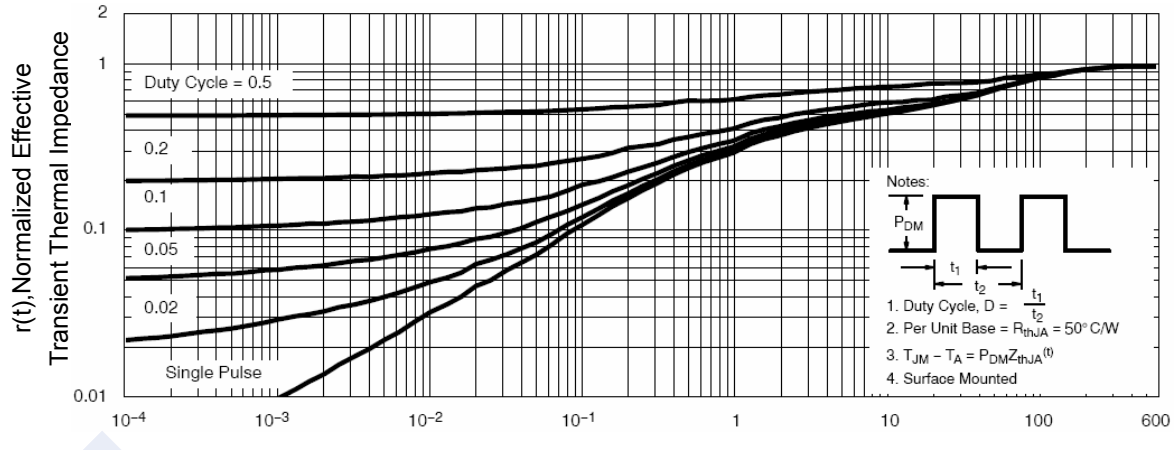


Figure 11 Normalized Maximum Transient Thermal Impedance