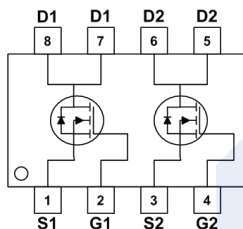
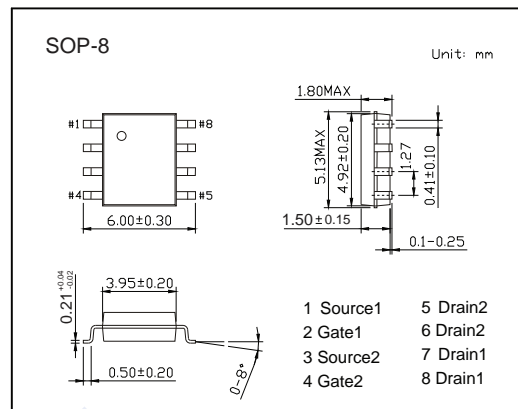


## Dual N-Channel MOSFET

## 2KK5134

## ■ Features

- $BV_{DSS} = 60\text{ V}$
- $I_D = 6.5\text{ A}$
- $R_{DS(ON)} T_{yp.} = 38\text{ m}\Omega$  (at  $V_{GS} = 10\text{ V}$ )
- Low Gate Charge Minimize Switching Loss
- Fast Recovery Body Diode

■ Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	
Continuous Drain Current	$I_D$	$T_C = 25^\circ\text{C}$	16.2
		$T_A = 25^\circ\text{C}$	6.5
Pulsed Drain Current <sup>*1</sup>	$I_{DM}$	20	A
Avalanche energy $L = 0.1\text{ mH}$ <sup>*1</sup>	EAS, EAR	10	mJ
Power Dissipation	$P_D$	$T_C = 25^\circ\text{C}$	31.3
		$T_A = 25^\circ\text{C}$	3
Thermal Resistance, Junction- to-Ambient	$R_{\theta JA}$	42	$^\circ\text{C/W}$
Thermal Resistance, Junction- to-Case	$R_{\theta JC}$	4	
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to 150	

Note 1. Repetitive rating; pulse width limited by max. junction temperature.

## Dual N-Channel MOSFET

## 2KK5134

## ■ Electrical Characteristics (TA = 25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BVDSS	Id = 250 μA, VGS = 0V	60			V
Zero Gate Voltage Drain Current	IDSS	VDS = 60 V, VGS = 0 V			5	μA
		VDS = 48 V, VGS = 0 V, TJ = 125°C			100	
Gate to Source Leakage Current	IGSS	VDS = 0 V, VGS = ±20 V			±100	nA
Gate to Source Threshold Voltage	VGS(th)	VDS = VGS, Id = 250μA	1		3	V
Static Drain-Source On-Resistance <sup>*2</sup>	RDS(on)	VGS = 10 V, Id = 5 A		38	50	mΩ
		VGS = 4.5 V, Id = 5 A		45	60	
Input Capacitance	Ciss	VGS = 0 V, VDS = 30 V, f = 1 MHz		300		pF
Output Capacitance	Coss			18		
Reverse Transfer Capacitance	Crss			52		
Gate Resistance	Rg	VGS = 0 V, f = 1 MHz		3.1		Ω
Total Gate Charge	Qg	VGS = 10V, VDS = 30 V, Id = 5 A		6		nC
Gate Source Charge	Qgs			1.2		
Gate Drain Charge	Qgd			1.1		
Turn-On Delay Time	td(on)	VGS = 10V, VDD = 30 V, RG = 6Ω, Id = 5A		2		ns
Turn-On Rise Time	tr			5.6		
Turn-Off Delay Time	td(off)			23		
Turn-Off Fall Time	tf			14		
Body Diode Reverse Recovery Time	trr			29		
Body Diode Reverse Recovery Charge	Qrr	Is = 5 A, VGS = 0V, di/dt = 100 A/μs		24		nC
Continuous Source Current	ISD				2.5	A
Pulsed Source Current	ISM				10	
Diode Forward Voltage	VSD	VGS = 0 V, Is = 5 A		0.85	1.2	V

Note 2. Pulse width ≤ 300μs; duty cycle ≤ 2%.

## ■ Marking

Marking	K5134 KA****
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## Dual N-Channel MOSFET

### 2KK5134

#### ■ Typical Characteristics

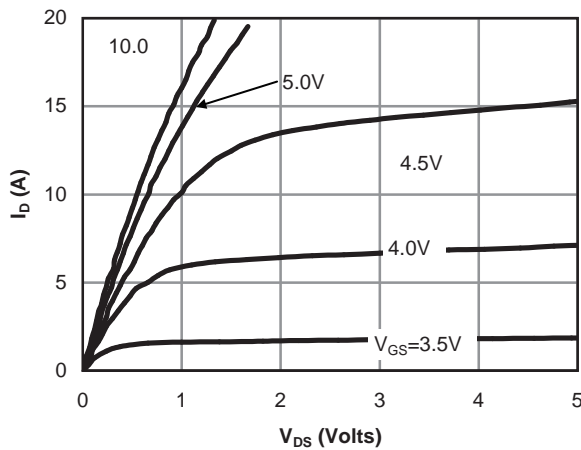


Fig 1: On-Region Characteristics

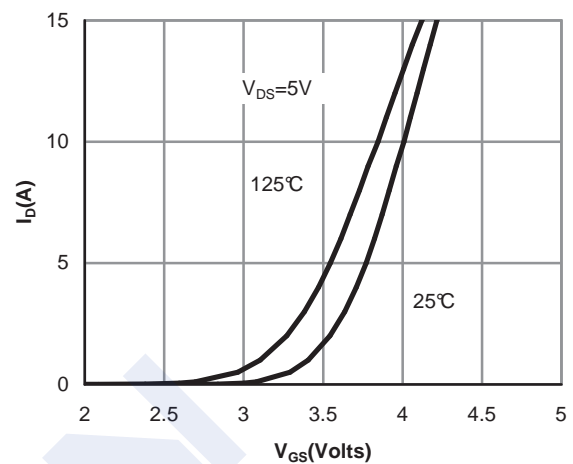


Figure 2: Transfer Characteristics

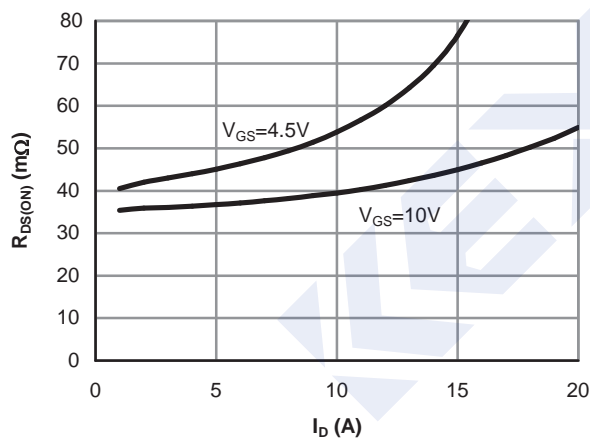


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

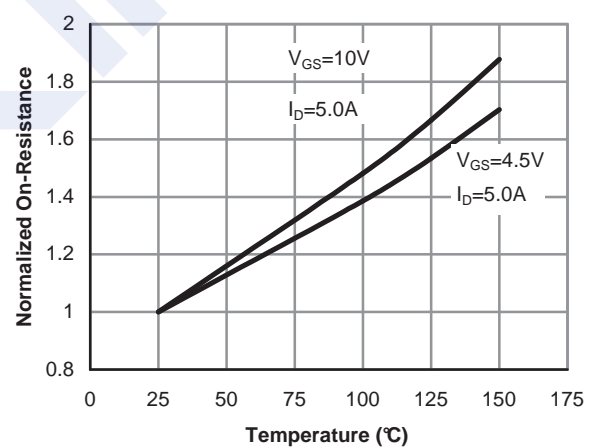


Figure 4: On-Resistance vs. Junction Temperature

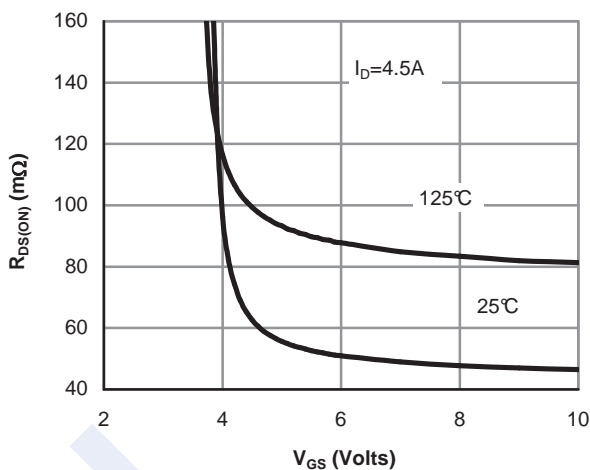


Figure 5: On-Resistance vs. Gate-Source Voltage

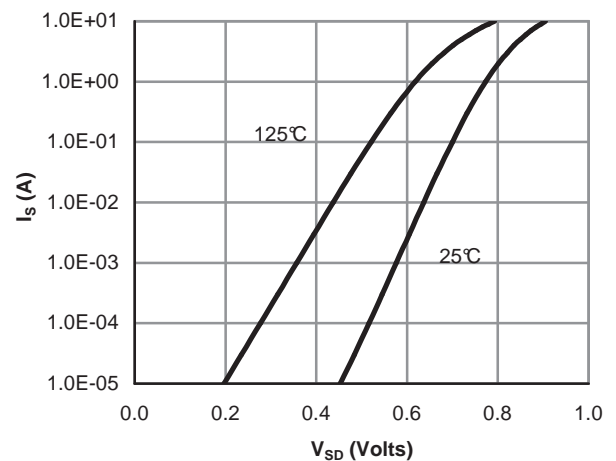


Figure 6: Body-Diode Characteristics

### Dual N-Channel MOSFET

### 2KK5134

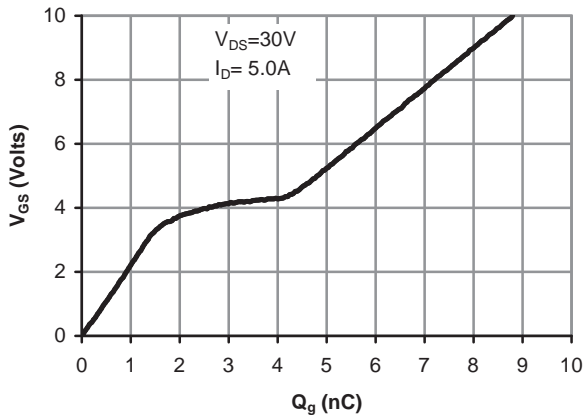


Figure 7: Gate-Charge Characteristics

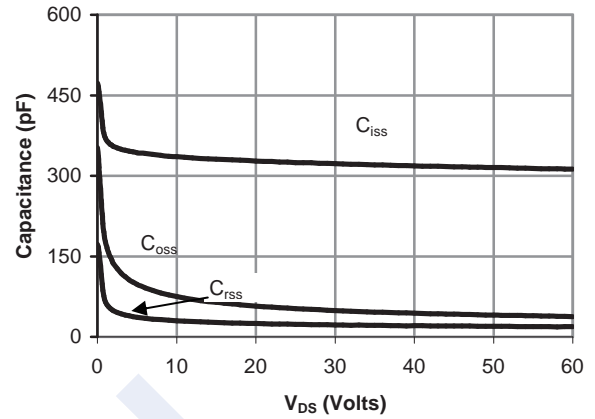


Figure 8: Capacitance Characteristics

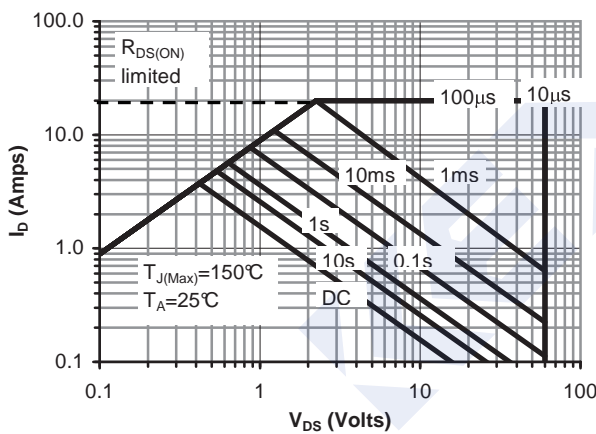


Figure 9: Maximum Forward Biased Safe Operating Area

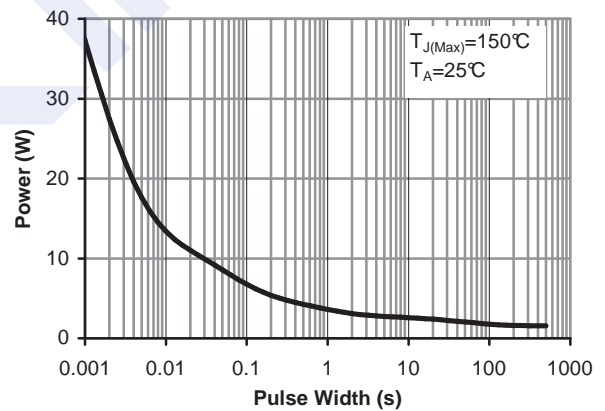


Figure 10: Single Pulse Power Rating Junction-to-Ambient

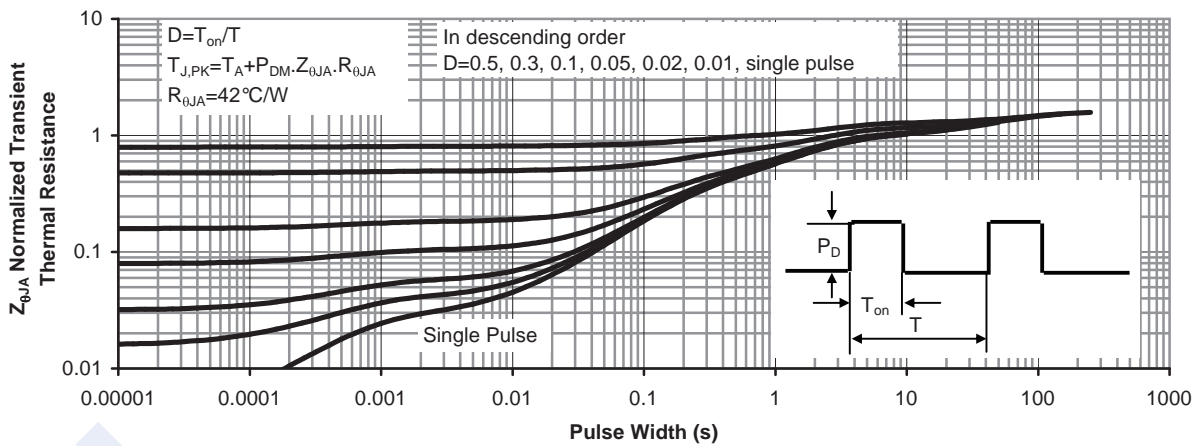


Figure 11: Normalized Maximum Transient Thermal Impedance