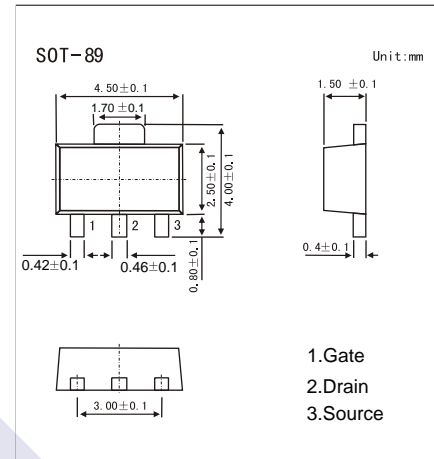
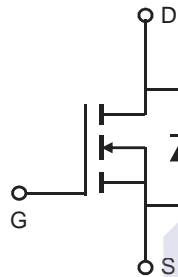


## N-Channel MOSFET

## 2KK5034

## ■ Features

- $BV_{DSS} = 30\text{ V}$
- $I_D = 15\text{ A}$
- $R_{DS(ON)} < 9.2\text{ m}\Omega @ V_{GS} = 10\text{ V}$
- $R_{DS(ON)} < 10.8\text{ m}\Omega @ V_{GS} = 4.5\text{ V}$

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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	
Continuous Drain Current (Note 1)	$I_D$	$T_A = 25^\circ\text{C}$	15
		$T_A = 100^\circ\text{C}$	12
Pulsed Drain Current (Note 2)	$I_{DM}$	60	A
Power Dissipation	$P_D$	3.5	W
Thermal Resistance Junction-to-Ambient (Note 1)	$R_{\theta JA}$	35	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to 150	

Notes:

1. Surface Mounted on  $1\text{in}^2$  FR4 Board,  $t \leq 10\text{ sec.}$
2. Repetitive Rating: Pulse width limited by maximum junction temperature.

## N-Channel MOSFET

## 2KK5034

■ Electrical Characteristics ( $T_A = 25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>Off Characteristics</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$I_D = 250 \mu\text{A}$ , $V_{GS} = 0\text{V}$	30			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 24\text{V}$ , $V_{GS} = 0\text{V}$			1	$\mu\text{A}$
Gate to Source Leakage Current	$I_{GSS}$	$V_{DS} = 0\text{V}$ , $V_{GS} = \pm 20\text{V}$			$\pm 100$	nA
<b>On Characteristics (Note 3)</b>						
Gate to Source Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$ , $I_D = 250\mu\text{A}$	1.0		2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}$ , $I_D = 30\text{A}$			9.2	m $\Omega$
		$V_{GS} = 4.5\text{V}$ , $I_D = 15\text{A}$			10.8	
<b>Dynamic Characteristics (Note4)</b>						
Input Capacitance	$C_{iss}$	$V_{GS} = 0\text{V}$ , $V_{DS} = 15\text{V}$ , $f = 1\text{MHz}$		1180		pF
Output Capacitance	$C_{oss}$			190		
Reverse Transfer Capacitance	$C_{riss}$			115		
<b>Switching Characteristics (Note 4)</b>						
Total Gate Charge	$Q_g$	$V_{GS} = 10\text{V}$ , $V_{DS} = 15\text{V}$ , $I_D = 30\text{A}$		20	24	nC
Gate Source Charge	$Q_{gs}$			2.2		
Gate Drain Charge	$Q_{gd}$			3.5		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS} = 10\text{V}$ , $V_{DS} = 15\text{V}$ , $R_{GEN} = 6\Omega$ , $R_L = 15\Omega$ , $I_D = 1\text{A}$		11		ns
Turn-On Rise Time	$t_r$			12		
Turn-Off Delay Time	$t_{d(off)}$			36		
Turn-Off Fall Time	$t_f$			10		
<b>Drain-Source Diode Characteristics</b>						
Diode Forward Voltage (Note 3)	$V_{SD}$	$V_{GS} = 0\text{V}$ , $I_S = 15\text{A}$			1.1	V

Notes:

- Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .
- Guaranteed by design, not subject to production

## ■ Marking

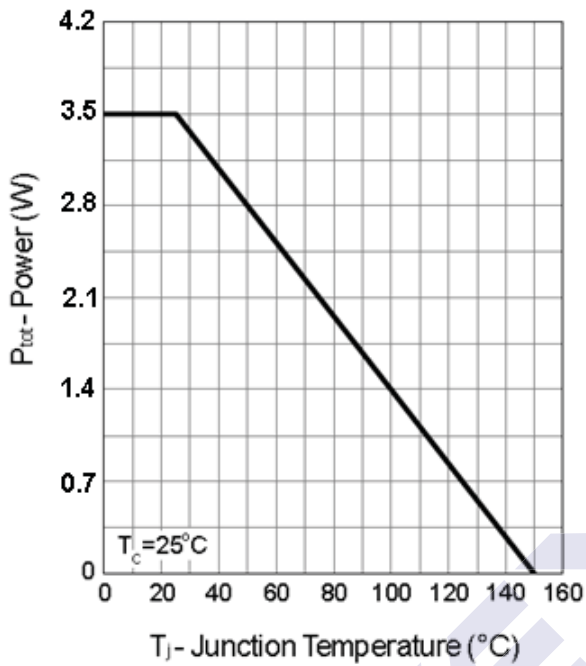
Marking	K5034
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### N-Channel MOSFET

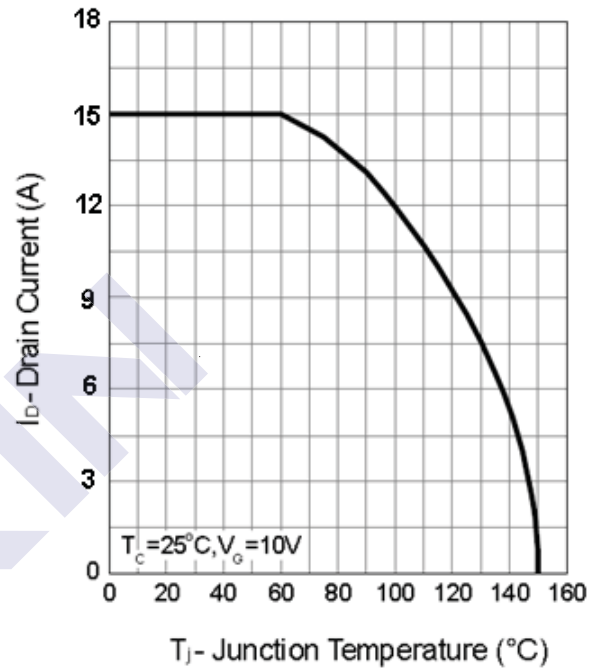
### 2KK5034

■ Typical Characteristics

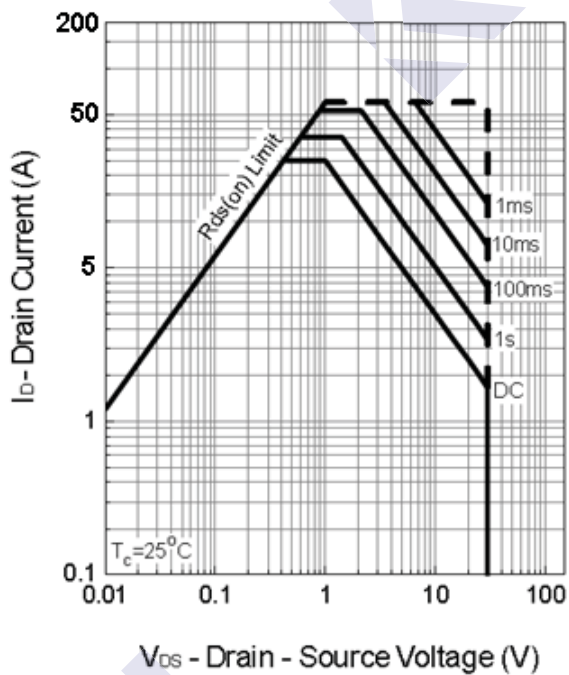
Power Dissipation



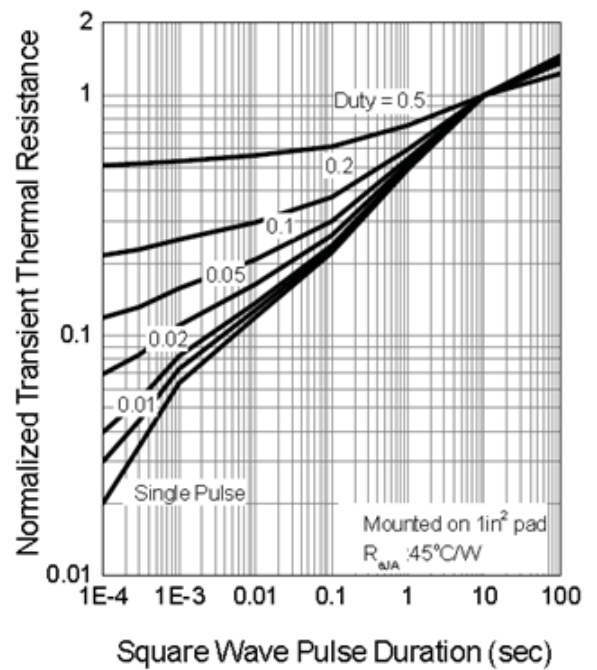
Drain Current



Safe Operation Area



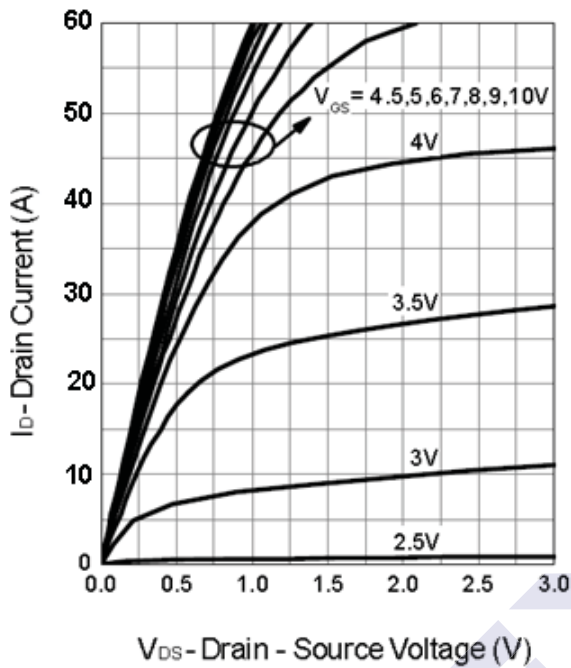
Thermal Transient Impedance



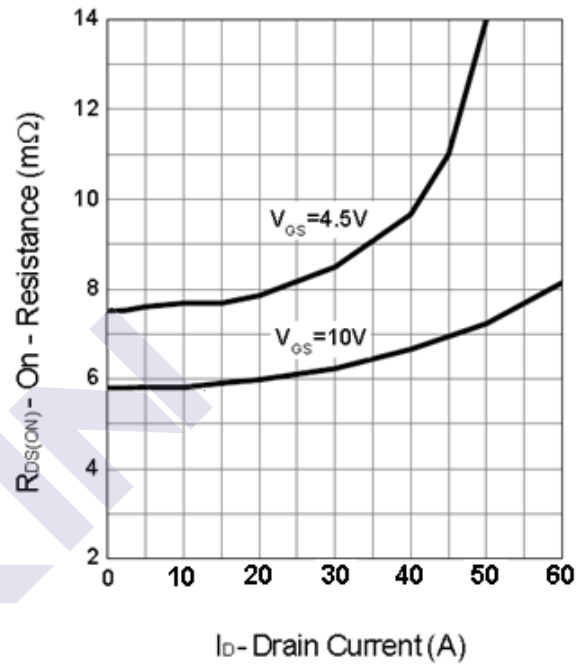
### N-Channel MOSFET

### 2KK5034

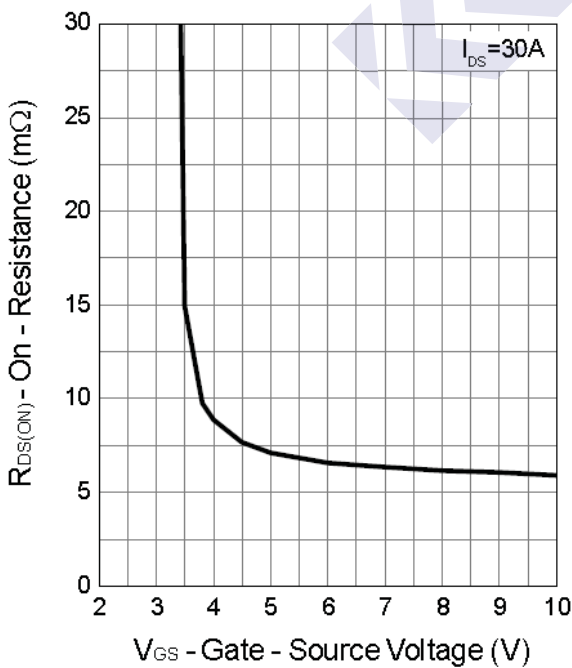
Output Characteristics



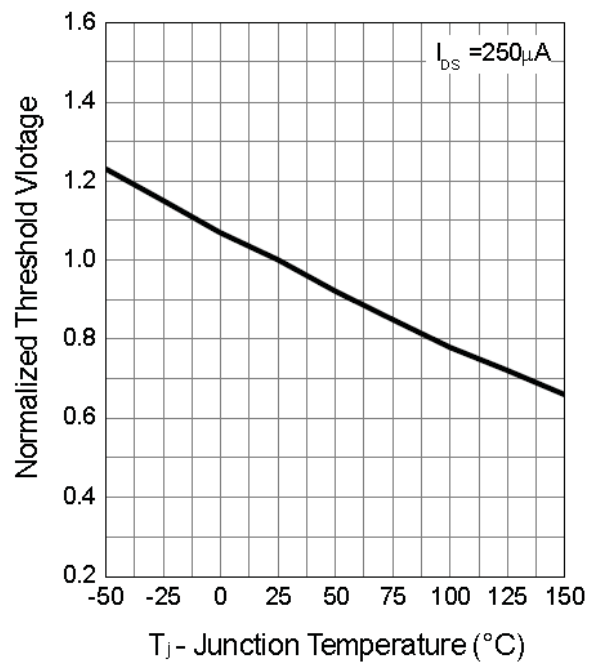
Drain-Source On Resistance



Gate-Source On Resistance



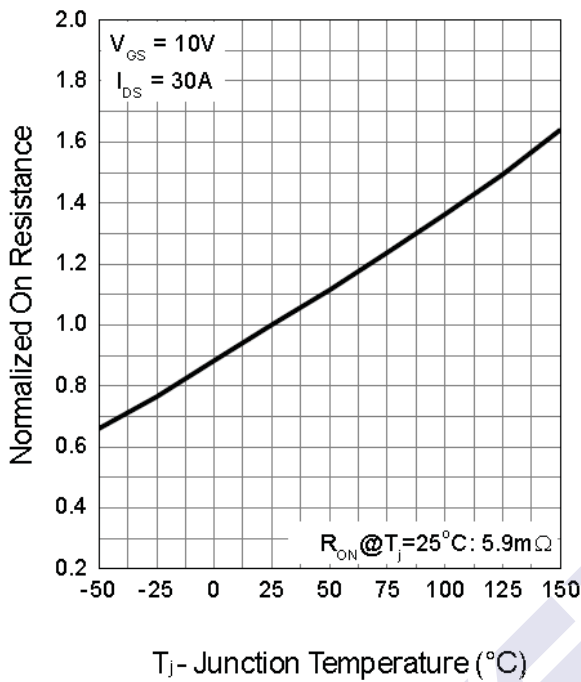
Gate Threshold Voltage



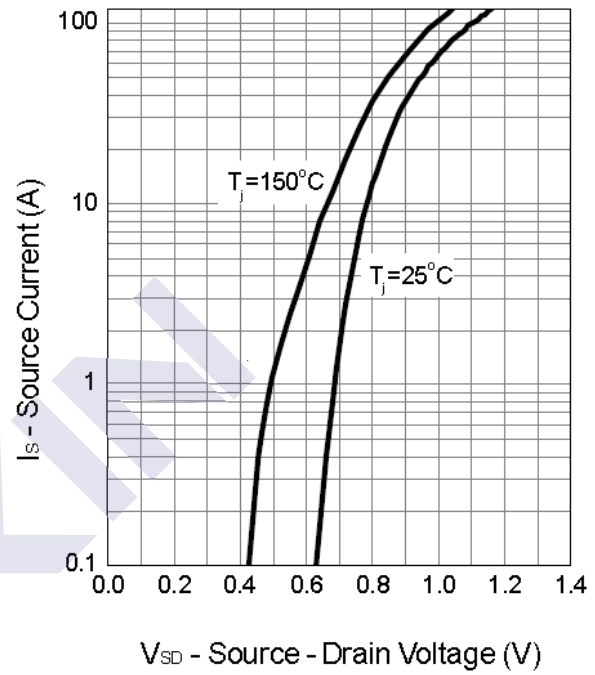
### N-Channel MOSFET

### 2KK5034

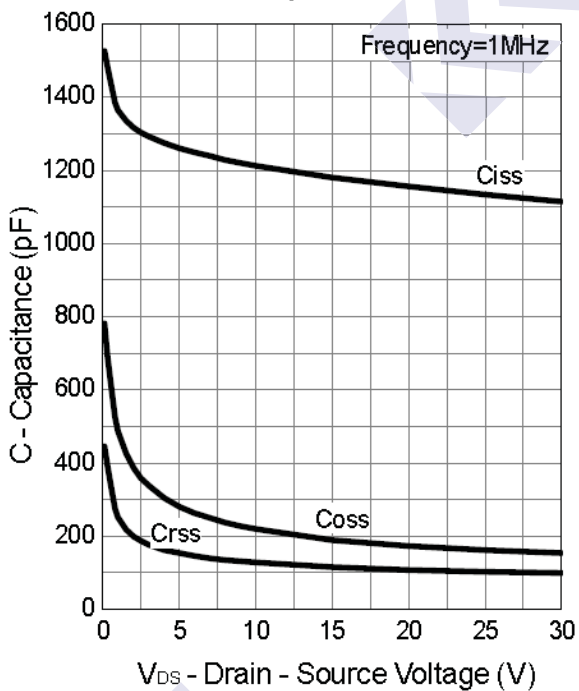
Drain-Source On Resistance



Source-Drain Diode Forward



Capacitance



Gate Charge

