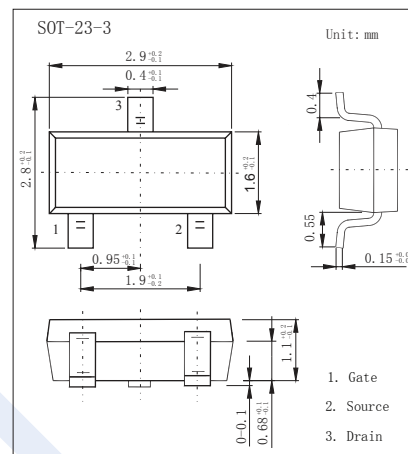
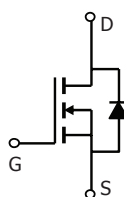


N-Channel MOSFET

2SK3046DS

■ Features

- 100V/1A, $R_{DS(ON)} = 310\text{m}\Omega @ V_{GS} = 10\text{V}$
- High density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability

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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current ($T_J = 150^\circ\text{C}$)	I_D	3	A
		2	
Pulsed Drain Current	I_{DM}	10	
Power Dissipation	P_D	1.25	W
		0.8	
Thermal Resistance, Junction- to-Ambient (Note 1)	R_{thJA}	100	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

N-Channel MOSFET

2SK3046DS

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$I_D = 250\ \mu\text{A}$, $V_{GS} = 0\text{V}$	100			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 80\text{V}$, $V_{GS} = 0\text{V}$			1	μA
		$V_{DS} = 80\text{V}$, $V_{GS} = 0\text{V}$, $T_J = 125^\circ\text{C}$			5	
Gate to Source Leakage Current	I_{GSS}	$V_{DS} = 0\text{V}$, $V_{GS} = \pm 20\text{V}$			± 100	nA
Gate to Source Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 250\ \mu\text{A}$	1		2.5	V
On-State Drain Current	$I_{D(on)}$	$V_{DS} \geq 5\text{V}$, $V_{GS} = 10\text{V}$	3			A
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}$, $I_D = 3\text{A}$			0.31	Ω
Forward Transconductance	g_{FS}	$V_{DS} = 10\text{V}$, $I_D = 3\text{A}$		2.4		S
Input Capacitance	C_{iss}	$V_{DS} = 25\text{V}$, $V_{GS} = 0\text{V}$, $f = 1\text{MHz}$		508		pF
Output Capacitance	C_{oss}			29		
Reverse Transfer Capacitance	C_{rss}			16.5		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 50\text{V}$, $R_L = 10\ \Omega$ $I_D = 3\text{A}$, $V_{GEN} = 10\text{V}$ $R_G = 3.3\ \Omega$		2		ns
Turn-On Rise Time	t_r			21.5		
Turn-Off Delay Time	$t_{d(off)}$			11.2		
Turn-Off Fall Time	t_f			18.8		
Total Gate Charge	Q_g	$V_{DS} = 80\text{V}$, $V_{GS} = 10\text{V}$, $I_D = 5\text{A}$		9	13	nC
Gate Source Charge	Q_{gs}			2		
Gate Drain Charge	Q_{gd}			1.4		
Diode Forward Voltage	V_{SD}	$V_{GS} = 0\text{V}$, $I_S = 1\text{A}$			1.2	V

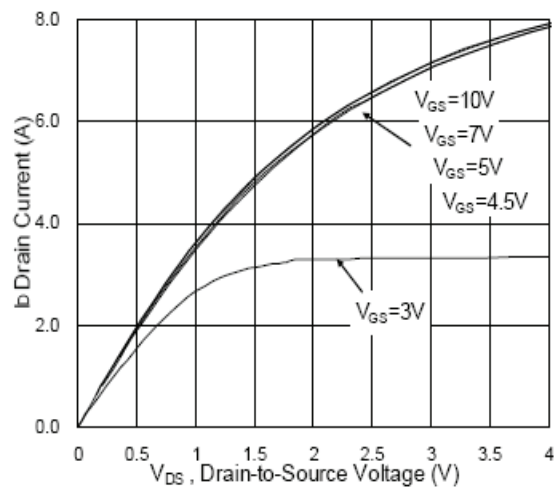
■ Marking

Marking	K100
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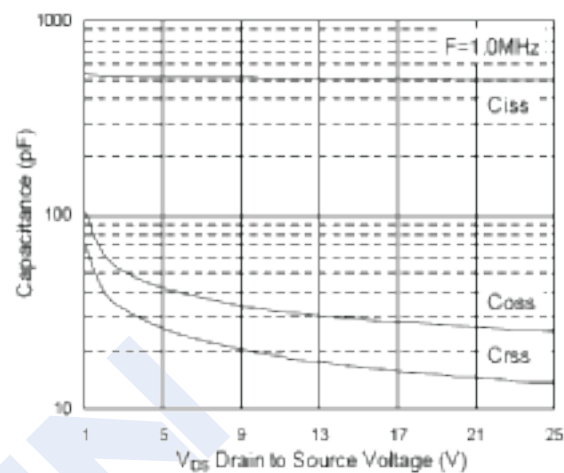
N-Channel MOSFET

2SK3046DS

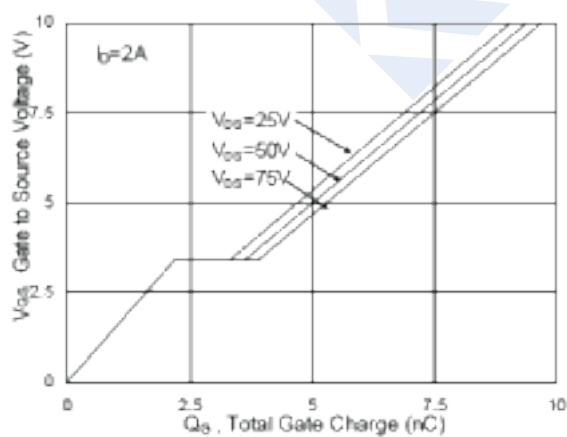
■ Typical Characteristics



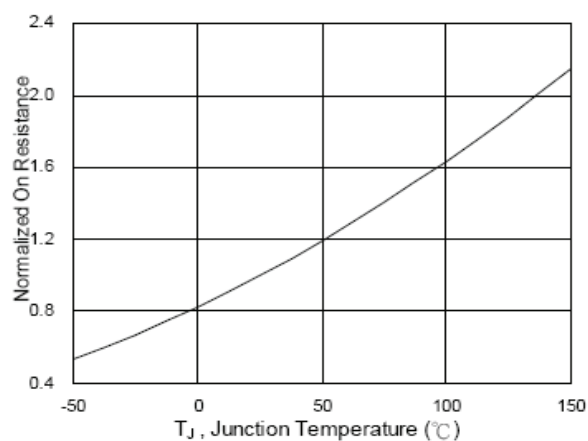
Output Characteristics



Capacitance



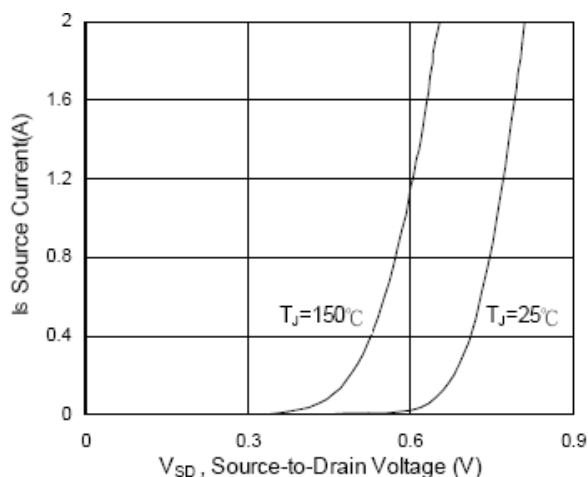
Gate Charge



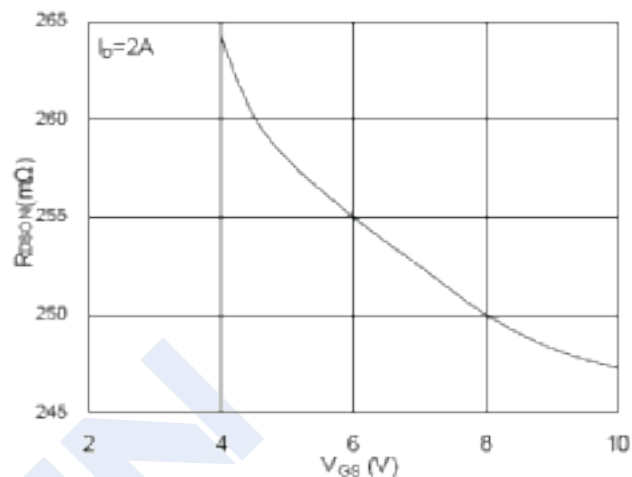
On-Resistance vs. Junction Temperature

N-Channel MOSFET

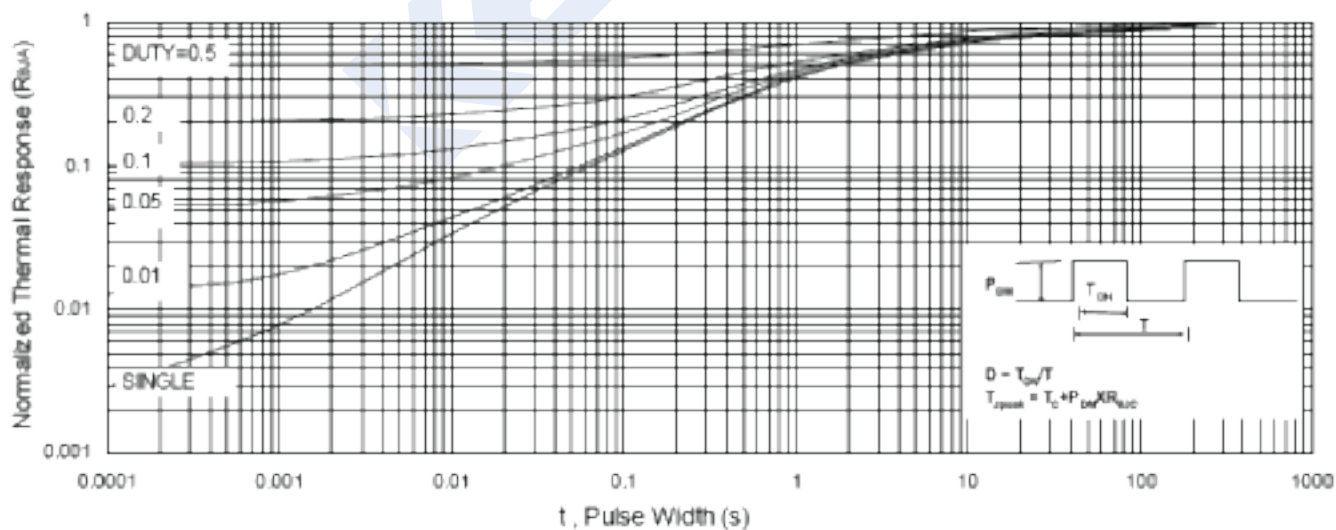
2SK3046DS



Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-Source Voltage



Normalized Thermal Transient Impedance, Junction to Foot