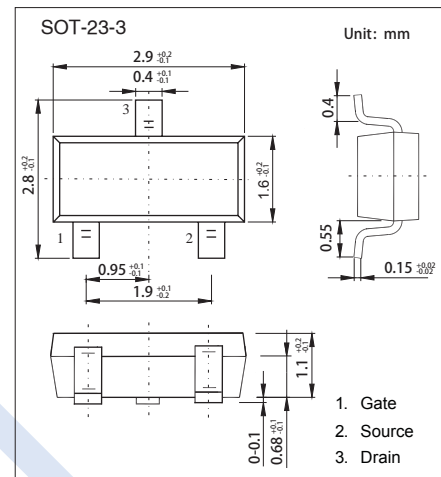
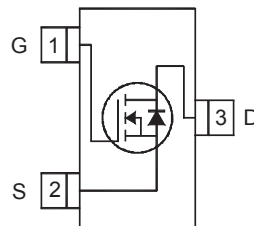


## N-Channel MOSFET

## 2KK5037

## ■ Features

- $V_{DS} (V) = 110V$
- $I_D = 3.0A$  ( $V_{GS} = 10V$ )
- $R_{DS(ON)} \leq 180m\Omega$  ( $V_{GS} = 10V$ )
- $R_{DS(ON)} \leq 240m\Omega$  ( $V_{GS} = 4.5V$ )

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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	110	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	
Continuous Drain Current @ $V_{GS}=10V$	$I_D$	$T_A=25^\circ C$	3.0
		$T_A=70^\circ C$	2.4
Pulsed Drain Current	$I_{DM}$	10	A
Power Dissipation	$P_D$	$T_A=25^\circ C$	1.25
		$T_A=70^\circ C$	0.8
Thermal Resistance.Junction- to-Ambient (Note.1)	$R_{thJA}$	100	$^\circ C/W$
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55 to 150	

Note.1: Surface mounted on 1 in square Cu board

## N-Channel MOSFET

## 2KK5037

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{DS}$	$I_D=250\ \mu\text{A}$ , $V_{GS}=0\text{V}$	110			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=110\text{V}$ , $V_{GS}=0\text{V}$			1	$\mu\text{A}$
		$V_{DS}=110\text{V}$ , $V_{GS}=0\text{V}$ , $T_J=125^\circ\text{C}$			150	
Gate-Body Leakage Current	$I_{GSS}$	$V_{DS}=0\text{V}$ , $V_{GS}=\pm 20\text{V}$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ , $I_D=250\ \mu\text{A}$	1		3.0	V
Static Drain-Source On-Resistance (Note.1)	$R_{DS(on)}$	$V_{GS}=4.5\text{V}$ , $I_D=1.0\text{A}$			240	m $\Omega$
		$V_{GS}=10\text{V}$ , $I_D=3.0\text{A}$			180	
Forward Transconductance	$g_{FS}$	$V_{DS}=5\text{V}$ , $I_D=3.0\text{A}$	5.7			S
Input Capacitance	$C_{iss}$	$V_{GS}=0\text{V}$ , $V_{DS}=25\text{V}$ , $f=1\text{MHz}$		290		pF
Output Capacitance	$C_{oss}$			27		
Reverse Transfer Capacitance	$C_{rss}$			13		
Gate Resistance	$R_g$			1.3		$\Omega$
Total Gate Charge	$Q_g$	$V_{GS}=4.5\text{V}$ , $V_{DS}=50\text{V}$ , $I_D=3.0\text{A}$		2.5		nC
Gate Source Charge	$Q_{gs}$			0.5		
Gate Drain Charge	$Q_{gd}$			1.2		
Turn-On DelayTime	$t_{d(on)}$	$V_{GS}=4.5\text{V}$ , $V_{DS}=50\text{V}$ , $I_D=1\text{A}$ , $R_{GEN}=6.8\ \Omega$		2.2		ns
Turn-On Rise Time	$t_r$			2.1		
Turn-Off DelayTime	$t_{d(off)}$			9		
Turn-Off Fall Time	$t_f$			3.6		
Body Diode Reverse Recovery Time	$t_{rr}$	$V_R=50\text{V}$ , $I_F=1.1\text{A}$ , $di/dt=100\text{A}/\mu\text{s}$ , $T_J=25^\circ\text{C}$ (Note.1)		20	30	nC
Body Diode Reverse Recovery Charge	$Q_{rr}$			13	20	
Maximum Body-Diode Continuous Current	$I_S$				2.0	A
Pulsed Source Current	$I_{SM}$	(Note.2)			10	
Diode Forward Voltage	$V_{SD}$	$I_S=3.0\text{A}$ , $V_{GS}=0\text{V}$ , $T_J=25^\circ\text{C}$ (Note.1)			1.3	V

Note.1: Pulse width  $\leq 300\ \mu\text{s}$ ; duty cycle  $\leq 2\%$ .

Note.2: Repetitive rating; pulse width limited by max. junction temperature.

## ■ Marking

Marking	KBK*
---------	------

# N-Channel MOSFET

## 2KK5037

### Typical Characteristics

