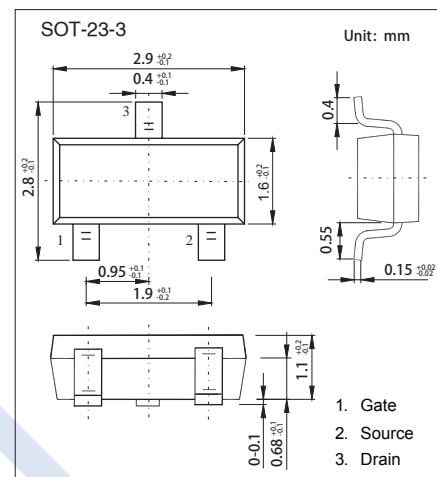
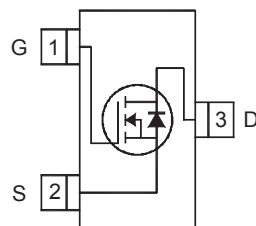


## N-Channel MOSFET

## 2KK5060

## ■ Features

- $BV_{DSS} = 20\text{ V}$
- $I_D = 6\text{ A}$
- $R_{DS(ON)} = 10\text{ m}\Omega(\text{Typ.}) @ V_{GS} = 4.5\text{ V}$
- $R_{DS(ON)} = 15\text{ m}\Omega(\text{Typ.}) @ V_{GS} = 2.5\text{ V}$



## ■ Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	
Continuous Drain Current (Note 1)	$I_D$	$T_A=25^\circ\text{C}$	6
		$T_A=70^\circ\text{C}$	
Pulsed Drain Current (Note 2)	$I_{DM}$	24	A
Power Dissipation	$P_D$	$T_A=25^\circ\text{C}$	1.25
		$T_A=70^\circ\text{C}$	
Thermal Resistance. Junction- to-Ambient (Note 3)	$R_{\theta JA}$	100	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to 150	

Notes:

1. Calculated continuous current based on maximum allowable junction temperature.
2. Pulse width limited by safe operating area.
3. When mounted on 1 inch square copper board,  $t \leq 10\text{sec}$ . The value in any given application depends on the user's specific board design.

## N-Channel MOSFET

## 2KK5060

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$I_D = 250 \mu\text{A}$ , $V_{GS} = 0\text{V}$	20			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 20\text{V}$ , $V_{GS} = 0\text{V}$			1	$\mu\text{A}$
		$V_{DS} = 20\text{V}$ , $V_{GS} = 0\text{V}$ , $T_J = 125^\circ\text{C}$			30	
Gate to Source Leakage Current	$I_{GSS}$	$V_{DS} = 0\text{V}$ , $V_{GS} = \pm 10\text{V}$			$\pm 100$	nA
Gate to Source Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$ , $I_D = 250\mu\text{A}$	0.5		1.1	V
Static Drain-Source On-Resistance *	$R_{DS(on)}$	$V_{GS} = 4.5\text{V}$ , $I_D = 6\text{A}$		10	13	m $\Omega$
		$V_{GS} = 2.5\text{V}$ , $I_D = 5\text{A}$		15	18	
Gate Resistance	$R_G$	$V_{GS}=0\text{V}, V_{DS}=0\text{V}, f=1\text{MHz}$		1.5		$\Omega$
Input Capacitance	$C_{iss}$	$V_{GS} = 0\text{V}$ , $V_{DS} = 10\text{V}$ , $f = 1\text{MHz}$		590		pF
Output Capacitance	$C_{oss}$			125		
Reverse Transfer Capacitance	$C_{rss}$			90		
Total Gate Charge	$Q_g$	$V_{GS} = 4.5\text{V}$ , $V_{DS} = 16\text{V}$ , $I_D = 6\text{A}$		10		nC
Gate Source Charge	$Q_{gs}$			1.6		
Gate Drain Charge	$Q_{gd}$			3.4		
Turn-On Delay Time	$t_{d(on)}$	$V_{GEN} = 4.5\text{V}$ , $V_{DD} = 10\text{V}$ , $I_D = 6\text{A}$ , $R_G = 6\Omega$		8		ns
Turn-On Rise Time	$t_r$			15		
Turn-Off Delay Time	$t_{d(off)}$			33		
Turn-Off Fall Time	$t_f$			13		
Diode Forward Voltage	$V_{SD}$	$V_{GS} = 0\text{V}$ , $I_S = 1\text{A}$			1	V
Reverse Recovery Time	$t_{rr}$	$I_{SD} = 1\text{A}$ , $di_{SD}/dt = 100\text{A}/\mu\text{s}$		15		ns
Reverse Recovery Charge	$Q_{rr}$			8		nC

\* : Pulse test; Pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 2\%$ .

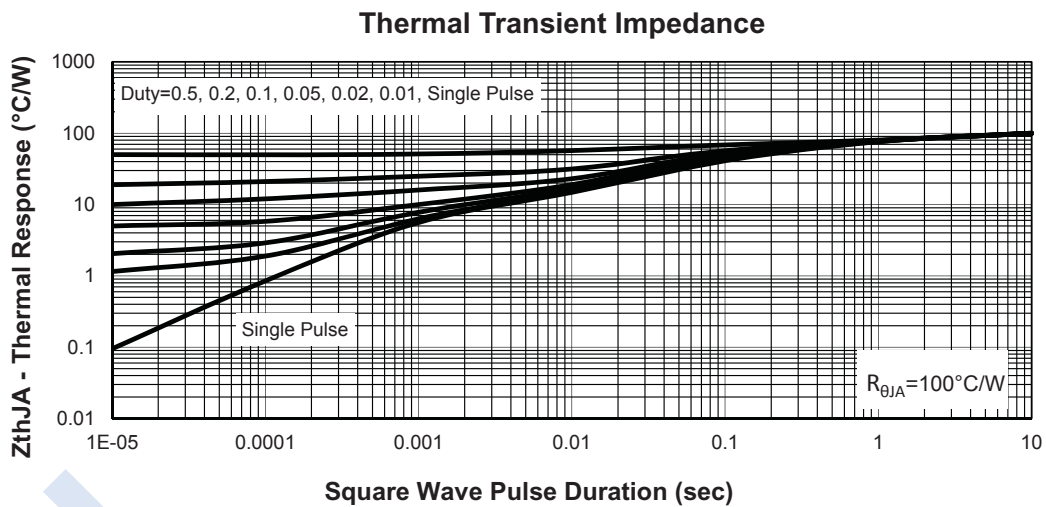
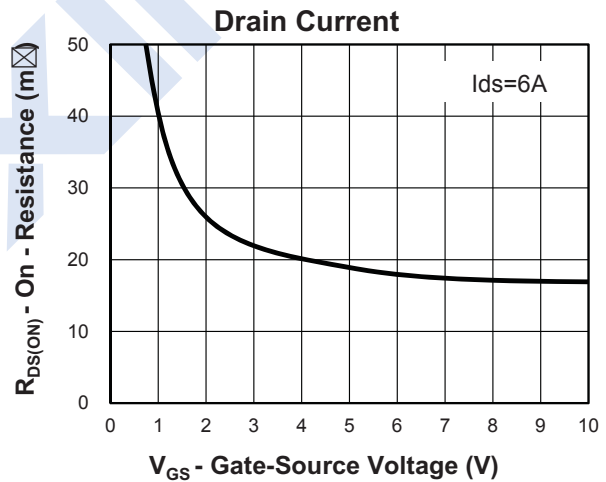
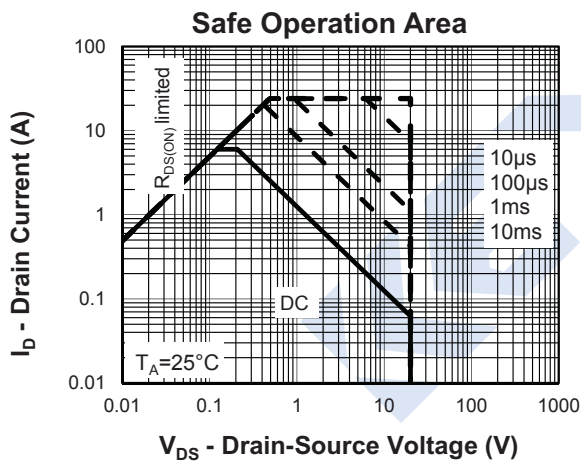
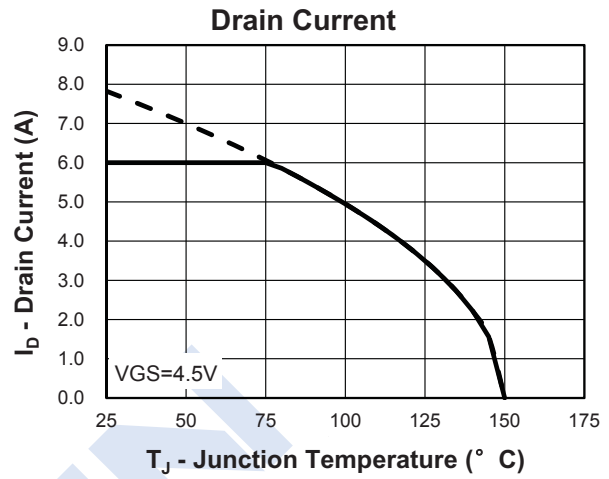
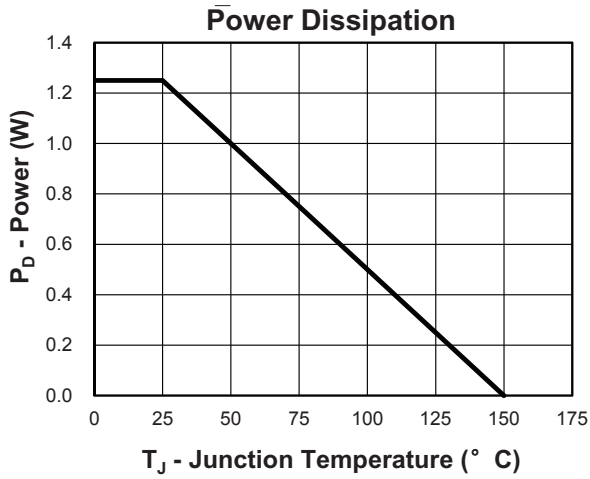
## ■ Marking

Marking	KBO
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# N-Channel MOSFET

## 2KK5060

■ Typical Characteristics



# N-Channel MOSFET

## 2KK5060

