

2SK1062

High Speed Switching Applications
 Analog Switching Applications
 Interface Applications

- Excellent switching time: $t_{on} = 14 \text{ ns}$ (typ.)
- High forward transfer admittance: $|Y_{fs}| = 100 \text{ ms}$ (min)
 @ $I_D = 50 \text{ mA}$
- Low on resistance: $R_{DS(ON)} = 0.6 \Omega$ (typ.) @ $I_D = 50 \text{ mA}$
- Enhancement-mode
- Complementary to 2SJ168

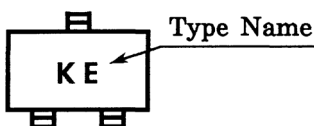
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics		Symbol	Rating	Unit
Drain-source voltage		V_{DS}	60	V
Gate-source voltage		V_{GSS}	± 20	V
Drain current	DC	I_D	200	mA
	Pulse	I_{DP}	800	
Drain power dissipation ($T_a = 25^\circ\text{C}$)		P_D	200	mW
Channel temperature		T_{ch}	150	$^\circ\text{C}$
Storage temperature range		T_{stg}	-55~150	$^\circ\text{C}$

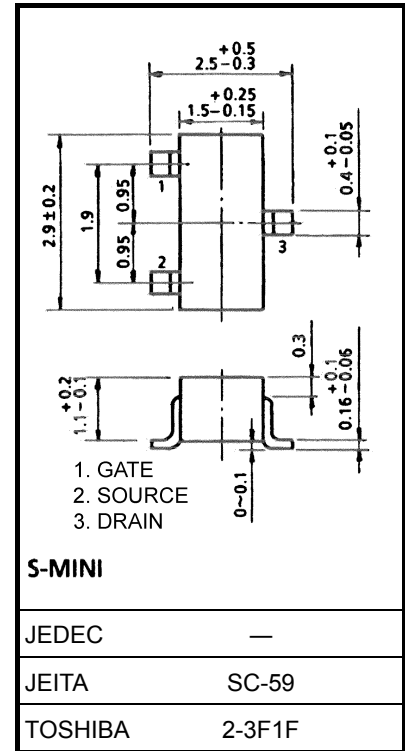
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Marking



Unit: mm

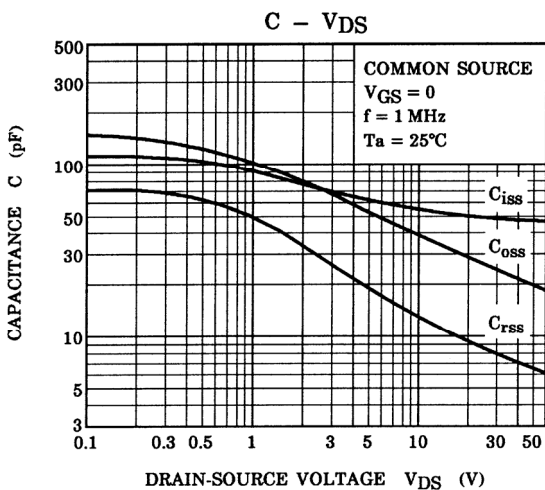
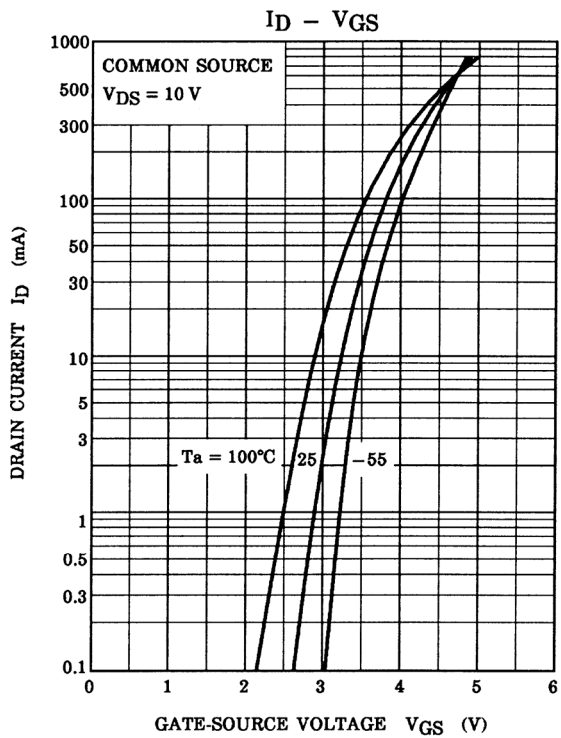
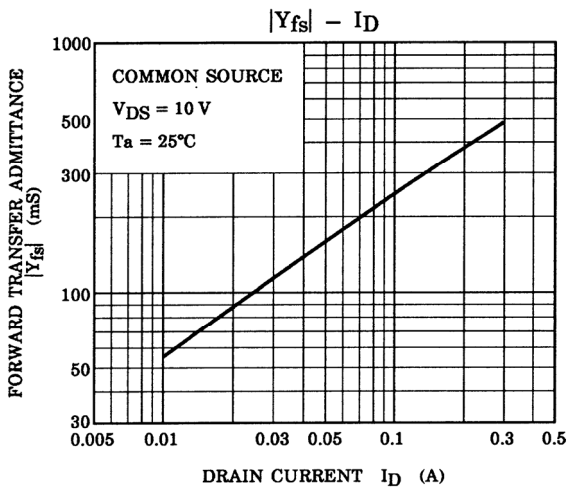
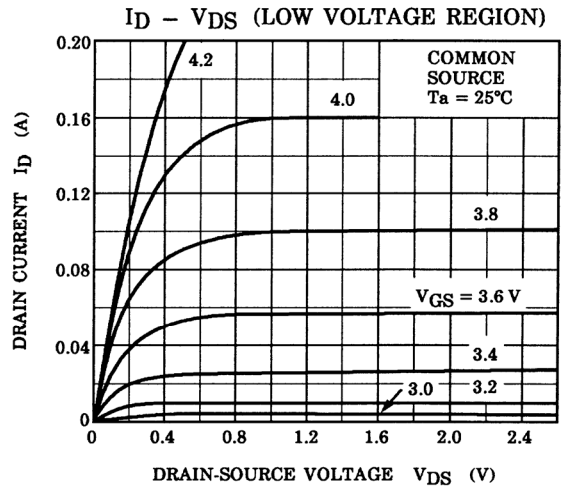
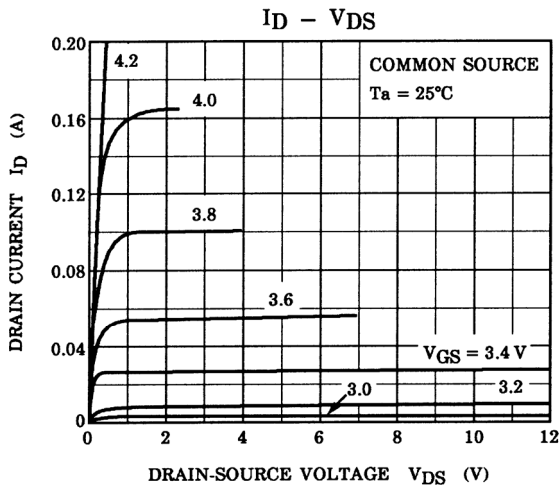


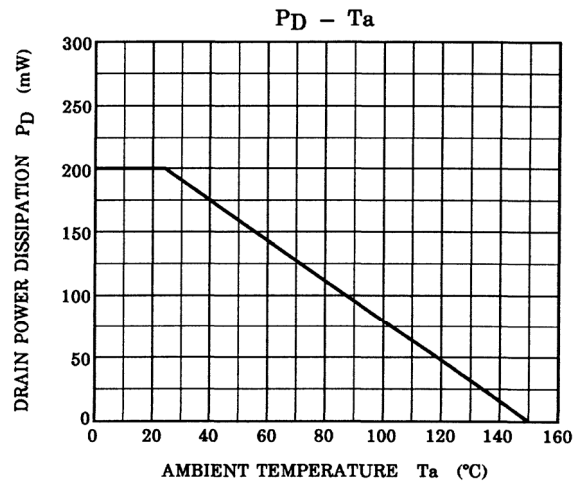
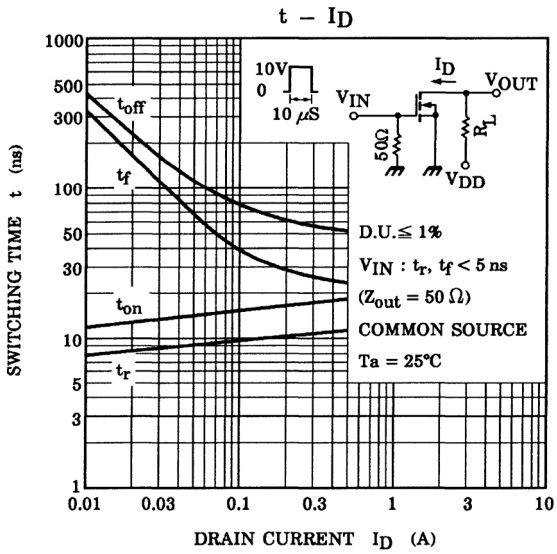
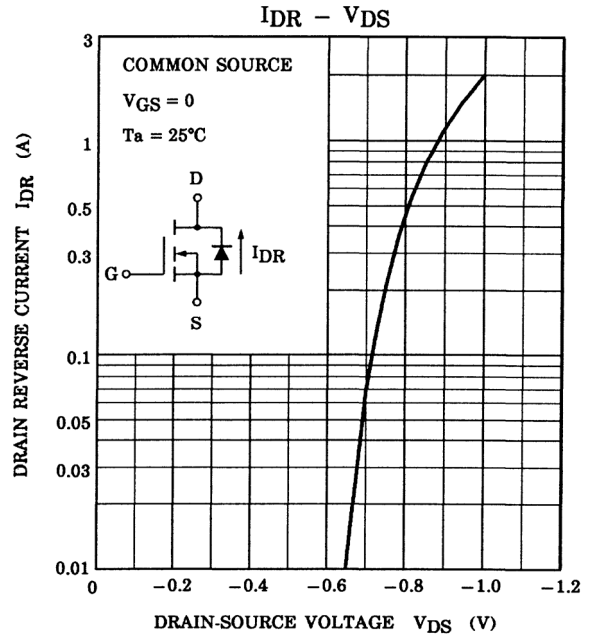
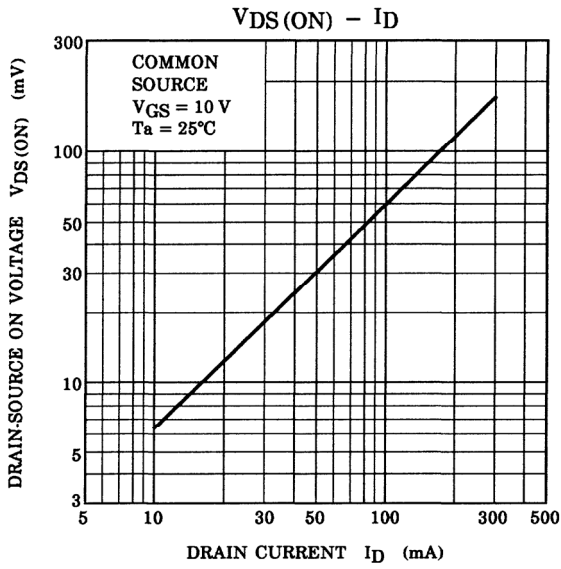
Weight: 0.012 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current		I_{GSS}	$V_{GS} = \pm 10\text{ V}, V_{DS} = 0$	—	—	± 100	nA
Drain cut-off current		I_{DSS}	$V_{DS} = 60\text{ V}, V_{GS} = 0$	—	—	10	μA
Drain-source breakdown voltage		$V_{(BR)DSS}$	$I_D = 1\text{ mA}, V_{GS} = 0$	60	—	—	V
Gate threshold voltage		V_{th}	$V_{DS} = 10\text{ V}, I_D = 1\text{ mA}$	2	—	3.5	V
Forward transfer admittance		$ Y_{fs} $	$V_{DS} = 10\text{ V}, I_D = 50\text{ mA}$	100	—	—	mS
Drain-source ON resistance		$R_{DS(ON)}$	$I_D = 50\text{ mA}, V_{GS} = 10\text{ V}$	—	0.6	1.0	Ω
Drain-source ON voltage		$V_{DS(ON)}$	$I_D = 50\text{ mA}, V_{GS} = 10\text{ V}$	—	30	50	mV
Input capacitance		C_{iss}	$V_{DS} = 10\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$	—	55	65	pF
Reverse transfer capacitance		C_{rss}	$V_{DS} = 10\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$	—	13	18	pF
Output capacitance		C_{oss}	$V_{DS} = 10\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$	—	40	50	pF
Switching time	Rise time	t_r	<p> $I_D = 100\text{ mA}$ V_{IN} 10 V 0 $10\ \mu\text{S}$ $50\ \Omega$ V_{OUT} R_L $V_{DD} = 30\text{ V}$ </p>	—	8	—	ns
	Turn-on time	t_{on}		—	14	—	
	Fall time	t_f		—	35	—	
	Turn-off Time	t_{off}		$V_{IN}: t_r, t_f < 5\text{ ns}$ $D.U \leq 1\% (Z_{out} = 50\ \Omega)$	—	75	

Note: This transistor is the electrostatic sensitive device. Please handle with caution.





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20070701-EN GENERAL

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