

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

# 2SK2823

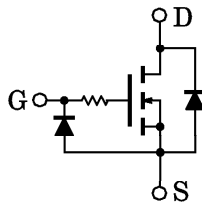
FOR PORTABLE EQUIPMENT

HIGH SPEED SWITCH APPLICATIONS

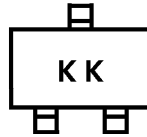
ANALOG SWITCH APPLICATIONS

- High Input Impedance
- 1.5V Gate Drive
- Low Gate Threshold Voltage :  $V_{th}=0.5\sim 1.0V$
- Small Package

EQUIVALENT CIRCUIT

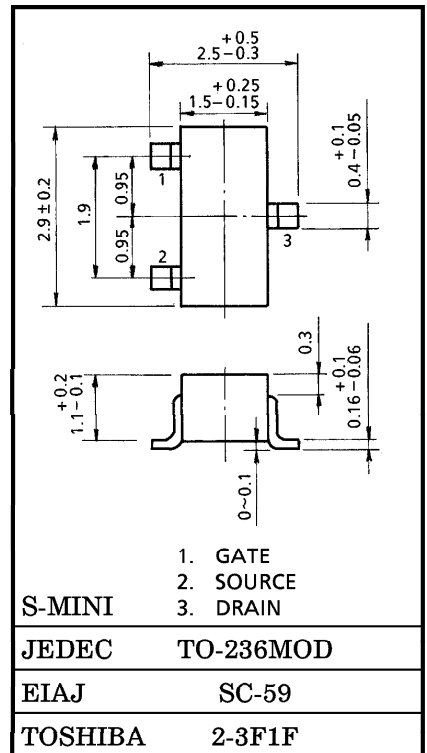


MARKING



This transistor is electrostatic sensitive device.  
Please handle with caution.

Unit in mm



Weight : 0.012g (Typ.)

MAXIMUM RATINGS ( $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GSS}$	10	V
DC Drain Current	$I_D$	100	mA
Drain Power Dissipation	$P_D$	200	mW
Channel Temperature	$T_{ch}$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	$I_{GSS}$	$V_{GS} = 10V, V_{DS} = 0$	—	—	1	$\mu A$
Drain-Source Breakdown Voltage	$V_{(BR) DSS}$	$I_D = 100\mu A, V_{GS} = 0$	20	—	—	V
Drain Cut-off Current	$I_{DSS}$	$V_{DS} = 20V, V_{GS} = 0$	—	—	1	$\mu A$
Gate Threshold Voltage	$V_{th}$	$V_{DS} = 1.5V, I_D = 0.1mA$	0.5	—	1.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 1.5V, I_D = 10mA$	35	70	—	mS
Drain-Source ON Resistance 1	$R_{DS(ON) 1}$	$I_D = 1mA, V_{GS} = 1.2V$	—	15	50	$\Omega$
Drain-Source ON Resistance 2	$R_{DS(ON) 2}$	$I_D = 10mA, V_{GS} = 1.5V$	—	10	40	$\Omega$
Drain-Source ON Resistance 3	$R_{DS(ON) 3}$	$I_D = 10mA, V_{GS} = 2.5V$	—	7	28	$\Omega$
Input Capacitance	$C_{iss}$	$V_{DS} = 1.5V, V_{GS} = 0, f = 1MHz$	—	12	—	pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS} = 1.5V, V_{GS} = 0, f = 1MHz$	—	3.4	—	pF
Output Capacitance	$C_{oss}$	$V_{DS} = 1.5V, V_{GS} = 0, f = 1MHz$	—	12	—	pF
Switching Time	Turn-on Time	$V_{DD} = 1.5V, I_D = 10mA, V_{GS} = 0 \sim 1.5V$	—	0.35	—	$\mu s$
	Turn-off Time		—	0.2	—	

SWITCHING TIME TEST CIRCUIT

(a) TEST CIRCUIT

