

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

2SK2823

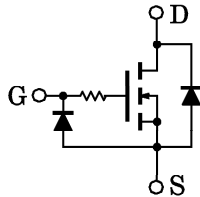
FOR PORTABLE EQUIPMENT

HIGH SPEED SWITCH APPLICATIONS

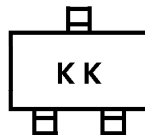
ANALOG SWITCH APPLICATIONS

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

EQUIVALENT CIRCUIT

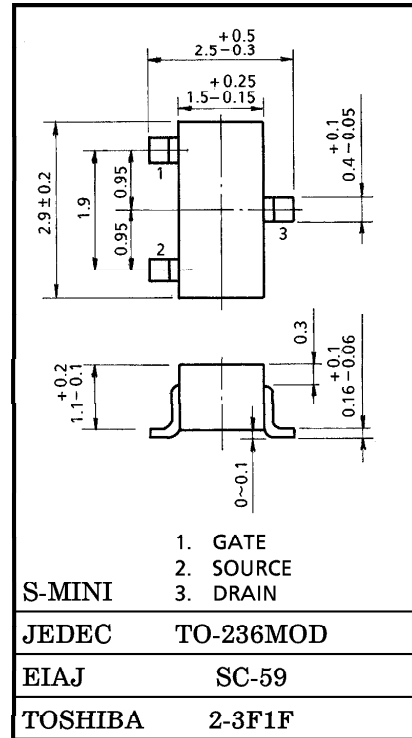


MARKING



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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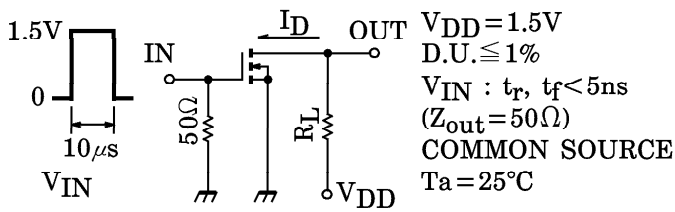
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

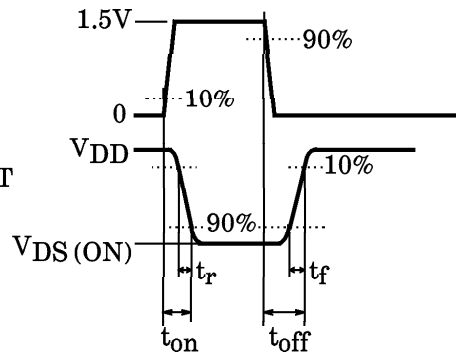
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	$V_{GS}=10V, V_{DS}=0$	—	—	1	μA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D=100\mu A, V_{GS}=0$	20	—	—	V
Drain Cut-off Current		I_{DSS}	$V_{DS}=20V, V_{GS}=0$	—	—	1	μA
Gate Threshold Voltage		V_{th}	$V_{DS}=1.5V, I_D=0.1mA$	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	Ω
Drain-Source ON Resistance 2		$R_{DS(ON)2}$	$I_D=10mA, V_{GS}=1.5V$	—	10	40	Ω
Drain-Source ON Resistance 3		$R_{DS(ON)3}$	$I_D=10mA, V_{GS}=2.5V$	—	7	28	Ω
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	t_{on}	$V_{DD}=1.5V, I_D=10mA, V_{GS}=0\sim 1.5V$	—	0.35	—	μs
	Turn-off Time	t_{off}		—	0.2	—	

SWITCHING TIME TEST CIRCUIT

(a) TEST CIRCUIT



(b) V_{IN}
 V_{GS}



(c) V_{OUT}
 V_{DS}

