

TOSHIBA

2SK1828

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

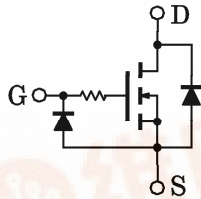
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HIGH SPEED SWITCHING APPLICATIONS

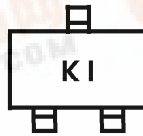
ANALOG SWITCH APPLICATIONS

- 2.5V Gate Drive
- Low Threshold Voltage : $V_{th}=0.5\sim 1.5V$
- High Speed
- Enhancement-Mode
- Small Package

EQUIVALENT CIRCUIT

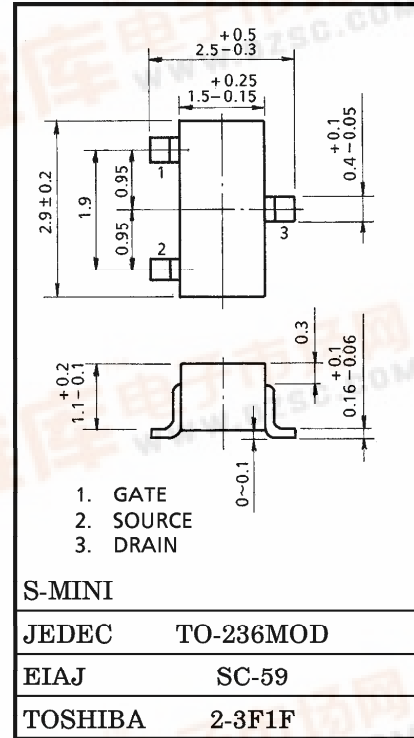


MARKING



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

Unit in mm



Weight : 0.012g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GSS}	10	V
DC Drain Current	I_D	50	mA
Drain Power Dissipation	P_D	200	mW
Channel Temperature	T_{ch}	150	°C
Storage Temperature Range	T_{stg}	-55~150	°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	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}	$V_{DS} = 3V, I_D = 0.1mA$	0.5	—	1.5	V	
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 3V, I_D = 10mA$	20	—	—	mS	
Drain-Source ON Resistance	$R_{DS(ON)}$	$I_D = 10mA, V_{GS} = 2.5V$	—	20	40	Ω	
Input Capacitance	C_{iss}	$V_{DS} = 3V, V_{GS} = 0, f = 1MHz$	—	5.5	—	pF	
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 3V, V_{GS} = 0, f = 1MHz$	—	1.6	—	pF	
Output Capacitance	C_{oss}	$V_{DS} = 3V, V_{GS} = 0, f = 1MHz$	—	6.5	—	pF	
Switching Time	Turn-on Time	t_{on}	$V_{DD} = 3V, I_D = 10mA, V_{GS} = 0 \sim 2.5V$	—	0.14	—	μs
	Turn-off Time	t_{off}	$V_{DD} = 3V, I_D = 10mA, V_{GS} = 0 \sim 2.5V$	—	0.14	—	μs

SWITCHING TIME TEST CIRCUIT

