

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

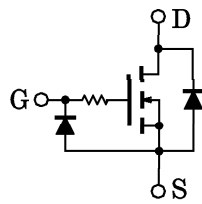
2SK1830

HIGH SPEED SWITCHING APPLICATIONS

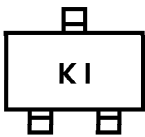
ANALOG SWITCH APPLICATIONS

- 2.5V Gate Drive
- Low Threshold Voltage : $V_{th}=0.5\sim1.5V$
- High Speed
- Enhanncement-Mode
- Small Package

EQUIVALENT CIRCUIT

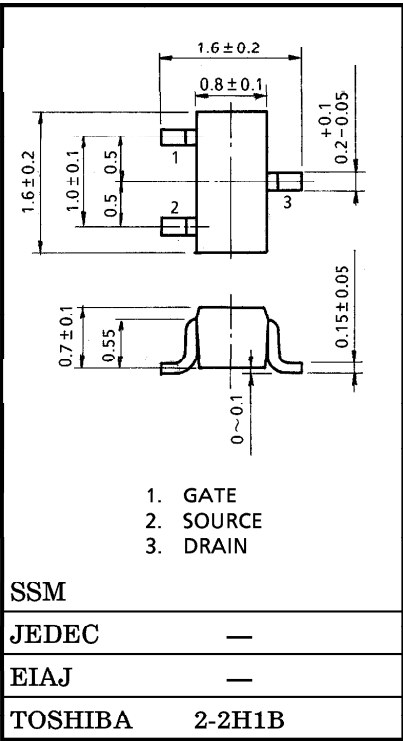


MARKING



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

Unit in mm



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	50	mA
Drain Power Dissipation	P_D	100	mW
Channel Temperature	T_{ch}	150	$^{\circ}C$
Storage Temperature Range	T_{stg}	$-55\sim150$	$^{\circ}C$

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		IGSS	VGS=10V, VDS=0	—	—	1	μA
Drain-Source Breakdown Voltage		V(BR)DSS	ID=100μA, VGS=0	20	—	—	V
Drain Cut-off Current		IDSS	VDS=20V, VGS=0	—	—	1	μA
Gate Threshold Voltage		Vth	VDS=3V, ID=0.1mA	0.5	—	1.5	V
Forward Transfer Admittance		Yfs	VDS=3V, ID=10mA	20	—	—	mS
Drain-Source ON Resistance		RDS(ON)	ID=10mA, VGS=2.5V	—	20	40	Ω
Input Capacitance		Ciss	VDS=3V, VGS=0, f=1MHz	—	5.5	—	pF
Reverse Transfer Capacitance		Crss	VDS=3V, VGS=0, f=1MHz	—	1.6	—	pF
Output Capacitance		Coss	VDS=3V, VGS=0, f=1MHz	—	6.5	—	pF
Switching Time	Turn-on Time	ton	VDD=3V, ID=10mA, VGS=0~2.5V	—	0.14	—	μs
	Turn-off Time	toff	VDD=3V, ID=10mA, VGS=0~2.5V	—	0.14	—	μs

SWITCHING TIME TEST CIRCUIT

