

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

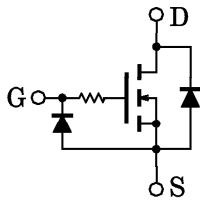
2SK1825

HIGH SPEED SWITCHING APPLICATIONS

ANALOG SWITCH APPLICATIONS

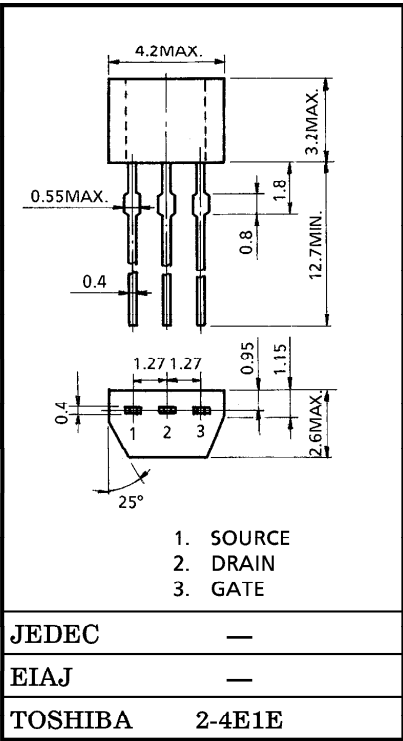
- 4V Gate Drive
- Low Threshold Voltage : $V_{th}=0.8\sim2.5V$
- High Speed
- Enhanncement-Mode
- Small Package

EQUIVALENT CIRCUIT



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

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-4E1E

Weight : 0.13g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DS}	50	V
Gate-Source Voltage	V_{GSS}	10	V
DC Drain Current	I_D	50	mA
Drain Power Dissipation	P_D	300	mW
Channel Temperature	T_{ch}	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

961001EAA2

- TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.

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	50	—	—	V
Drain Cut-off Current		IDSS	VDS=50V, VGS=0	—	—	1	μA
Gate Threshold Voltage		Vth	VDS=5V, ID=0.1mA	0.8	—	2.5	V
Forward Transfer Admittance		Yfs	VDS=5V, ID=10mA	20	—	—	mS
Drain-Source ON Resistance		RDS (ON)	ID=10mA, VGS=4.0V	—	20	50	Ω
Input Capacitance		Ciss	VDS=5V, VGS=0, f=1MHz	—	6.3	—	pF
Reverse Transfer Capacitance		Crss	VDS=5V, VGS=0, f=1MHz	—	1.3	—	pF
Output Capacitance		Coss	VDS=5V, VGS=0, f=1MHz	—	5.7	—	pF
Switching Time	Turn-on Time	ton	VDD=5V, ID=10mA, VGS=0~4.0V	—	0.11	—	μs
	Turn-off Time	toff	VDD=5V, ID=10mA, VGS=0~4.0V	—	0.15	—	μs

SWITCHING TIME TEST CIRCUIT

