

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

2SK982

HIGH SPEED SWITCHING APPLICATIONS

ANALOG SWITCH APPLICATIONS

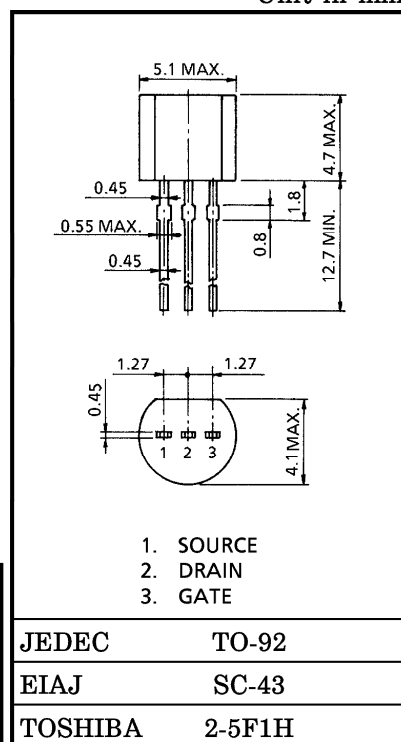
INTERFACE APPLICATIONS

Unit in mm

- Excellent Switching Times : $t_{on} = 14 \text{ ns}$ (Typ.)
- High Forward Transfer Admittance
: $|Y_{fs}| = 100 \text{ mS}$ (Min.) @ $I_D = 50 \text{ mA}$
- Low On Resistance
: $R_{DS(ON)} = 0.6 \Omega$ (Typ.) @ $I_D = 50 \text{ mA}$
- Enhancement-Mode
- Complementary to 2SJ148

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	DC	I_D	200	mA
	Pulse	I_{DP}	800	
Drain Power Dissipation ($T_a = 25^\circ\text{C}$)		P_D	400	mW
Channel Temperature		T_{ch}	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

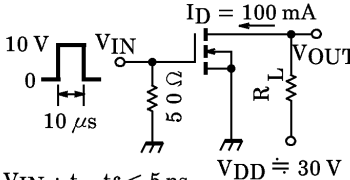


Weight : 0.21 g

961001EAA1

- 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		I_{GSS}	$V_{GS} = \pm 10 \text{ V}, V_{DS} = 0$	—	—	± 100	nA
Drain Cut-off Current		I_{DSS}	$V_{DS} = 60 \text{ V}, V_{GS} = 0$	—	—	10	μA
Drain-Source Breakdown Voltage		$V_{(BR) DSS}$	$I_D = 1 \text{ mA}, V_{GS} = 0$	60	—	—	V
Gate Threshold Voltage		V_{th}	$V_{DS} = 10 \text{ V}, I_D = 1 \text{ mA}$	2	—	3.5	V
Forward Transfer Admittance		$ Y_{fs} $	$V_{DS} = 10 \text{ V}, I_D = 50 \text{ mA}$	100	—	—	mS
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D = 50 \text{ mA}, V_{GS} = 10 \text{ V}$	—	0.6	1.0	Ω
Drain-Source ON Voltage		$V_{DS(ON)}$	$I_D = 50 \text{ mA}, V_{GS} = 10 \text{ V}$	—	30	50	mV
Input Capacitance		C_{iss}	$V_{DS} = 10 \text{ V}, V_{GS} = 0,$ $f = 1 \text{ MHz}$	—	55	65	pF
Reverse Transfer Capacitance		C_{rss}	$V_{DS} = 10 \text{ V}, V_{GS} = 0,$ $f = 1 \text{ MHz}$	—	13	18	pF
Output Capacitance		C_{oss}	$V_{DS} = 10 \text{ V}, V_{GS} = 0,$ $f = 1 \text{ MHz}$	—	40	50	pF
Switching Time	Rise Time	t_r	 V_{IN}; $t_r, t_f < 5 \text{ ns}$ $D.U \leq 1\%$ ($Z_{out} = 50 \Omega$)	—	8	—	ns
	Turn-on Time	t_{on}		—	14	—	
	Fall Time	t_f		—	35	—	
	Turn-off Time	t_{off}		—	75	—	

This transistor is the electorostatic sensitive device.
Please handle with caution.

