

TOSHIBA Field Effect Transistor Silicon N Channel MOS Type

**2SK982**

High Speed Switching Applications

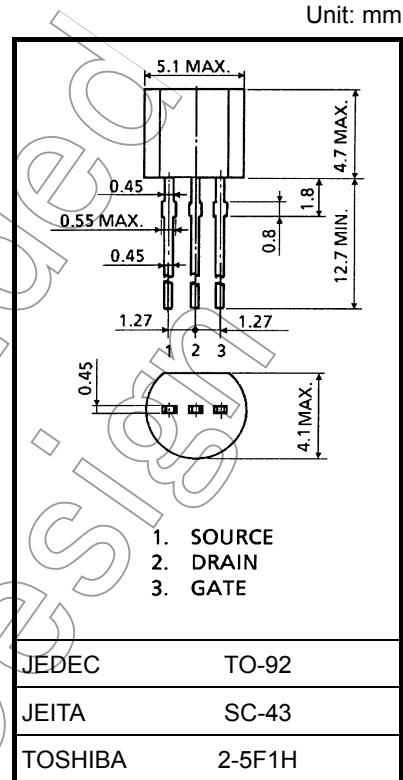
Analog Switch Applications

Interface Applications

- Excellent switching times:  $t_{on} = 14$  ns (typ.)
- High forward transfer admittance:  $|Y_{fs}| = 100$  mS (min) @  $ID = 50$  mA
- Low on resistance:  $R_{DS(ON)} = 0.6$   $\Omega$  (typ.) @  $ID = 50$  mA
- Enhancement-mode
- Complementary to 2SJ148

**Absolute Maximum Ratings (Ta = 25°C)**

Characteristics		Symbol	Rating	Unit
Drain-source voltage		$V_{DS}$	60	V
Gate-source voltage		$V_{GSS}$	$\pm 20$	V
Drain current	DC	$I_D$	200	mA
	Pulse	$I_{DP}$	800	
Drain power dissipation (Ta = 25°C)		$P_D$	400	mW
Channel temperature		$T_{ch}$	150	°C
Storage temperature range		$T_{stg}$	-55~150	°C



Weight: 0.21 g (typ.)

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

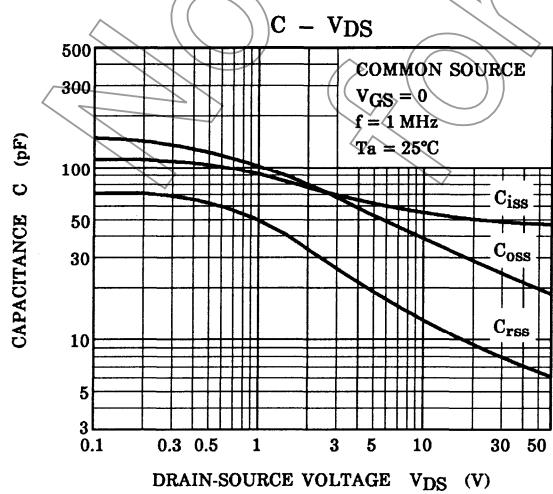
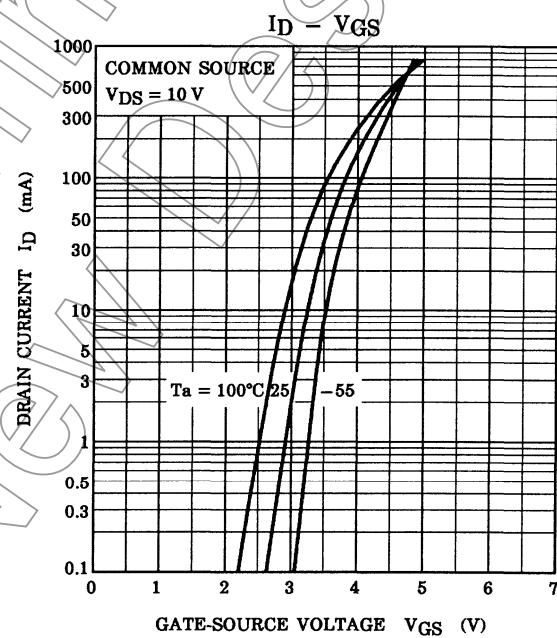
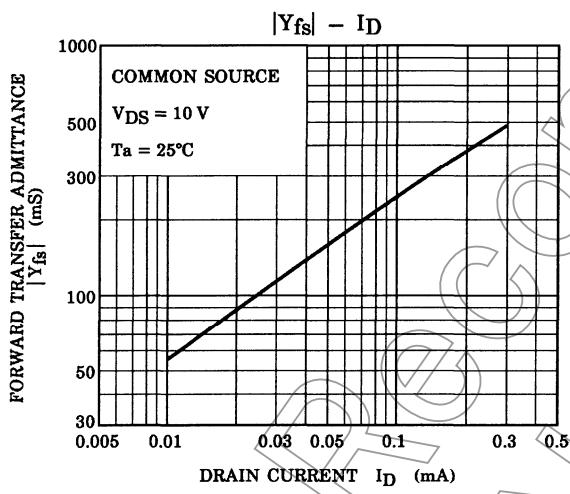
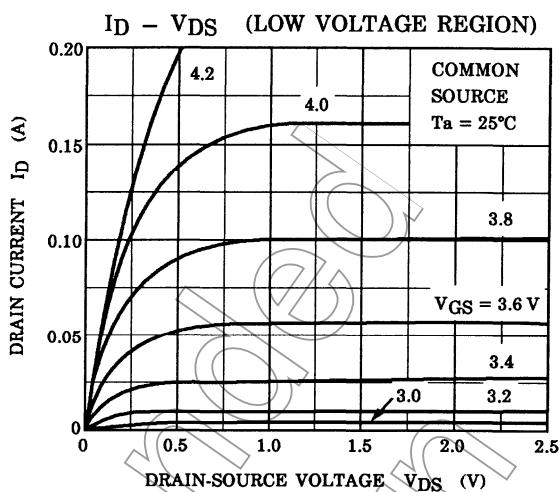
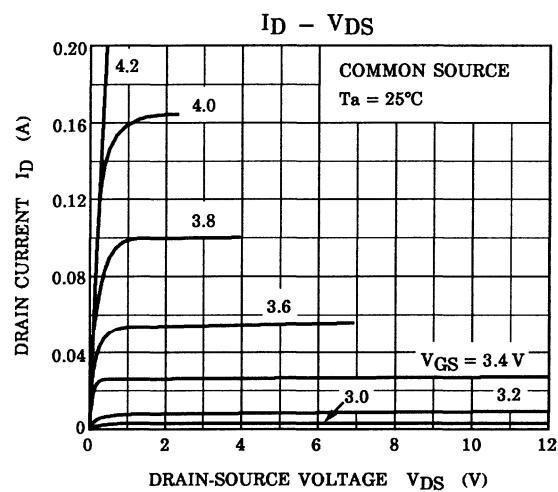
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc.).

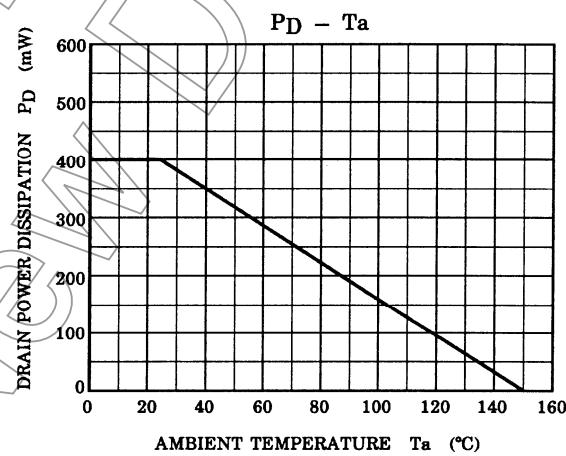
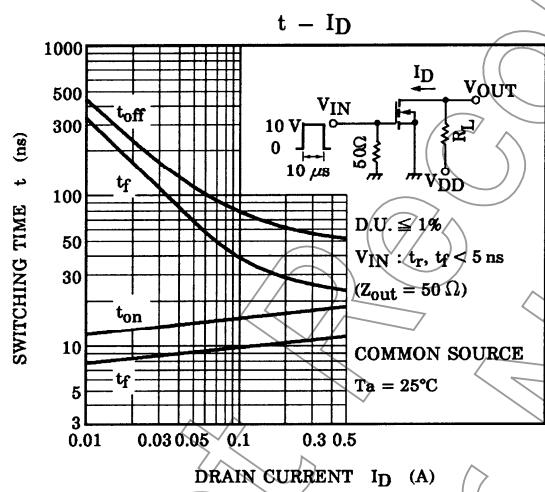
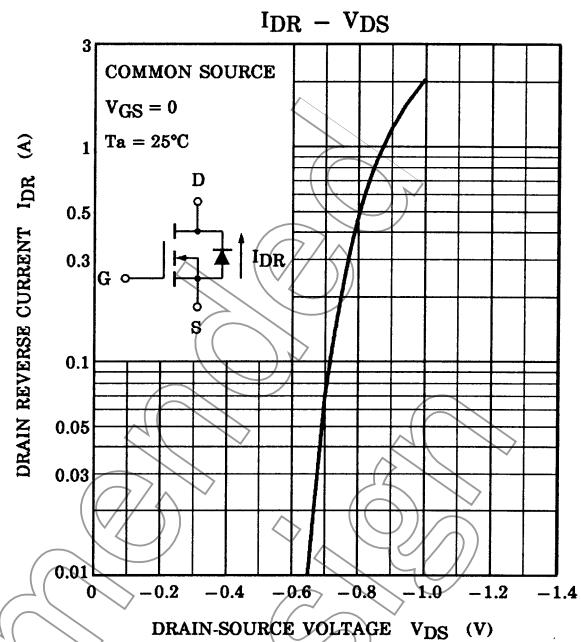
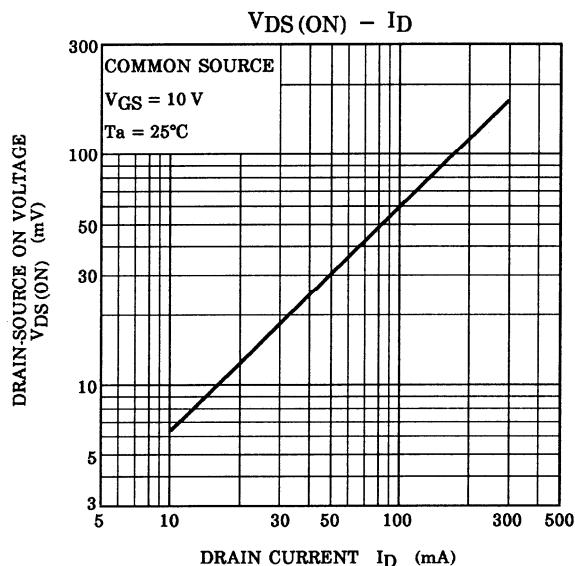
## Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current	$I_{GSS}$	$V_{GS} = \pm 10 \text{ V}, V_{DS} = 0$	—	—	$\pm 100$	nA
Drain cut-off current	$I_{DSS}$	$V_{DS} = 60 \text{ V}, V_{GS} = 0$	—	—	10	$\mu\text{A}$
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	—	—	$\text{mS}$
Drain-source ON resistance	$R_{DS (\text{ON})}$	$I_D = 50 \text{ mA}, V_{GS} = 10 \text{ V}$	—	0.6	1.0	$\Omega$
Drain-source ON voltage	$V_{DS (\text{ON})}$	$I_D = 50 \text{ mA}, V_{GS} = 10 \text{ V}$	30	50	50	$\text{mV}$
Input capacitance	$C_{iss}$	$V_{DS} = 10 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	—	55	65	$\text{pF}$
Reverse transfer capacitance	$C_{rss}$	$V_{DS} = 10 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	—	13	18	$\text{pF}$
Output capacitance	$C_{oss}$	$V_{DS} = 10 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	—	40	50	$\text{pF}$
Switching time	Rise time	$t_r$		—	8	—
	Turn-on time	$t_{on}$		—	14	—
	Fall time	$t_f$		—	35	—
	Turn-off Time	$t_{off}$		—	75	—

Note: This transistor is the electrostatic sensitive device.

Please handle with caution.





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