

TOSHIBA Field Effect Transistor Silicon N Channel Junction Type

# 2SK372

For Audio Amplifier, Analog-Switch, Constant-Current and Impedance Converter Applications

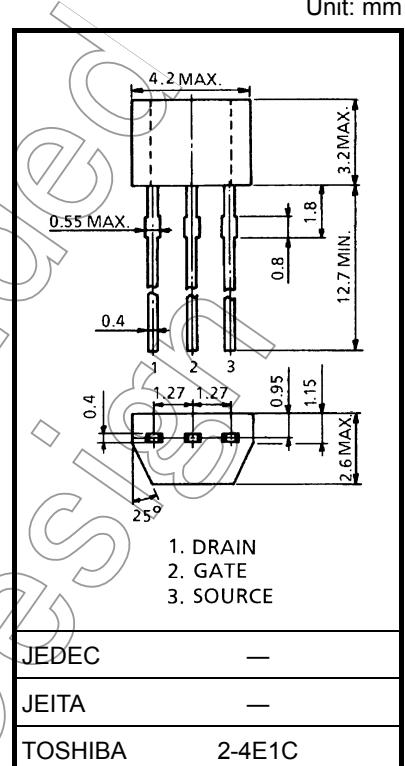
- High breakdown voltage:  $V_{GDS} = -40$  V
- High input impedance:  $I_{GSS} = -1.0$  nA (max) ( $V_{GS} = -30$  V)
- Low  $R_{DS}$  (ON):  $R_{DS}$  (ON) = 20  $\Omega$  (typ.) ( $I_{DSS} = 15$  mA)
- Small package

## Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristics	Symbol	Rating	Unit
Gate-drain voltage	$V_{GDS}$	-40	V
Gate current	$I_G$	10	mA
Drain power dissipation	$P_D$	200	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55~125	$^\circ\text{C}$

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).

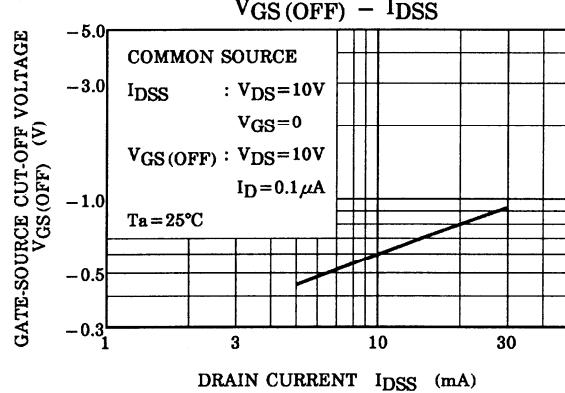
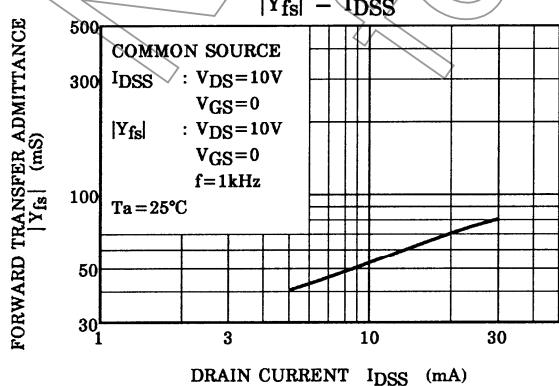
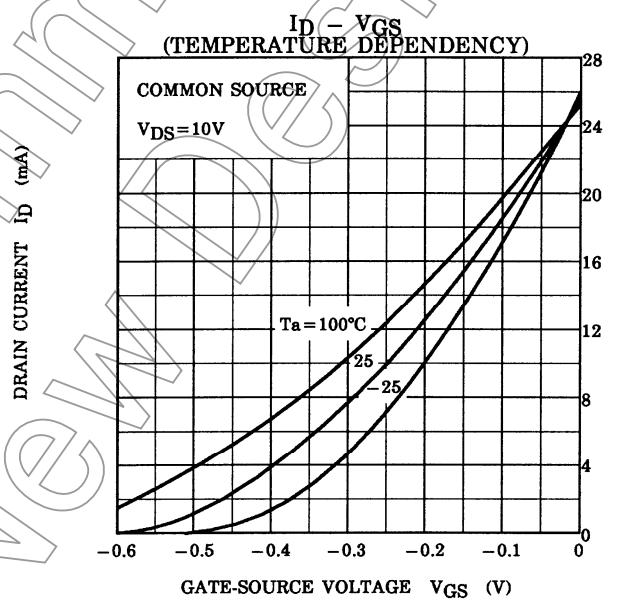
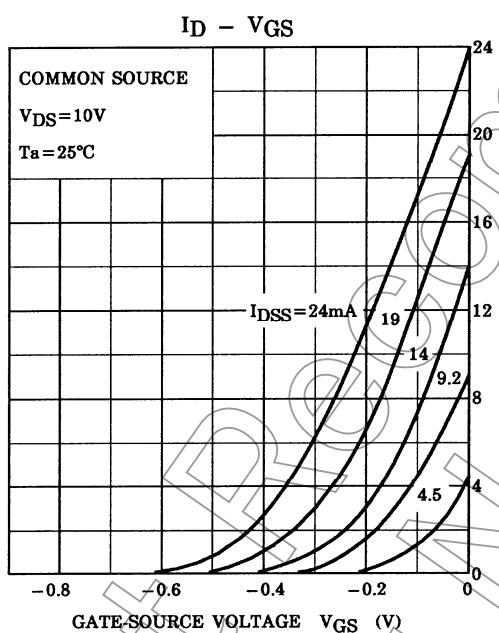
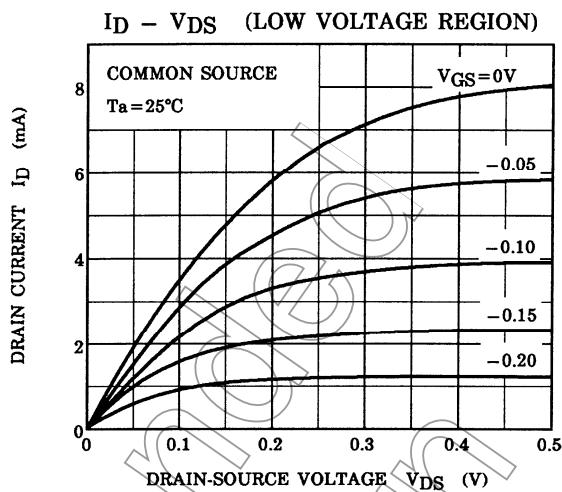
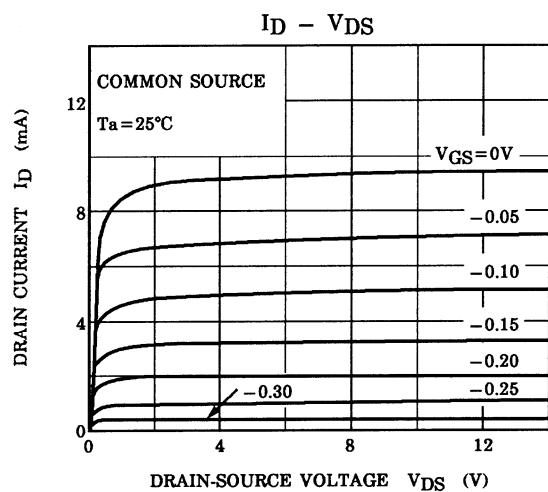


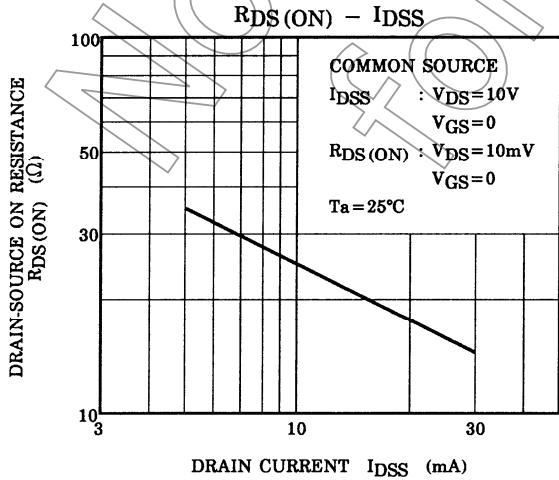
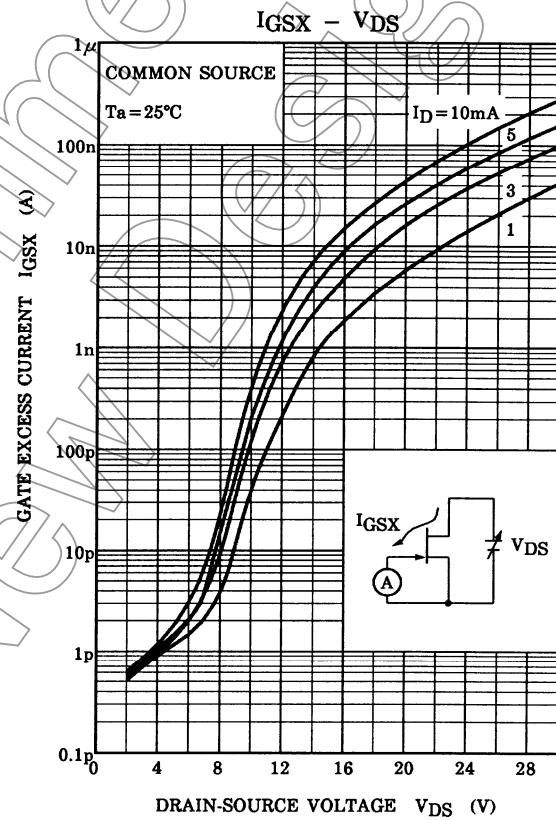
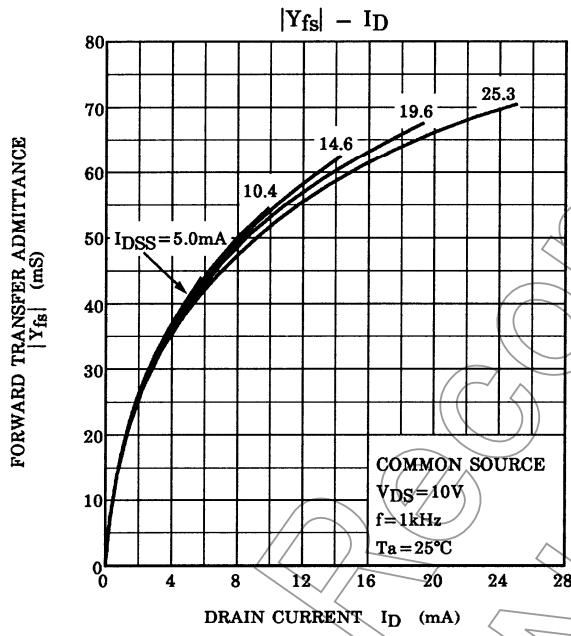
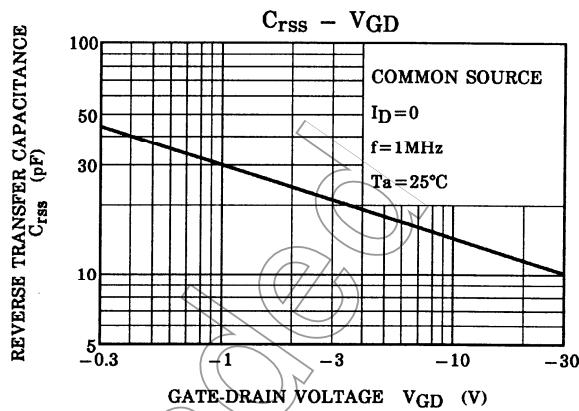
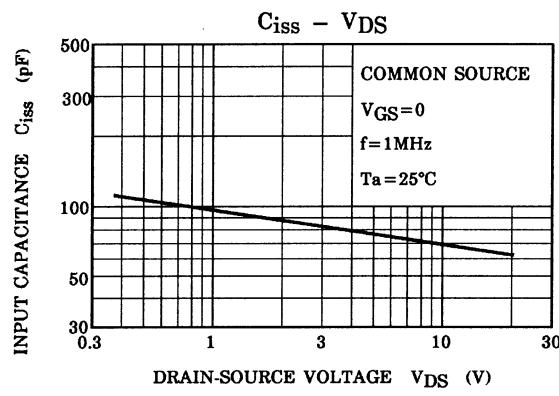
Weight: 0.13 g (typ.)

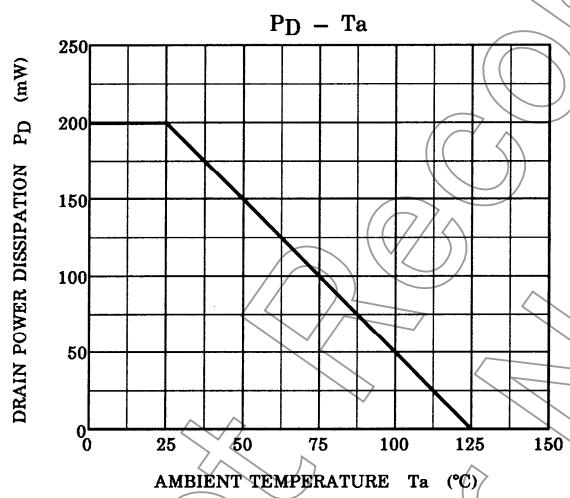
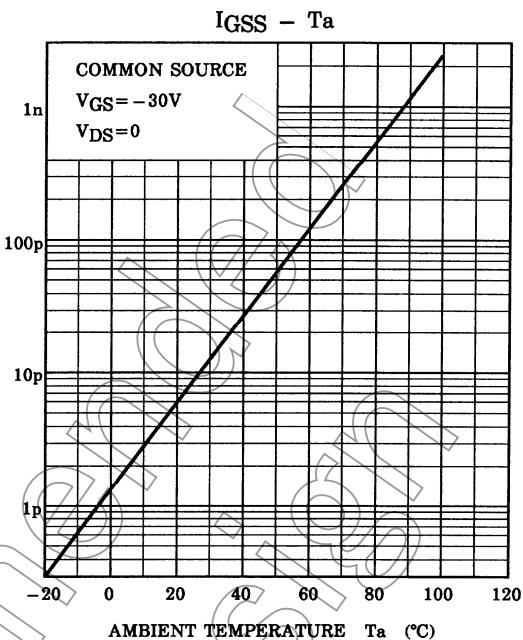
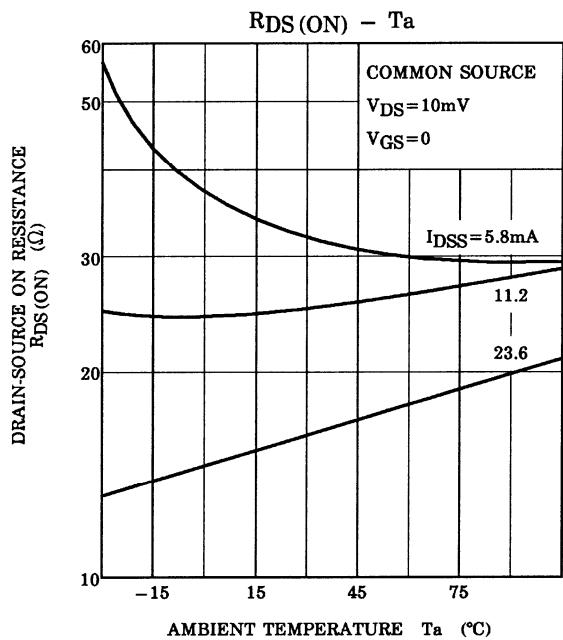
## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate cut-off current	$I_{GSS}$	$V_{GS} = -30$ V, $V_{DS} = 0$	—	—	-1.0	nA
Gate-drain breakdown voltage	$V_{(BR)GDS}$	$V_{DS} = 0$ , $I_G = -100$ $\mu\text{A}$	-40	—	—	V
Drain current	$I_{DSS}$ (Note 1)	$V_{DS} = 10$ V, $V_{GS} = 0$	5.0	—	30	mA
Gate-source cut-off voltage	$V_{GS(OFF)}$	$V_{DS} = 10$ V, $I_D = 0.1$ $\mu\text{A}$	-0.3	—	-1.2	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 10$ V, $V_{GS} = 0$ , $f = 1$ kHz (Note 2)	25	60	—	mS
Input capacitance	$C_{iss}$	$V_{DS} = 10$ V, $V_{GS} = 0$ , $f = 1$ MHz	—	75	—	pF
Reverse transfer capacitance	$C_{rss}$	$V_{DG} = 10$ V, $I_D = 0$ , $f = 1$ MHz	—	15	—	pF
Drain-source ON resistance	$R_{DS(ON)}$	$V_{DS} = 10$ mV, $V_{GS} = 0$	(Note 2)	—	20	$\Omega$

Note 1:  $I_{DSS}$  classification GR: 5.0~10.0 mA, BL: 8.0~16.0 mA, V: 14.0~30.0 mANote 2: Typical  $I_{DSS}$  rating = 15 mA







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