

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

# 2SK2013

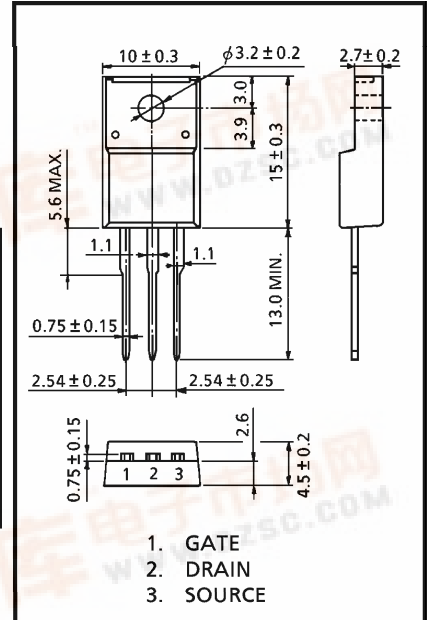
AUDIO FREQUENCY POWER AMPLIFIER APPLICATION

Unit in mm

- High Breakdown Voltage :  $V_{DSS} = 180$  V
- High Forward Transfer Admittance :  $|Y_{fs}| = 0.7$  S (Typ.)
- Complementary to 2SJ313

MAXIMUM RATINGS (Ta = 25°C)

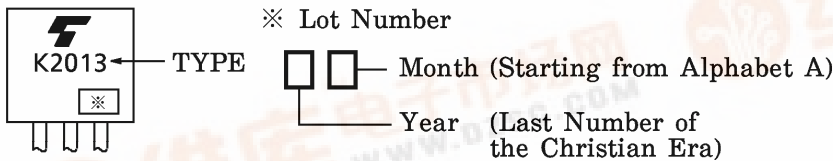
CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	$V_{DSS}$	180	V
Gate-Source Voltage	$V_{GSS}$	$\pm 20$	V
Drain Current	$I_D$	1	A
Power Dissipation (Tc = 25°C)	$P_D$	25	W
Channel Temperature	$T_{ch}$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C



JEDEC	—
EIAJ	SC-65
TOSHIBA	2-10R1B

Weight : 1.9 g

MARKING



ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	$I_{GSS}$	$V_{DS} = 0, V_{GS} = \pm 20$ V	—	—	$\pm 100$	nA
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 10$ mA, $V_{GS} = 0$	180	—	—	V
Gate-Source Cut-off Current	$V_{GS(OFF)}$ (Note)	$V_{DS} = 10$ V, $I_D = 10$ mA	0.8	—	2.8	V
Drain-Source Saturation Voltage	$V_{DS(ON)}$	$I_D = 0.6$ A, $V_{GS} = 10$ V	—	1.7	3.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10$ V, $I_D = 0.3$ A	—	0.7	—	S
Input Capacitance	$C_{iss}$	$V_{DS} = 10$ V, $V_{GS} = 0$ , $f = 1$ MHz	—	170	—	pF
Output Capacitance	$C_{oss}$	$V_{DS} = 10$ V, $V_{GS} = 0$ , $f = 1$ MHz	—	45	—	pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS} = 10$ V, $V_{GS} = 0$ , $f = 1$ MHz	—	17	—	pF

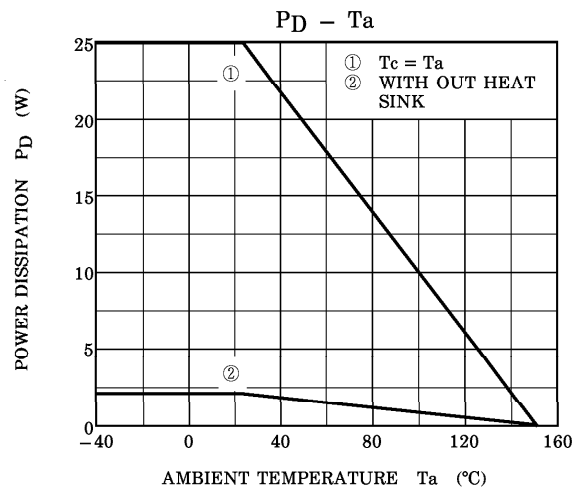
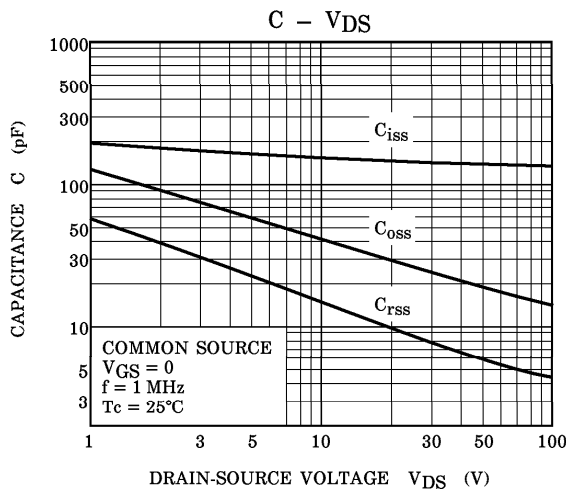
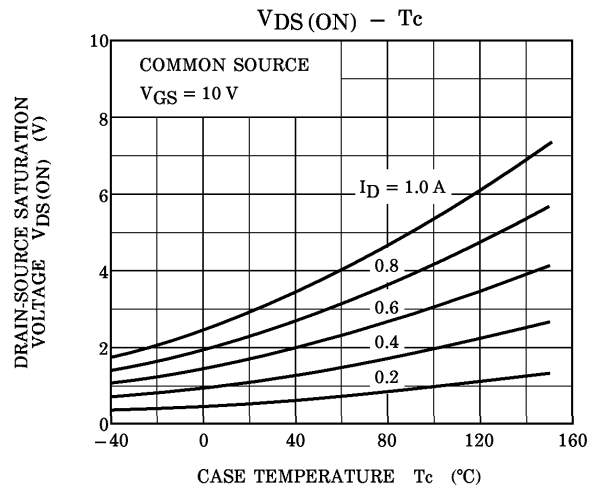
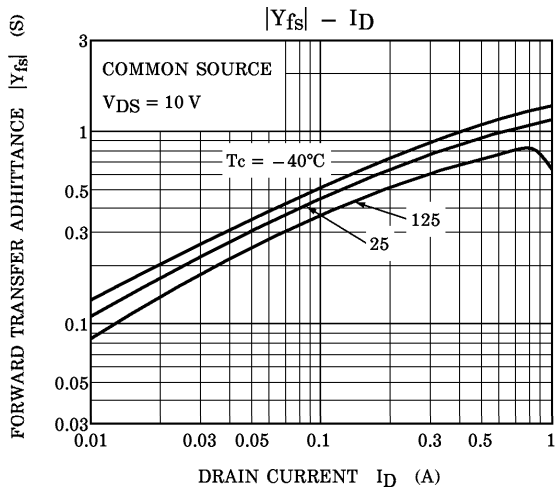
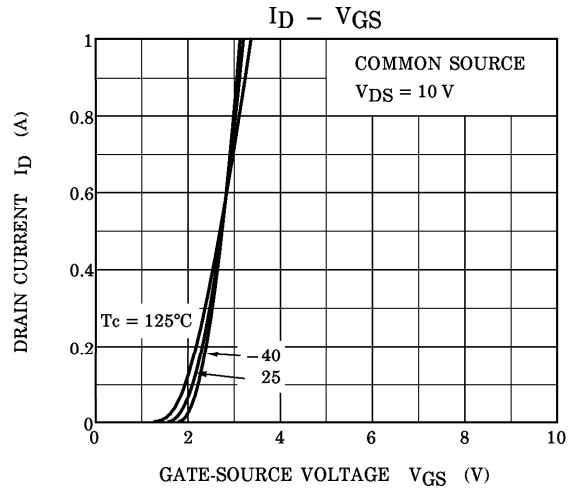
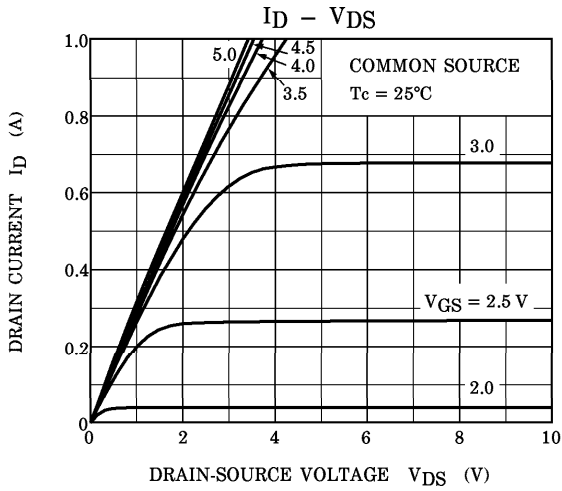
(Note) :  $V_{GS(OFF)}$  Classification O : 0.8~1.6, Y : 1.4~2.8

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

961001EAA2

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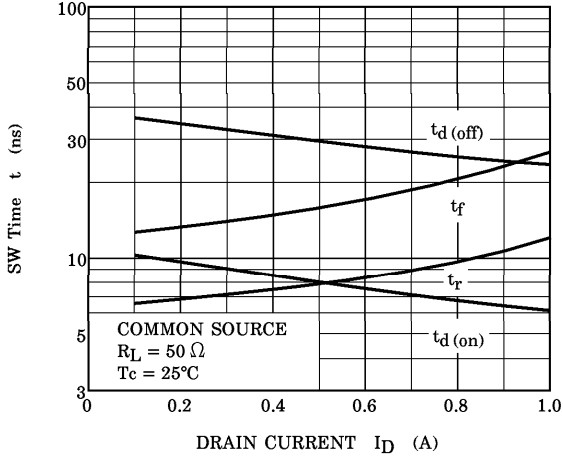




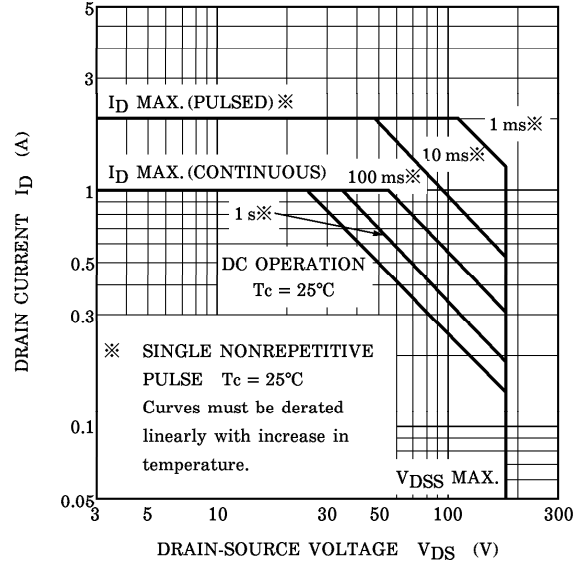
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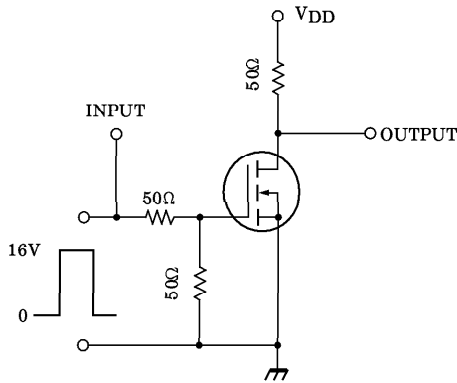
SW Time -  $I_D$



SAFE OPERATING AREA



TEST CIRCUIT



WAVEFORMS

