

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

# 2SK2013

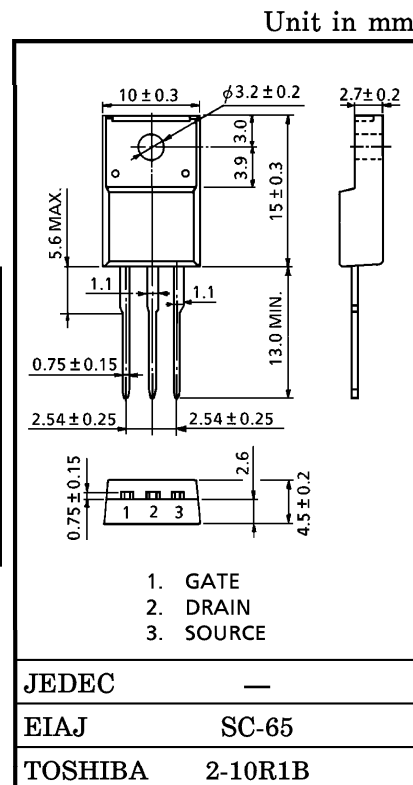
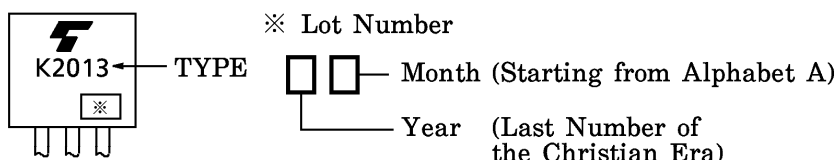
AUDIO FREQUENCY POWER AMPLIFIER APPLICATION

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

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

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 ( $T_c = 25^\circ\text{C}$ )	$P_D$	25	W
Channel Temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	$-55\sim 150$	$^\circ\text{C}$

MARKING



Weight : 1.9 g

ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

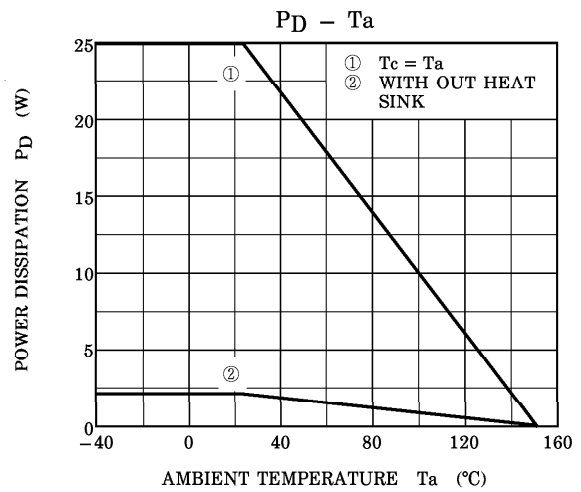
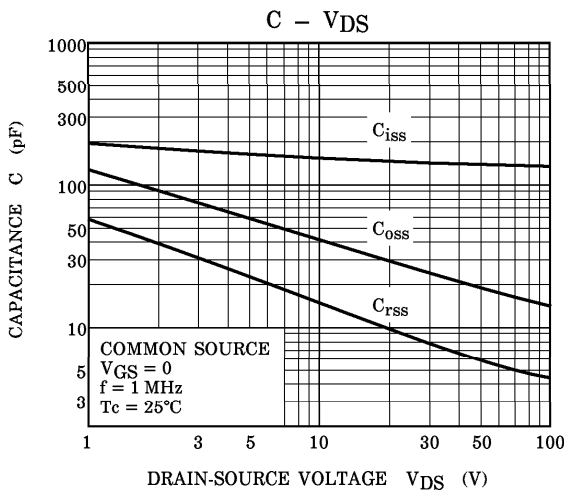
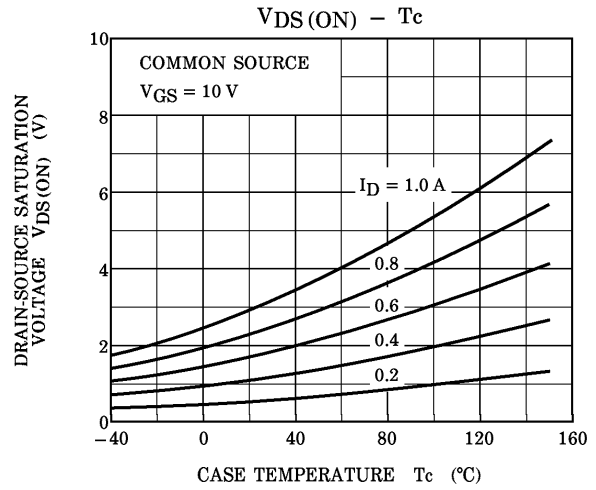
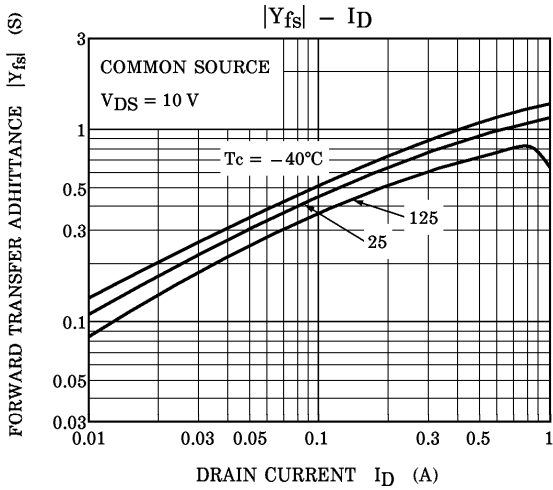
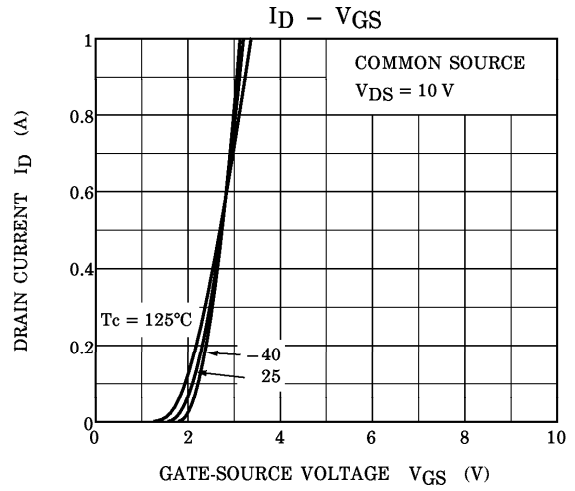
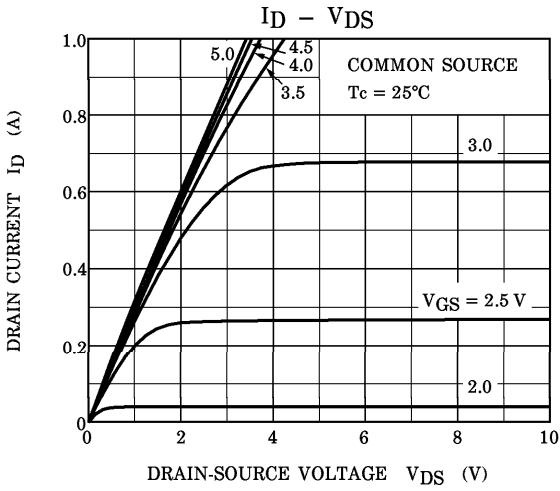
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	$I_{GSS}$	$V_{DS} = 0, V_{GS} = \pm 20\text{ V}$	—	—	$\pm 100$	nA
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 10\text{ mA}, V_{GS} = 0$	180	—	—	V
Gate-Source Cut-off Current	$V_{GS(OFF)}$ (Note)	$V_{DS} = 10\text{ V},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

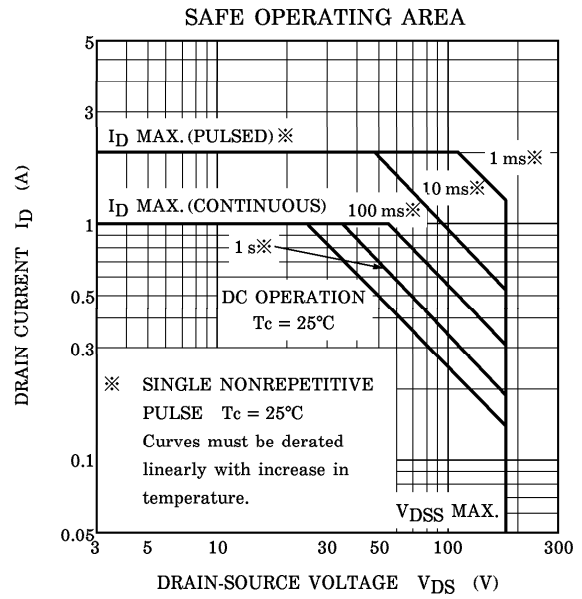
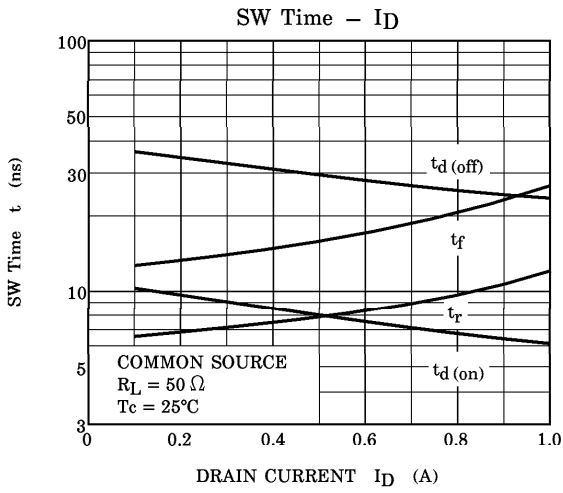
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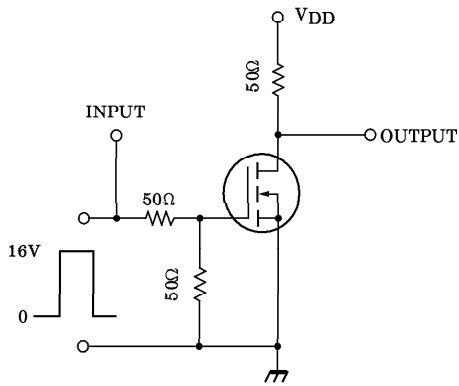


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TEST CIRCUIT



WAVEFORMS

