

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

2SK2145

AUDIO FREQUENCY LOW NOISE AMPLIFIER APPLICATIONS.

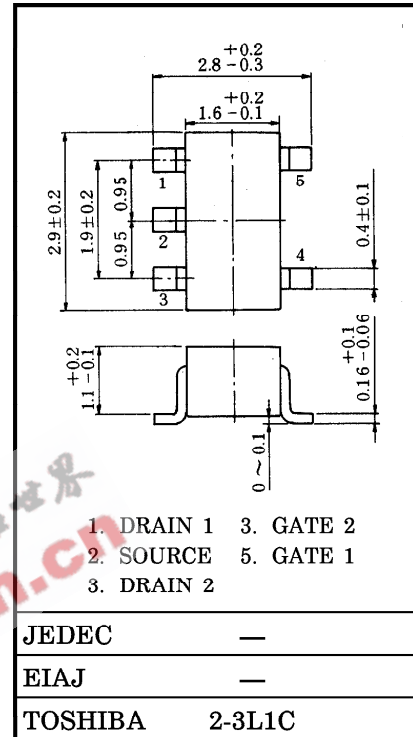
Unit in mm

- Including Two Devices in SM5 (Super Mini Type with 5 Leads.)
- High $|Y_{fs}|$: $|Y_{fs}|=15\text{mS (Typ.)}$ at $V_{DS}=10\text{V}$, $V_{GS}=0$
- High Breakdown Voltage : $V_{GDS}=-50\text{V}$
- Low Noise : $NF=1.0\text{dB (Typ.)}$
at $V_{DS}=10\text{V}$, $I_D=0.5\text{mA}$, $f=1\text{kHz}$, $R_g=1\text{k}\Omega$
- High Input Impedance : $I_{GSS}=-1\text{nA (Max.)}$ at $V_{GS}=-30\text{V}$

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$) (Q1, Q2 COMMON)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate-Drain Voltage	V_{GDS}	-50	V
Gate Current	I_G	10	mA
Drain Power Dissipation	P_D^*	300	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~125	$^\circ\text{C}$

* Total Rating



ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$) (Q1, Q2 COMMON)

Weight : 0.016g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate-Leakage Current	I_{GSS}	$V_{GS}=-30\text{V}$, $V_{DS}=0$	—	—	-1.0	nA
Gate-Drain Breakdown Voltage	$V_{(BR)GDS}$	$V_{DS}=0$, $I_G=-100\mu\text{A}$	-50	—	—	V
Drain Current	I_{DSS} (Note)	$V_{DS}=10\text{V}$, $V_{GS}=0$	1.2	—	14.0	mA
Gate-Source Cut-off Voltage	$V_{GS(OFF)}$	$V_{DS}=10\text{V}$, $I_D=0.1\mu\text{A}$	-0.2	—	-1.5	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS}=10\text{V}$, $V_{GS}=0$, $f=1\text{kHz}$	4.0	15	—	mS
Input Capacitance	C_{iss}	$V_{DS}=10\text{V}$, $V_{GS}=0$, $f=1\text{MHz}$	—	13	—	pF
Reverse Transfer Capacitance	C_{rss}	$V_{DG}=10\text{V}$, $I_D=0$, $f=1\text{MHz}$	—	3	—	pF
Noise Figure	NF (1)	$V_{DS}=10\text{V}$, $R_g=1\text{k}\Omega$ $I_D=0.5\text{mA}$, $f=10\text{Hz}$	—	5	—	dB
	NF (2)	$V_{DS}=10\text{V}$, $R_g=1\text{k}\Omega$ $I_D=0.5\text{mA}$, $f=1\text{kHz}$	—	1	—	

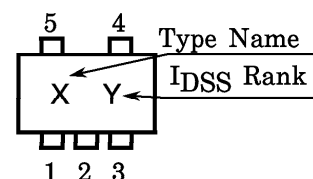
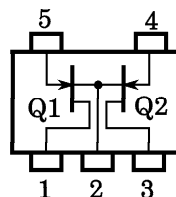
PIN ASSIGNMENT (TOP VIEW) MARKING

Note : I_{DSS} Classification

Y(Y) : 1.2~3.0mA, GR(G) : 2.6~6.5mA

BL(L) : 6.0~14.0mA

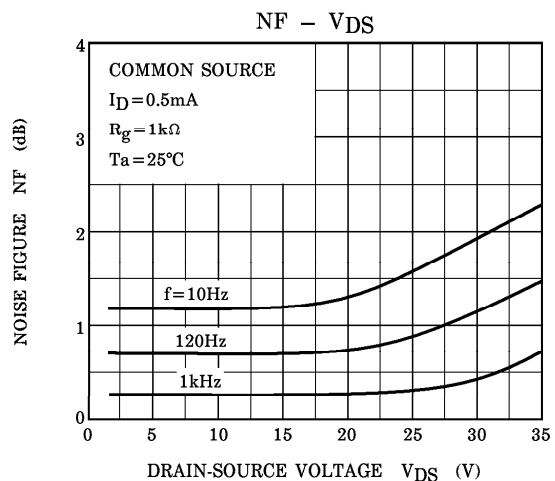
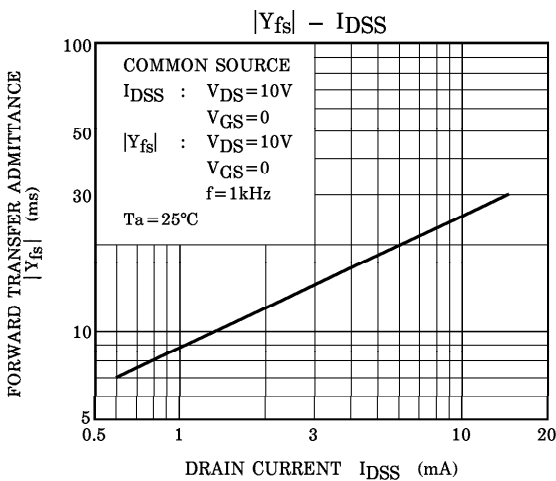
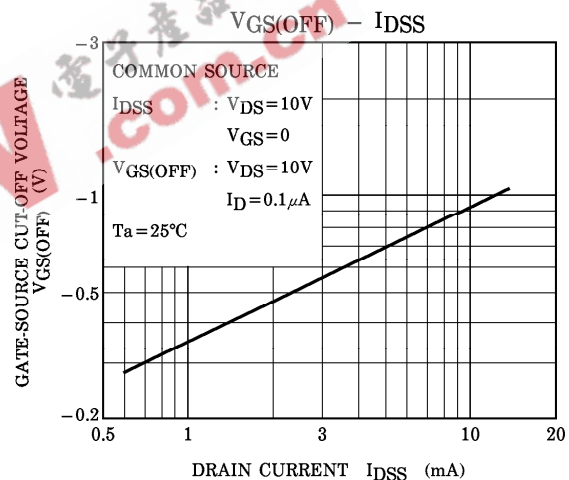
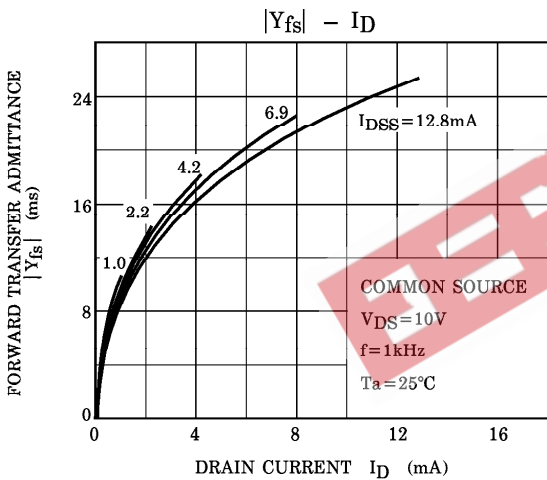
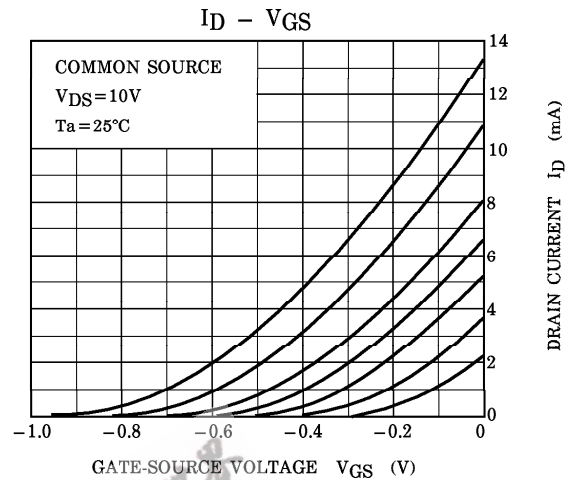
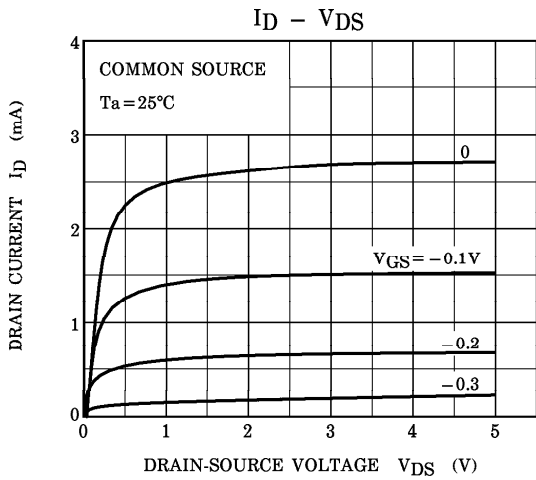
() Marking Symbol



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(Q1, Q2 COMMON)



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(Q1, Q2 COMMON)

