

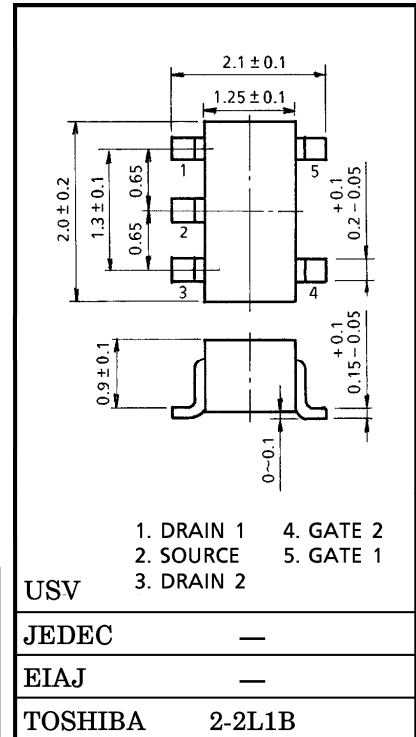
TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

2SK3320

FOR LOW NOISE AUDIO AMPLIFIER APPLICATIONS

Unit in mm

- Two devices in a Ultra Super Mini (five pins) package
- High $|Y_{fs}|$: $|Y_{fs}| = 15 \text{ mS (Typ.)}$
($V_{DS} = 10 \text{ V, } V_{GS} = 0$)
- High Breakdown Voltage : $V_{GDS} = -50 \text{ V}$
- Super Low Noise : $NF = 1.0 \text{ dB (Typ.)}$
($V_{DS} = 10 \text{ V, } I_D = 0.5 \text{ mA,}$
 $f = 1 \text{ kHz, } R_G = 1 \text{ k}\Omega$)
- High Input Impedance : $I_{GSS} = -1 \text{ nA (Max.) (} V_{GS} = -30 \text{ V)}$



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^*	200	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~125	$^\circ\text{C}$

* : Total Rating

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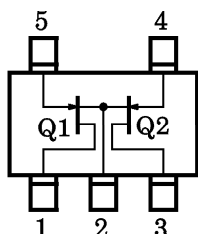
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ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q1, Q2 COMMON)

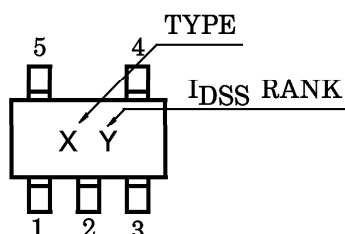
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Cut-off Current	IGSS	VGS = -30 V, VDS = 0	—	—	-1.0	nA
Gate-Drain Breakdown Voltage	V(BR)GDS	VDS = 0, IG = -100 μA	-50	—	—	V
Drain Current	IDSS (Note)	VDS = 10 V, VGS = 0	1.2	—	14.0	mA
Gate-Source Cut-off Voltage	VGS(OFF)	VDS = 10 V, ID = 0.1 μA	-0.2	—	-1.5	V
Forward Transfer Admittance	Yfs	VDS = 10 V, VGS = 0, f = 1 kHz	4.0	15	—	mS
Input Capacitance	Ciss	VDS = 10 V, VGS = 0, f = 1 MHz	—	13	—	pF
Reverse Transfer Capacitance	Crss	VDG = 10 V, ID = 0, f = 1 MHz	—	3	—	pF
Noise Figure	NF (1)	VDS = 10 V, RG = 1 kΩ, ID = 0.5 mA, f = 10 Hz	—	5	—	dB
	NF (2)	VDS = 10 V, RG = 1 kΩ, ID = 0.5 mA, f = 1 kHz	—	1	—	

(Note) : IDSS Classification Y (Y) : 1.2~3.0 mA, GR (G) : 2.6~6.5 mA,
 BL (L) : 6.0~14.0 mA
 () ... IDSS Rank Marking

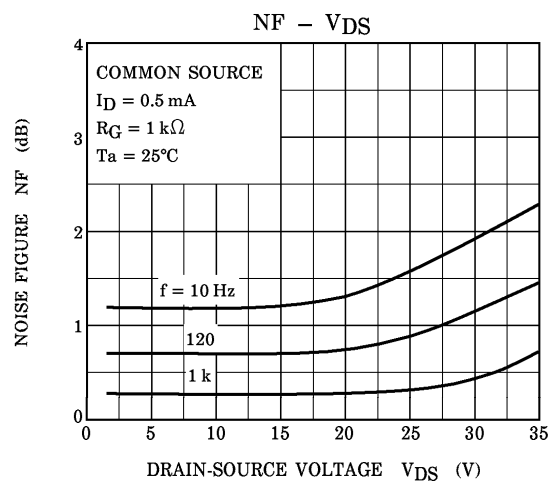
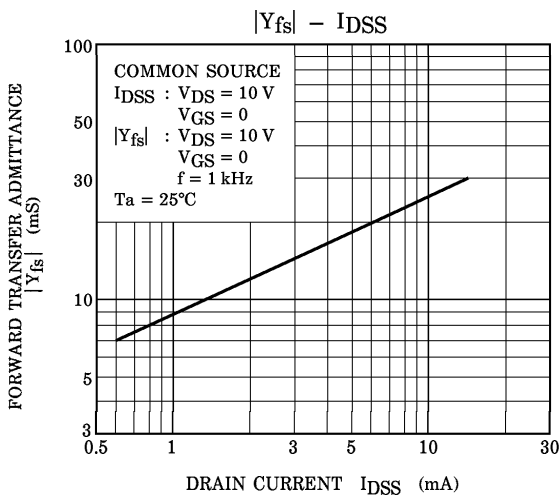
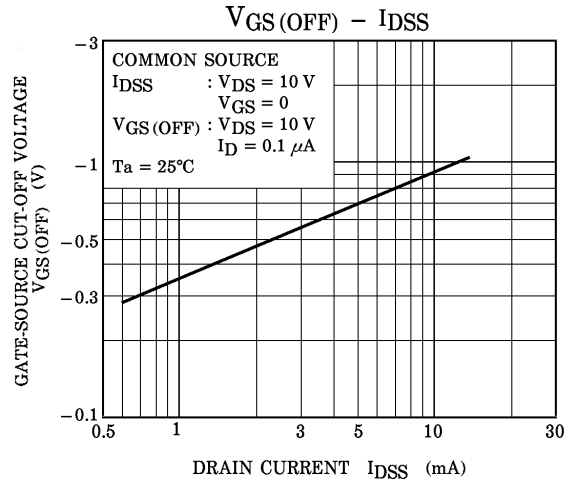
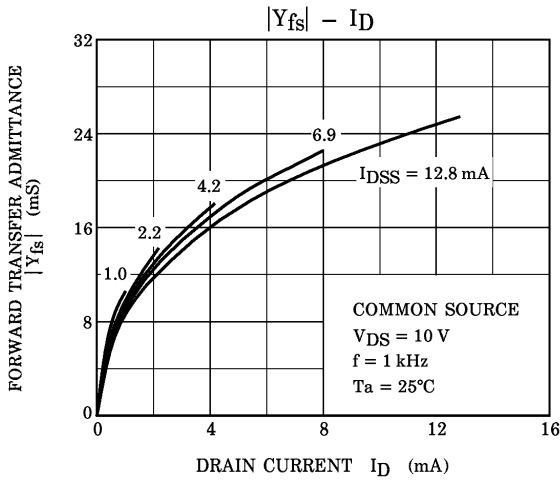
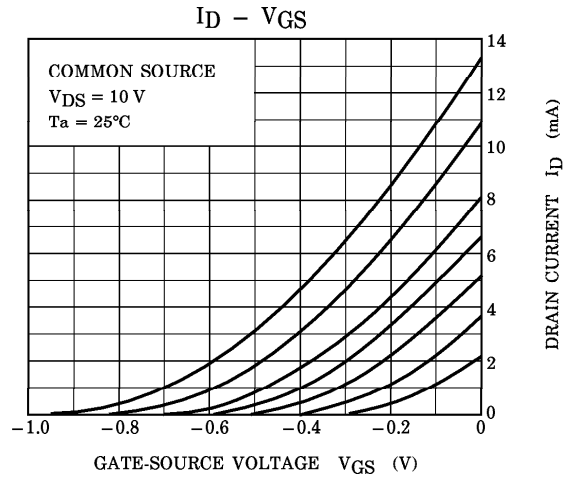
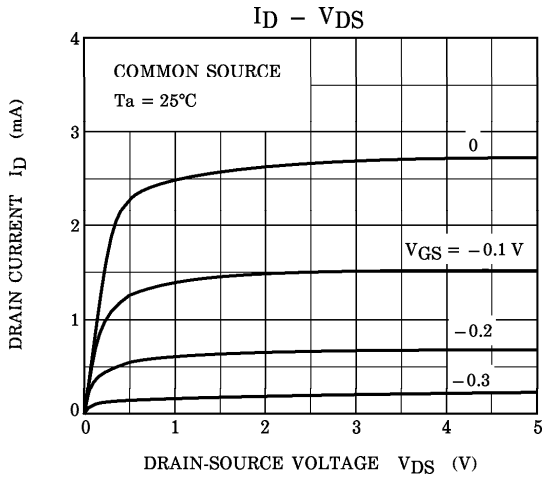
PIN ASSIGNMENT (TOP VIEW)



MARKING



(Q1, Q2 COMMON)



(Q1, Q2 COMMON)

