

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

2SK330

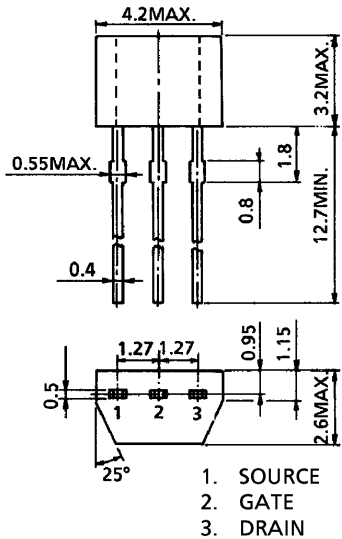
FOR AUDIO AMPLIFIER, ANALOG SWITCH, CONSTANT CURRENT AND
IMPEDANCE CONVERTER APPLICATIONS

Unit in mm

- High Breakdown Voltage : $V_{GDS} = -50V$
- High Input Impedance : $I_{GSS} = -1nA$ (Max.) ($V_{GS} = -30V$)
- Low $R_{DS(ON)}$: $R_{DS(ON)} = 320\Omega$ (Typ.)
($I_{DSS} = 5mA$)
- Complementary to 2SJ105
- Small Package

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

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	$^\circ C$
Storage Temperature Range	T_{stg}	-55~125	$^\circ C$

		JEDEC	—
		EIAJ	—
		TOSHIBA	2-4E1B

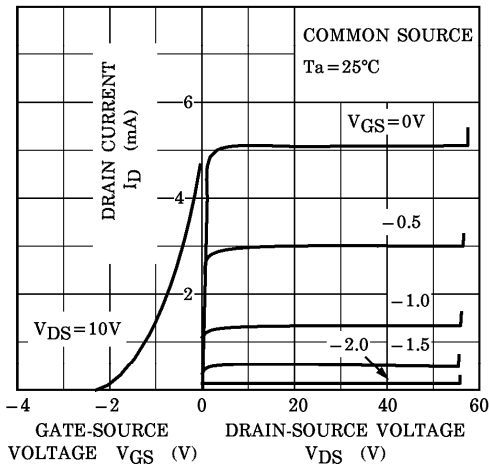
Weight : 0.13g (Typ.)

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

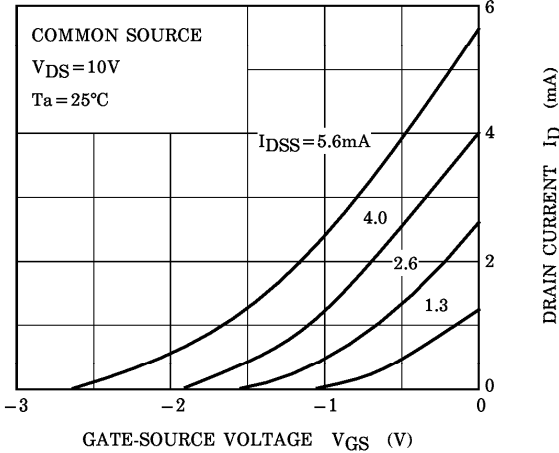
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Cut-off Current	I_{GSS}	$V_{GS} = -30V, V_{DS} = 0$	—	—	-1.0	nA
Gate-Drain Breakdown Voltage	$V_{(BR)GDS}$	$V_{DS} = 0, I_G = -100\mu A$	-50	—	—	V
Drain Current	I_{DSS} (Note)	$V_{DS} = 10V, V_{GS} = 0$	1.2	—	14	mA
Gate-Source Cut-off Voltage	$V_{GS(OFF)}$	$V_{DS} = 10V, I_D = 0.1\mu A$	-0.7	—	-6.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10V, V_{GS} = 0, f = 1kHz$	1.5	4	—	mS
Drain-Source ON Resistance	$R_{DS(ON)}$	$V_{DS} = 10mV, V_{GS} = 0, I_{DSS} = 5mA$	—	320	—	Ω
Input Capacitance	C_{iss}	$V_{DS} = 10V, V_{GS} = 0, f = 1MHz$	—	9.0	—	pF
Reverse Transfer Capacitance	C_{rss}	$V_{GD} = -10V, I_D = 0, f = 1MHz$	—	2.5	—	pF

Note : I_{DSS} Classification Y : 1.2~3.0mA GR : 2.6~6.5mA, BL : 6~14mA

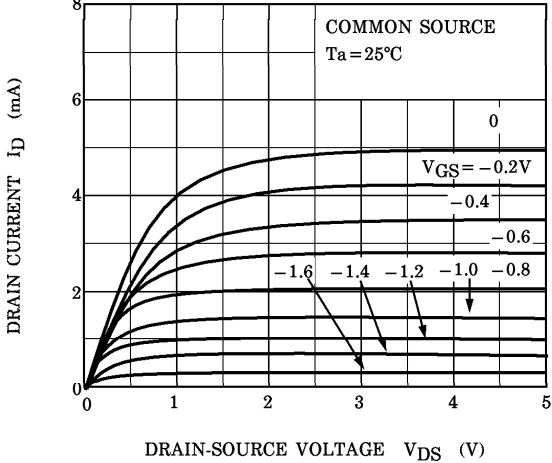
STATIC CHARACTERISTIC



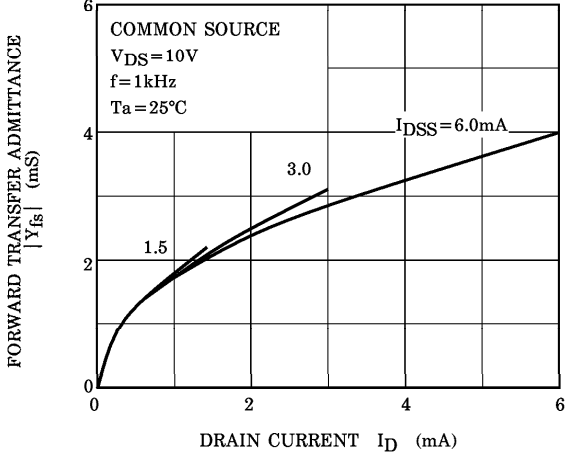
$I_D - V_{GS}$



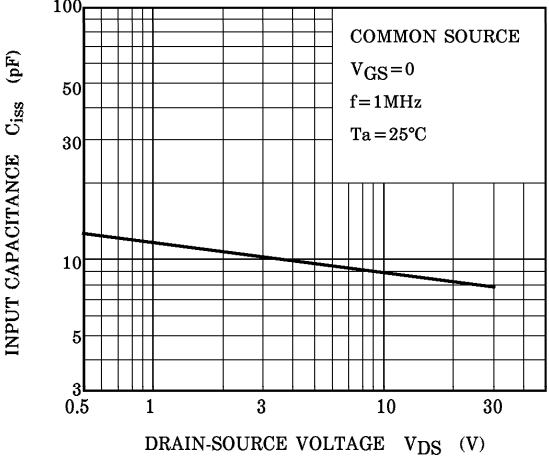
$I_D - V_{DS}$ (LOW VOLTAGE REGION)



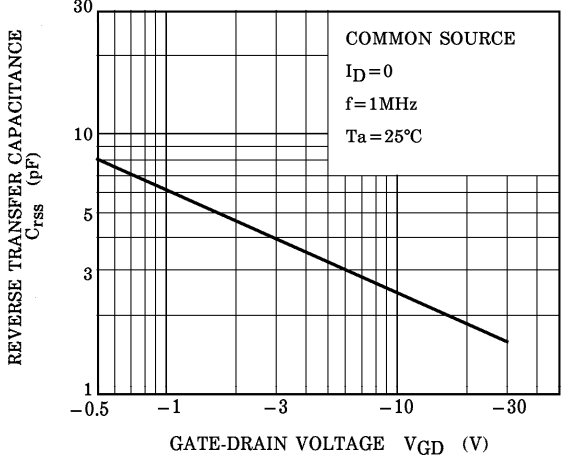
$|Y_{fs}| - I_D$

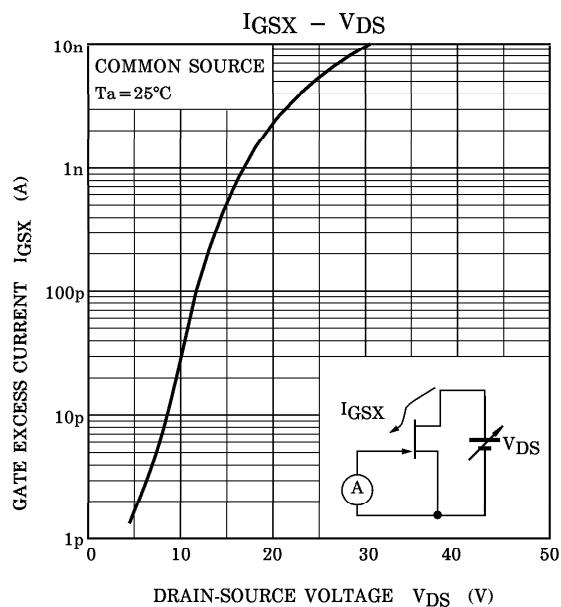
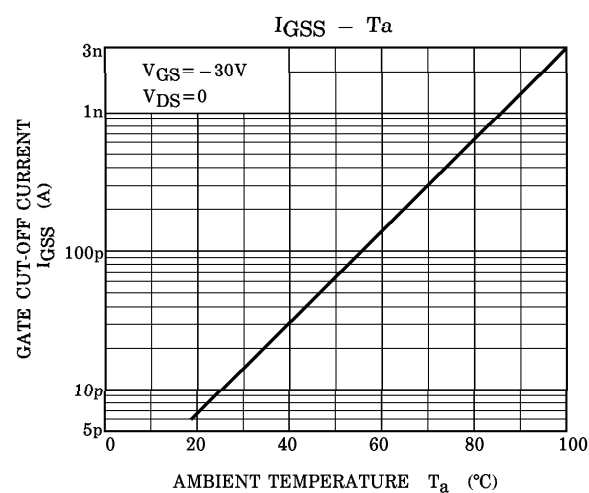
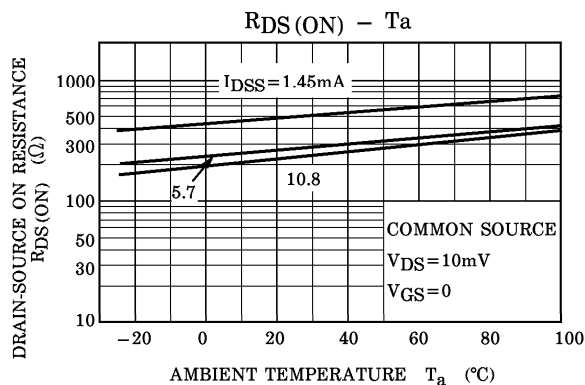
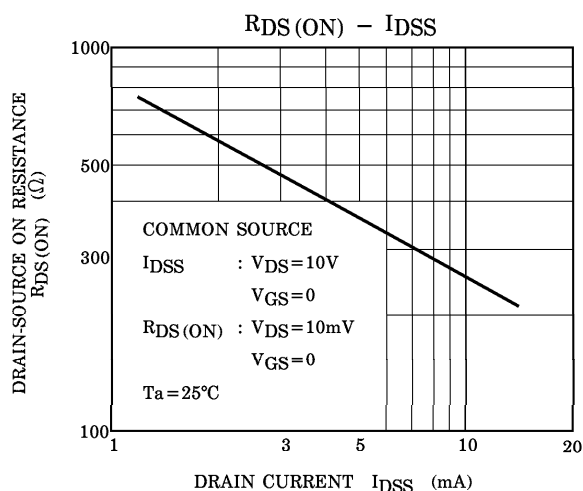
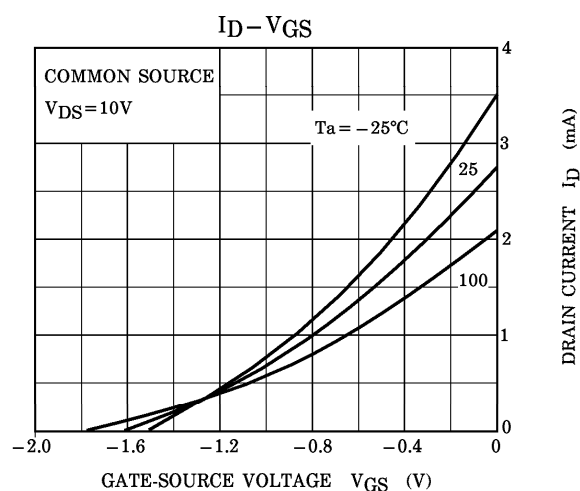
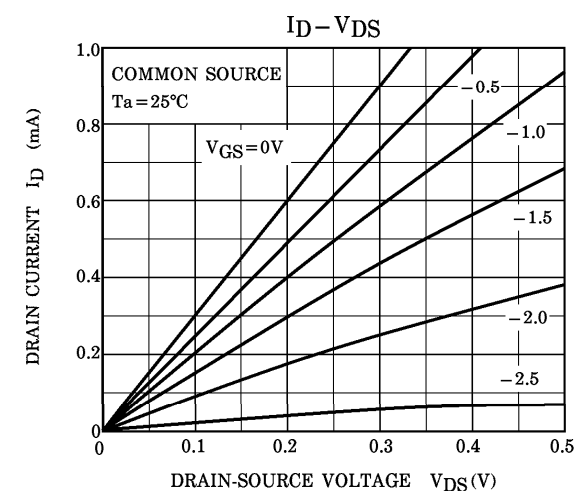


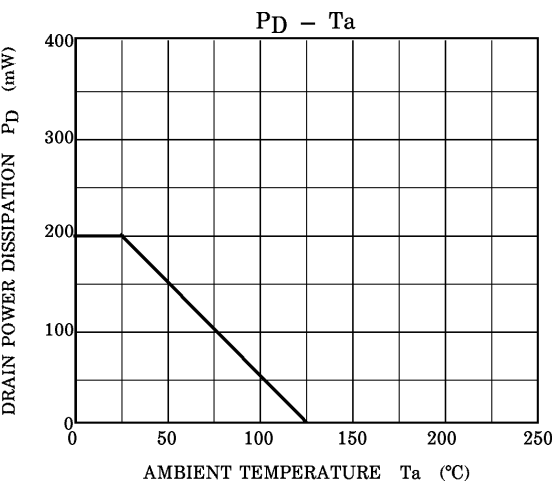
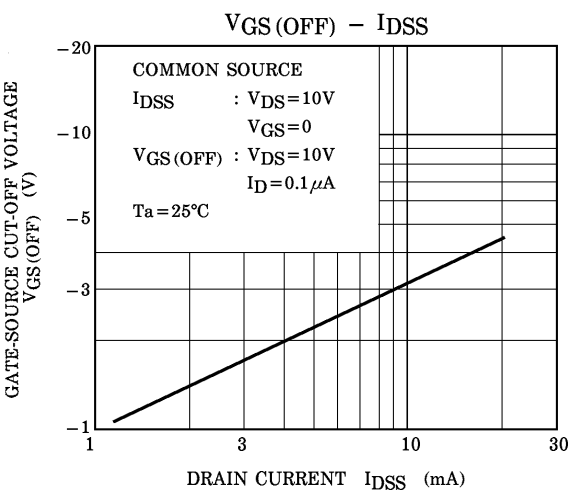
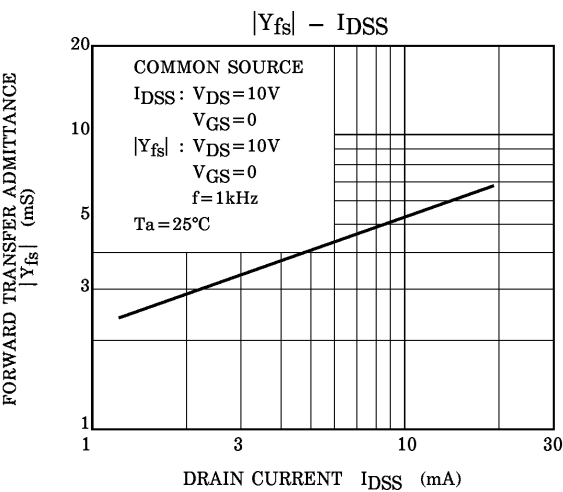
$C_{iss} - V_{DS}$



$C_{rss} - V_{GD}$







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