

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

# 2SK330

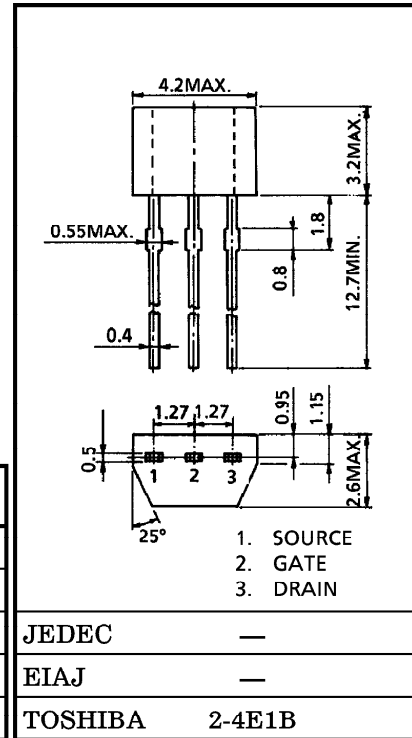
FOR AUDIO AMPLIFIER, ANALOG SWITCH, CONSTANT CURRENT AND IMPEDANCE CONVERTER APPLICATIONS

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	$^\circ C$



Weight : 0.13g (Typ.)

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

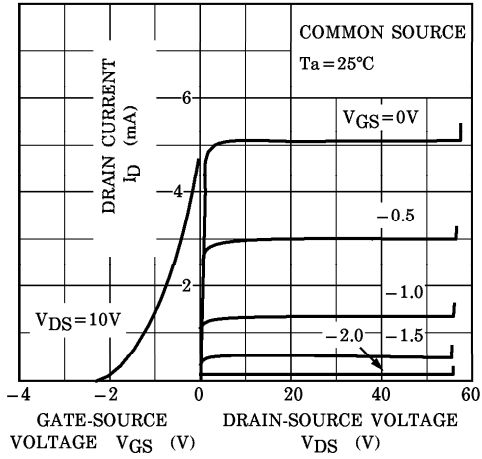
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Cut-off Current	$I_{GSS}$	$V_{GS} = -30V, V_{DS} = 0$	—	—	-1.0	nA
Gate-Drain Breakdown Voltage	$V(BR)_{GDS}$	$V_{DS} = 0, I_G = -100\mu A$	-50	—	—	V
Drain Current	$I_{DSS}$ (Note)	$V_{DS} = 10V, V_{GS} = 0$	1.2	—	14	mA
Gate-Source Cut-off 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	—	$\Omega$
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

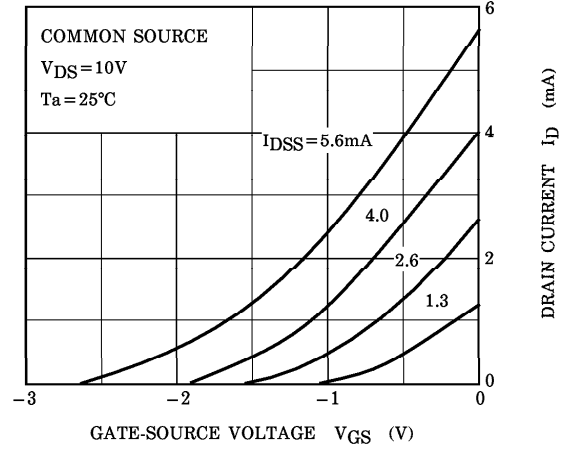
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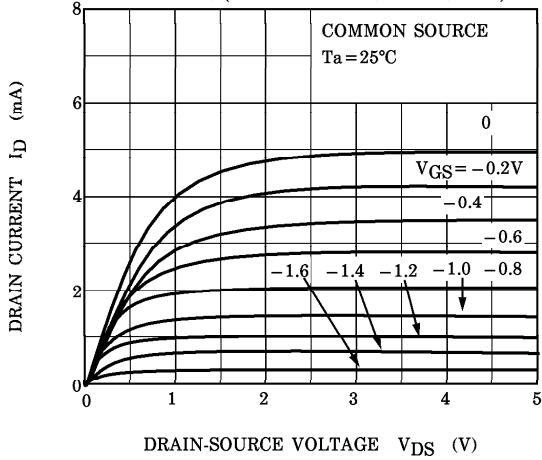
STATIC CHARACTERISTIC



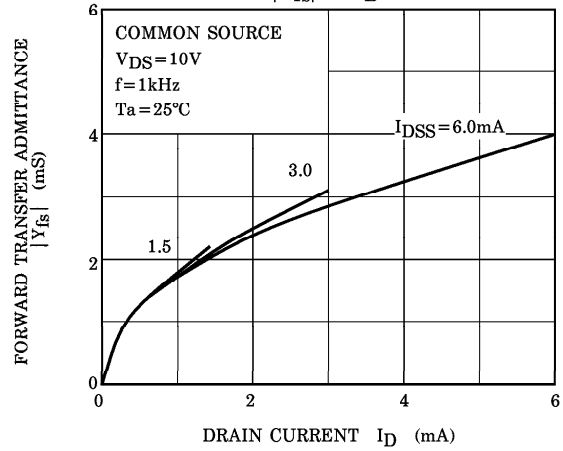
ID - VGS



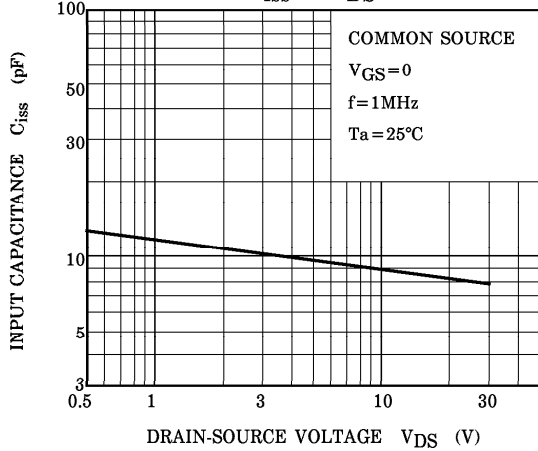
ID - VDS (LOW VOLTAGE REGION)



|Yfs| - ID



Ciss - VDS



Crss - VGD

