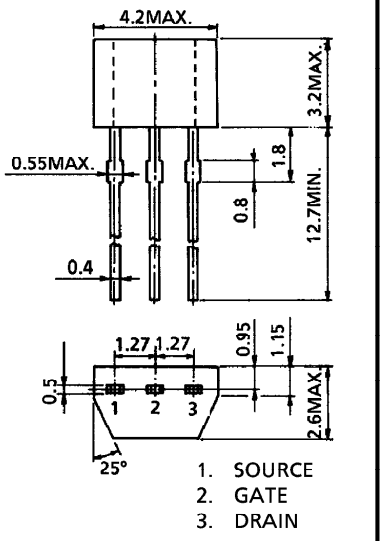
TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

2SK330

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

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-4E1B

Weight : 0.13g (Typ.)

- 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 (Ta = 25°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	°C
Storage Temperature Range	T_{stg}	−55~125	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°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

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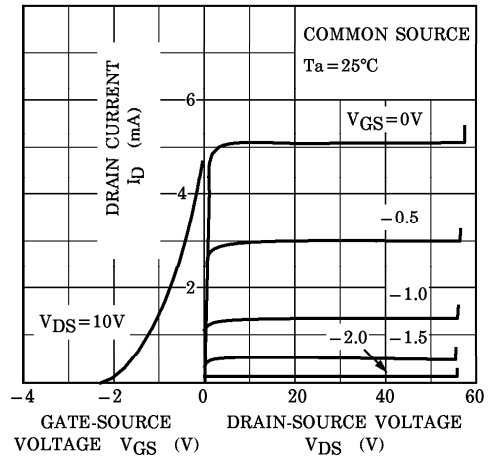
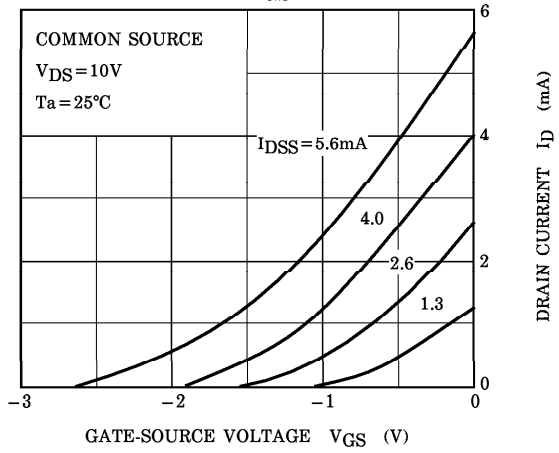
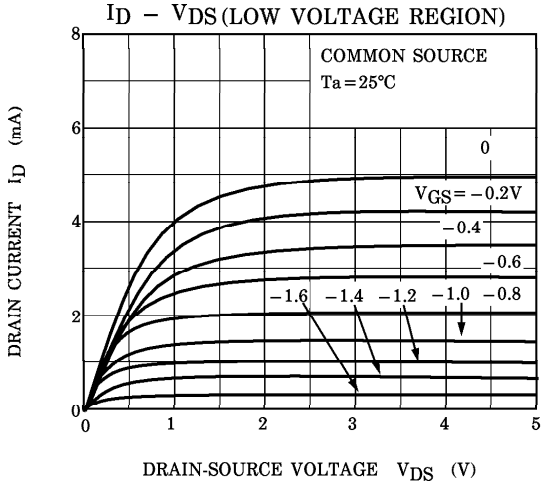
STATIC CHARACTERISTIC



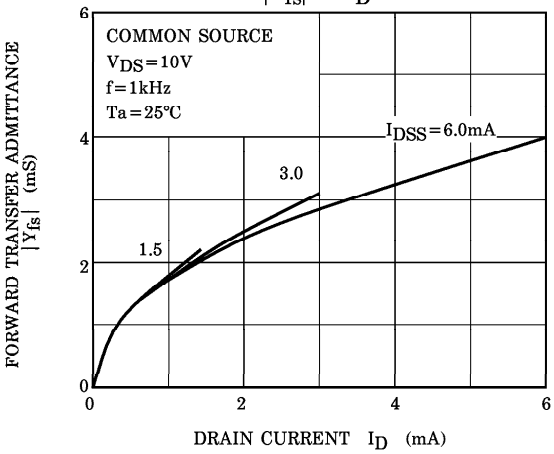
$I_D - V_{GS}$



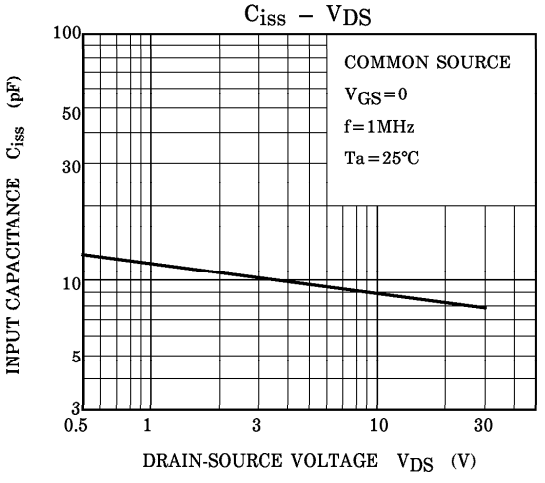
$I_D - V_{DS}$ (LOW VOLTAGE REGION)



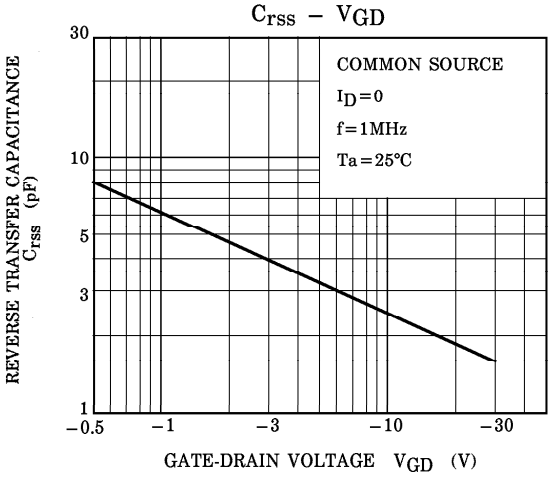
$|Y_{fs}| - I_D$



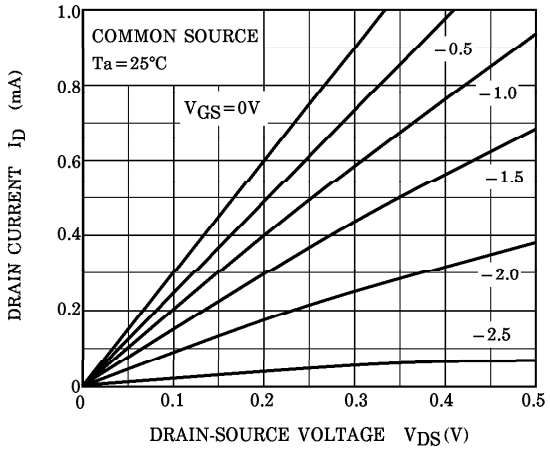
$C_{iss} - V_{DS}$



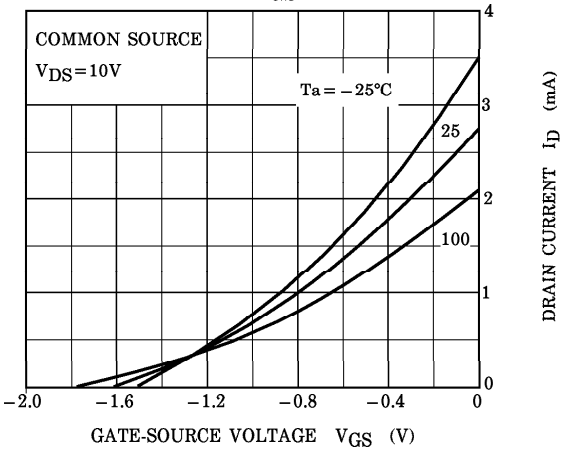
$C_{rss} - V_{GD}$



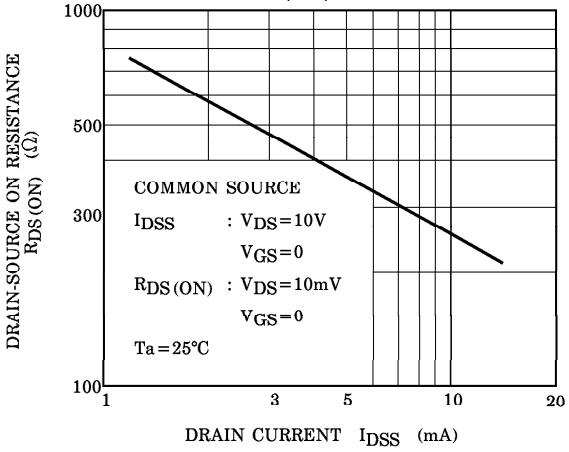
$I_D - V_{DS}$



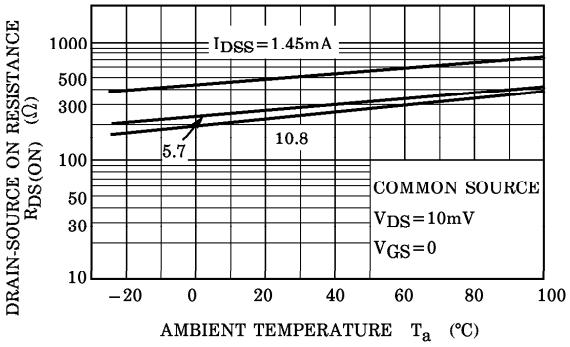
$I_D - V_{GS}$



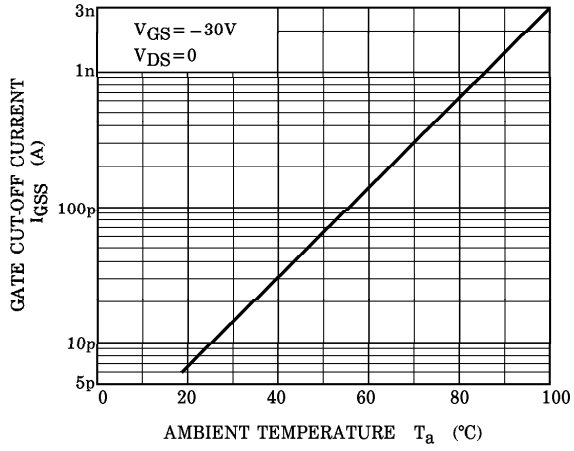
$R_{DS(ON)} - I_{DSS}$



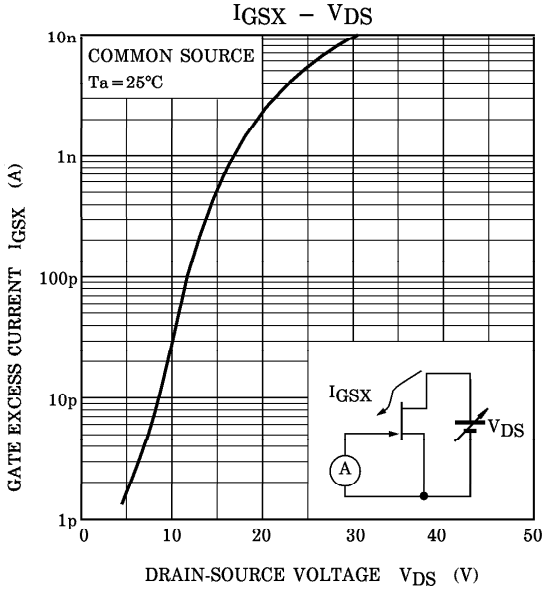
$R_{DS(ON)} - Ta$



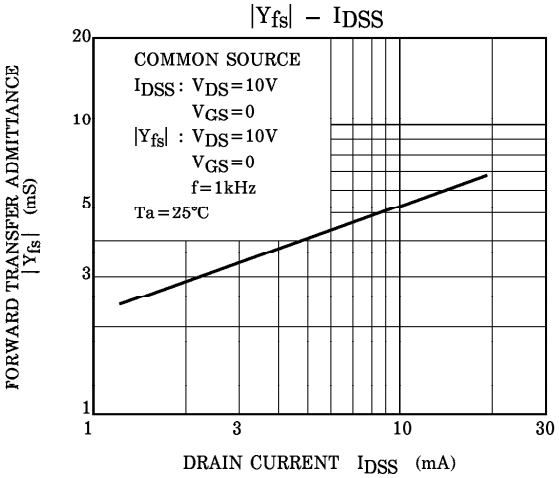
$I_{GSS} - Ta$



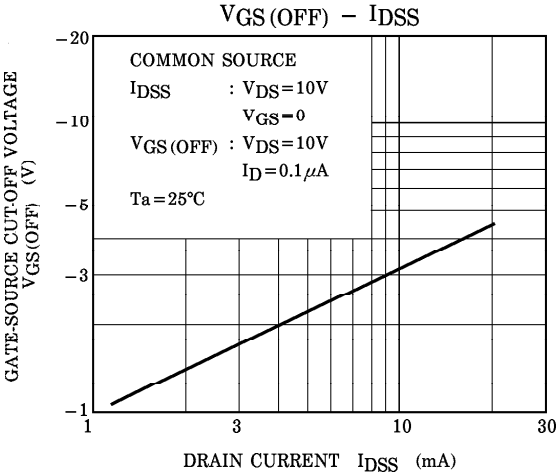
$I_{GSX} - V_{DS}$



$|Y_{fs}|$ – I_{DSS}



$V_{GS\,(OFF)}$ – I_{DSS}



P_D – Ta