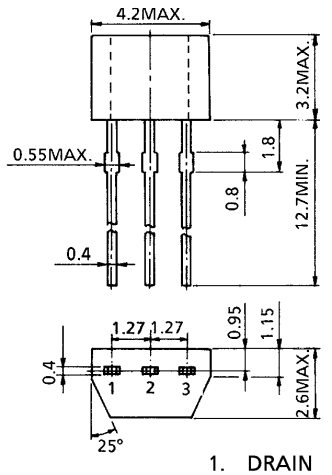
TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

2SK365

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

- High Breakdown Voltage : $V_{GDS} = -50V$
- High Imput Impedance : $I_{GSS} = -1.0nA$ (Max.) ($V_{GS} = -30V$)
- Low $R_{DS\,(ON)}$: $R_{DS\,(ON)} = 80\Omega$ (Typ.) ($I_{DSS} = 5mA$)
- Small Package

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-4E1C

Weight : 0.13g

MAXIMUM RATINGS (Ta = 25°C)

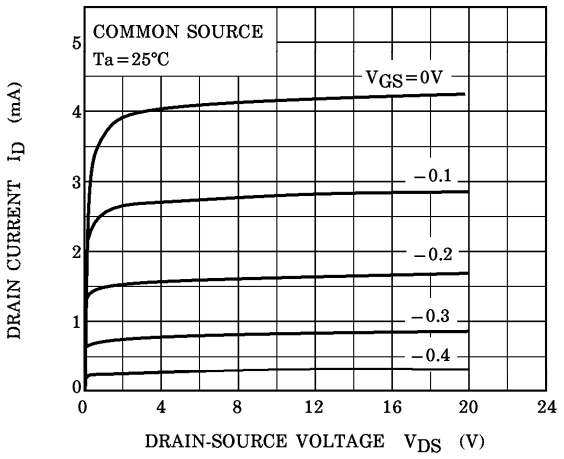
CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate-Drain Voltage	V_{GDS}	−50	V
Gate Current	I_G	10	mA
Drain Power Dissipation	P_D	200	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	−55~125	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

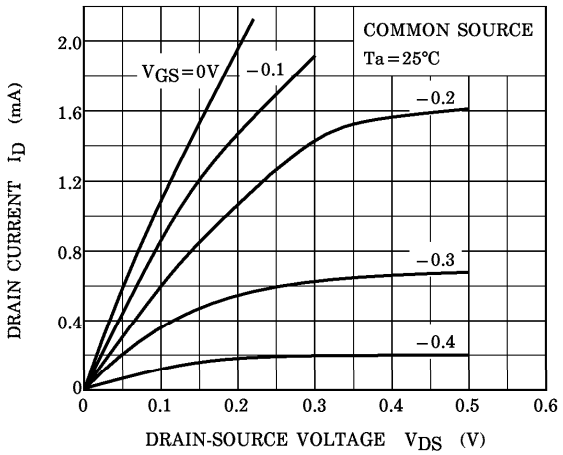
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Cut-off Current	I_{GSS}	$V_{GS} = -30V$, $V_{DS} = 0$	—	—	−1.0	nA
Gate-Drain Breakdown Voltage	$V_{(BR)\,GDS}$	$V_{DS} = 0$, $I_G = -100\mu A$	−50	—	—	V
Drain Current	I_{DSS} (Note 1)	$V_{DS} = 10V$, $V_{GS} = 0$	1.2	—	14	mA
Gate-Source Cut-off Voltage	$V_{GS\,(OFF)}$	$V_{DS} = 10V$, $I_D = 0.1\mu A$	−0.25	—	−1.5	V
Forward Transfer Admittance	$\|Y_{fs}\|$	$V_{DS} = 10V$, $V_{GS} = 0$, f = 1kHz (Note 2)	5.0	19	—	mS
Input Capacitance	C_{iss}	$V_{DS} = 10V$, $V_{GS} = 0$, f = 1MHz	—	13	—	pF
Reverse Transfer Capacitance	C_{rss}	$V_{DG} = 10V$, $I_D = 0$, f = 1MHz	—	3	—	pF
Drain-Source ON Resistance	$R_{DS\,(ON)}$	$V_{DS} = 10mV$, $V_{GS} = 0$ (Note 2)	—	80	—	Ω

Note 1 : I_{DSS} Classification Y : 1.2~3.0mA, GR : 2.6~6.5mA, BL : 6~14mA
Note 2 : Condition of the typical Value $I_{DSS} = 5mA$

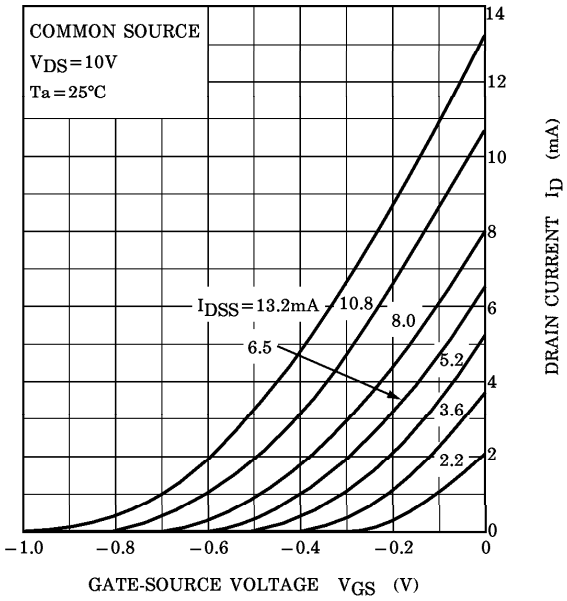
$I_D - V_{DS}$



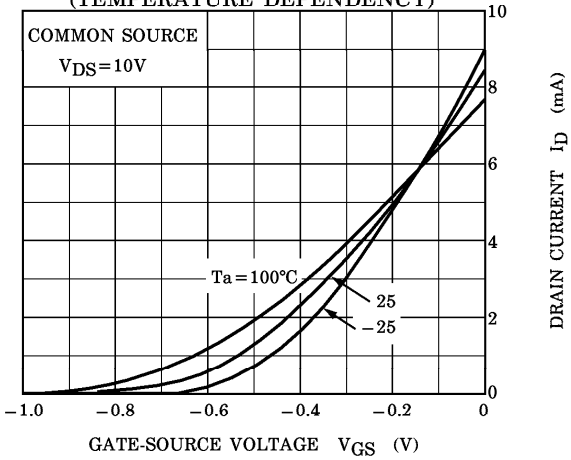
$I_D - V_{DS}$ (LOW VOLTAGE REGION)



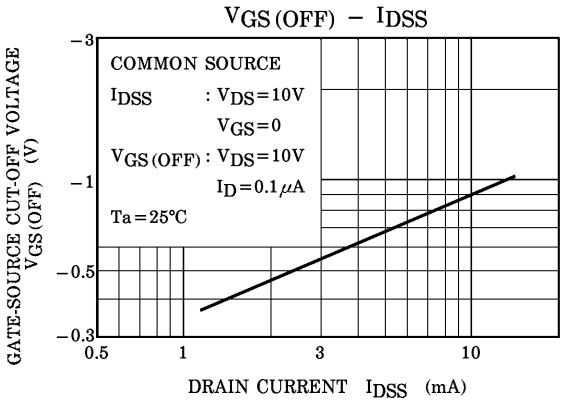
$I_D - V_{GS}$



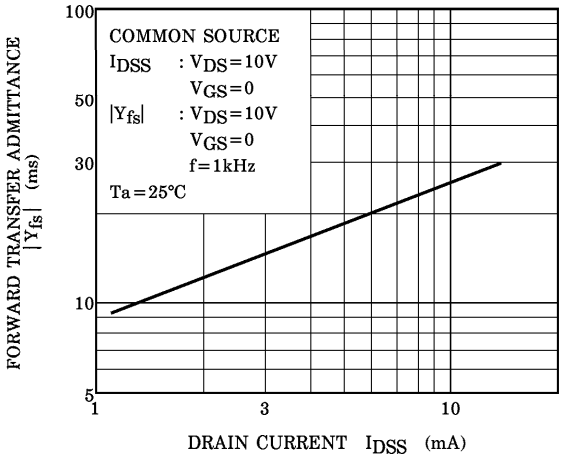
$I_D - V_{GS}$ (TEMPERATURE DEPENDENCY)



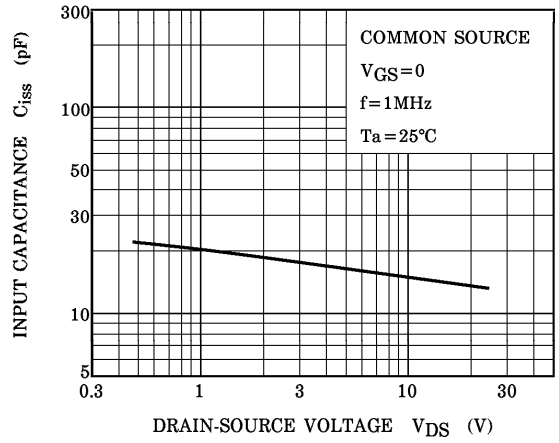
$V_{GS(OFF)} - I_{DSS}$



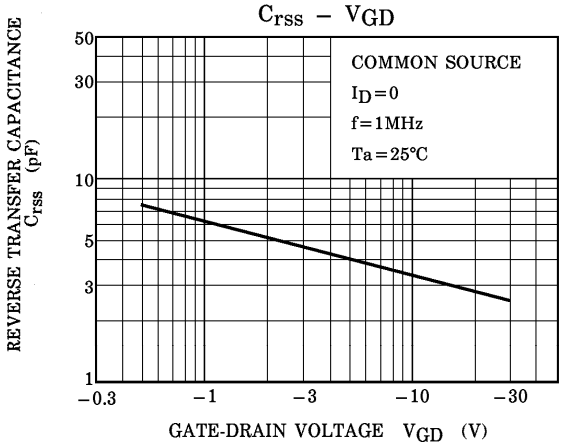
$|Y_{fs}| - I_{DSS}$



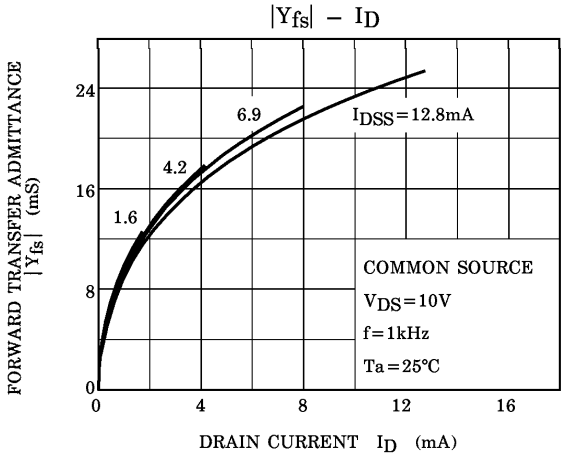
C_{iss} – V_{DS}



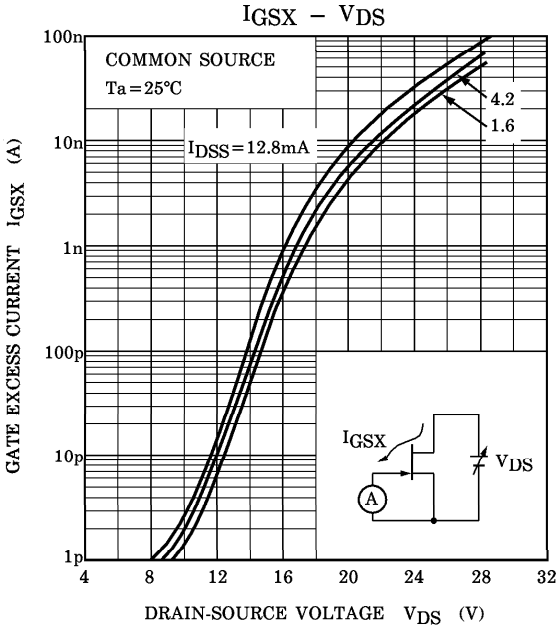
C_{rss} – V_{GD}



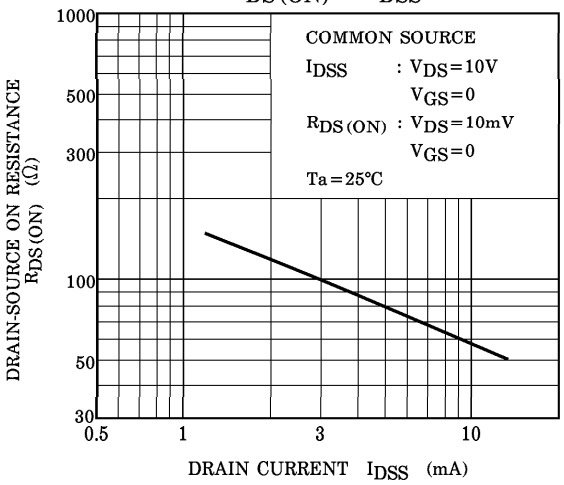
$|Y_{fs}|$ – I_D



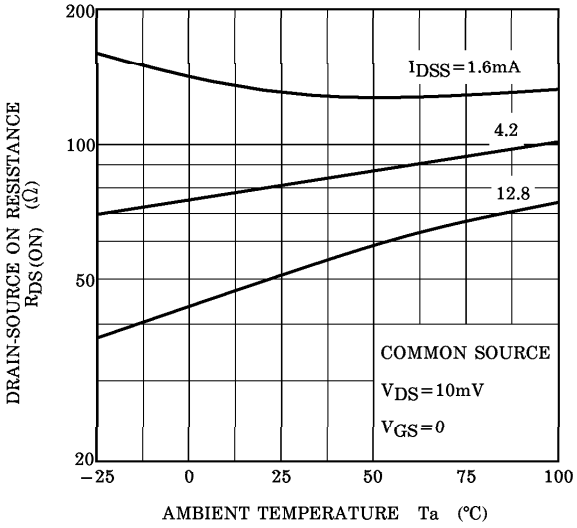
I_{GSX} – V_{DS}



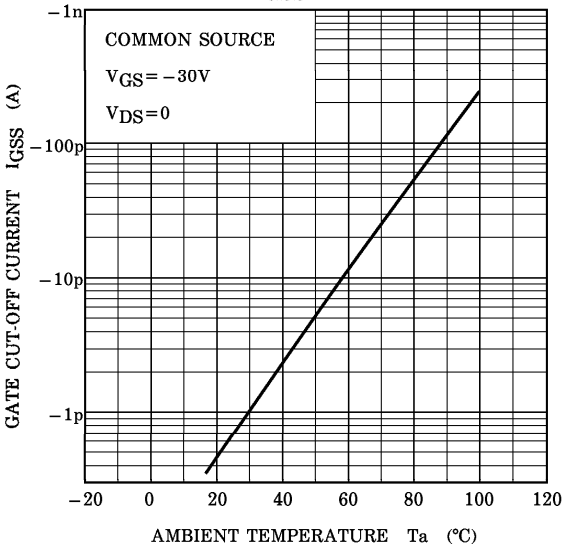
$R_{DS(ON)}$ – I_{DSS}



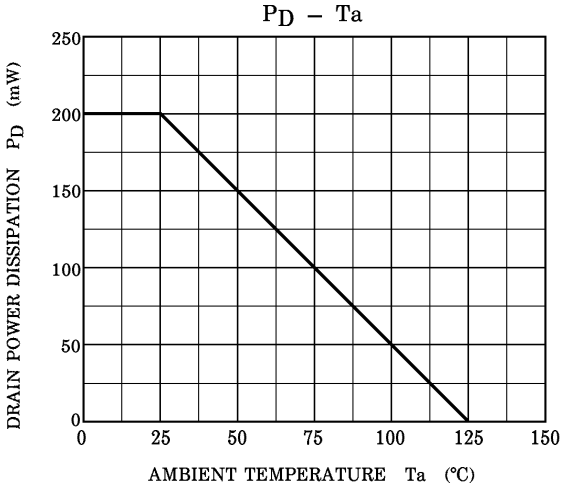
$R_{DS(ON)}$ – Ta



I_{GSS} – Ta



P_D – Ta



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