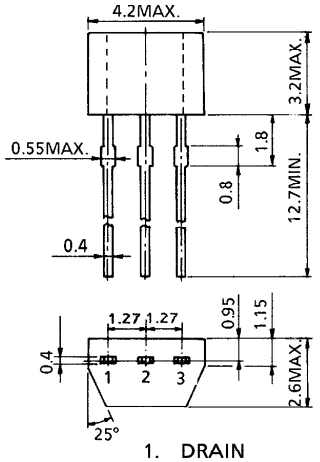
TOSHIBA EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

# 2SK366

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

Unit in mm




| | |
|---|---|
| JEDEC | — |
| EIAJ | — |
| TOSHIBA | 2-4E1C |

Weight : 0.13g

- High Voltage : $V_{GDS} = -40V$
- High Input Impedance : $I_{GSS} = -1.0nA$ (Max.) ($V_{GS} = -30V$)
- Low $R_{DS\,(ON)}$ : $R_{DS\,(ON)} = 50\Omega$ (Typ.) ($I_{DSS} = 5mA$)
- Small Package
- Complementary to 2SJ107

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|---|---|---|
| Gate-Drain Voltage | $V_{GDS}$ | −40 | 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 | $V_{(BR)\,GDS}$ | $V_{DS} = 0$, $I_C = -100\mu A$ | −40 | — | — | V |
| Drain Current | $I_{DSS}$ (Note 1) | $V_{DS} = 10V$, $V_{GS} = 0$ | 2.6 | — | 20 | mA |
| Gate-Source Cut-off Voltage | $V_{GS\,(OFF)}$ | $V_{DS} = 10V$, $I_D = 0.1\mu A$ | −0.2 | — | −1.5 | V |
| Forward Transfer Admittance | $\|Y_{fs}\|$ | $V_{DS} = 10V$, $V_{GS} = 0$, f = 1kHz (Note 2) | 12 | 28 | — | mS |
| Input Capacitance | $C_{iss}$ | $V_{DS} = 10V$, $V_{GS} = 0$, f = 1MHz | — | 30 | — | pF |
| Reverse Transfer Capacitance | $C_{rss}$ | $V_{DG} = 10V$, $I_D = 0$, f = 1MHz | — | 6 | — | pF |
| Drain-Source ON Resistance | $R_{DS\,(ON)}$ | $V_{DS} = 10mV$, $V_{GS} = 0$ (Note 2) | — | 50 | — | Ω |

Note 1 : $I_{DSS}$ Classification GR : 2.6~6.5mA, BL : 6~12mA, V : 10~20mA
Note 2 : Condition of the typical value $I_{DSS} = 5mA$

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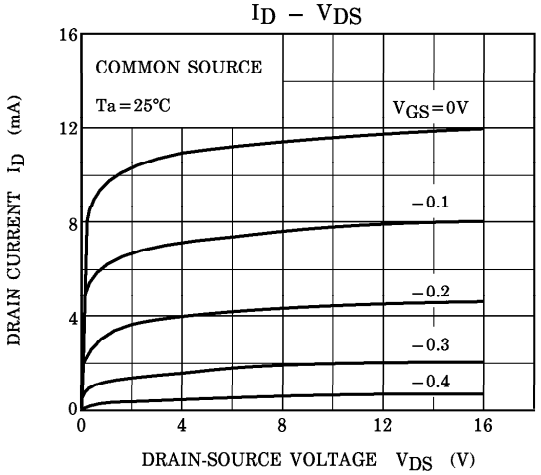
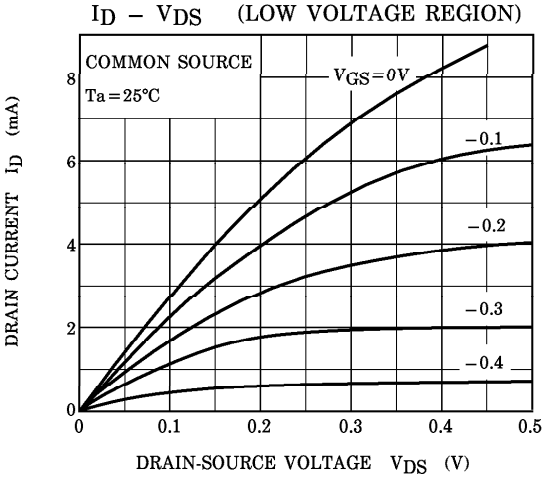
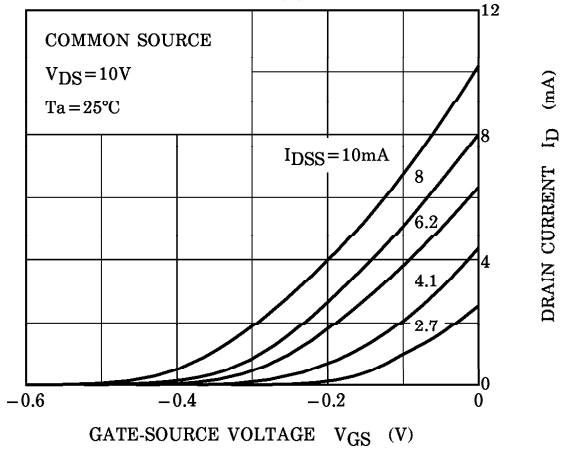
$I_D - V_{DS}$



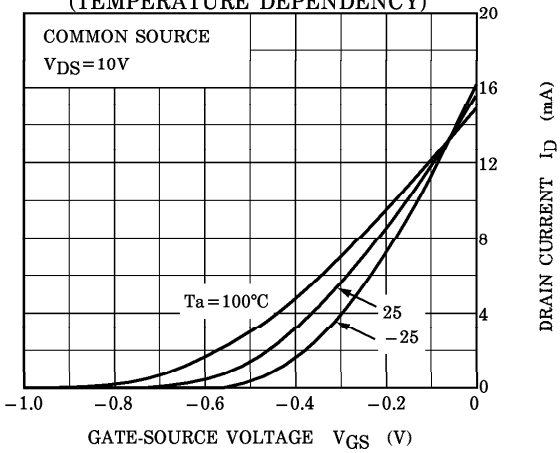

$I_D - V_{DS}$ (LOW VOLTAGE REGION)



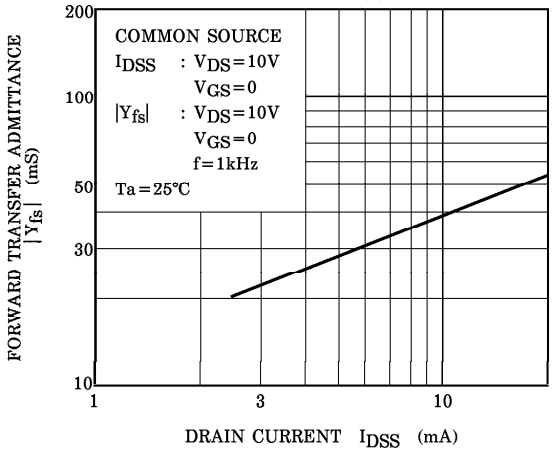

$I_D - V_{GS}$



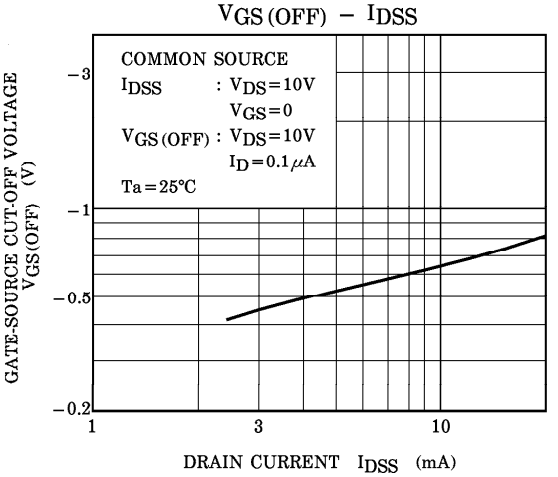

$I_D - V_{GS}$ (TEMPERATURE DEPENDENCY)




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




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

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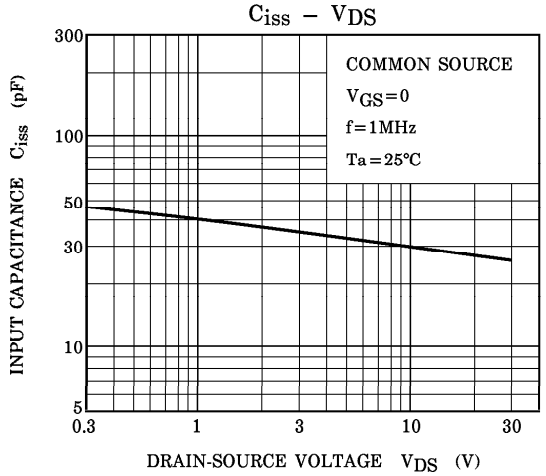
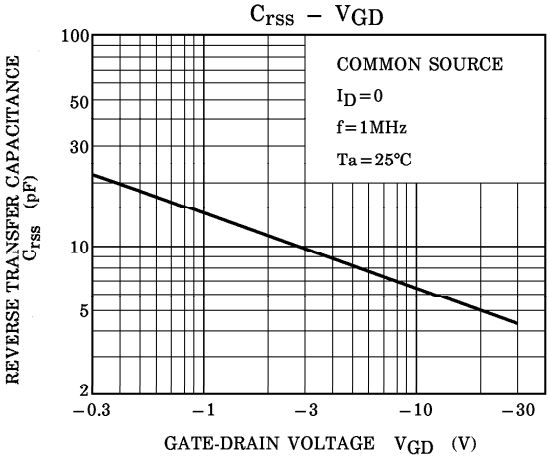
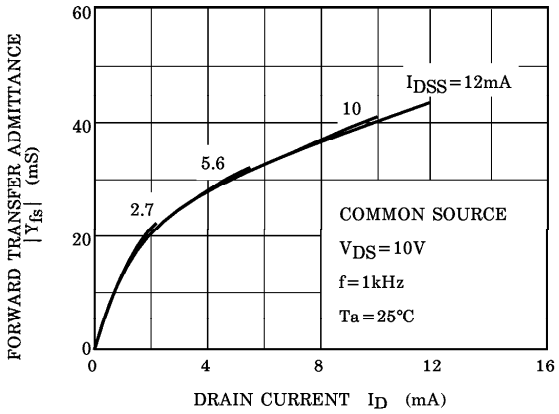
$C_{iss}$ – $V_{DS}$



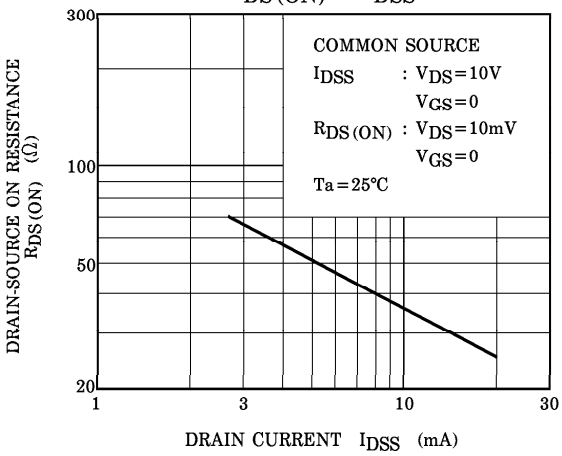

$C_{rss}$ – $V_{GD}$



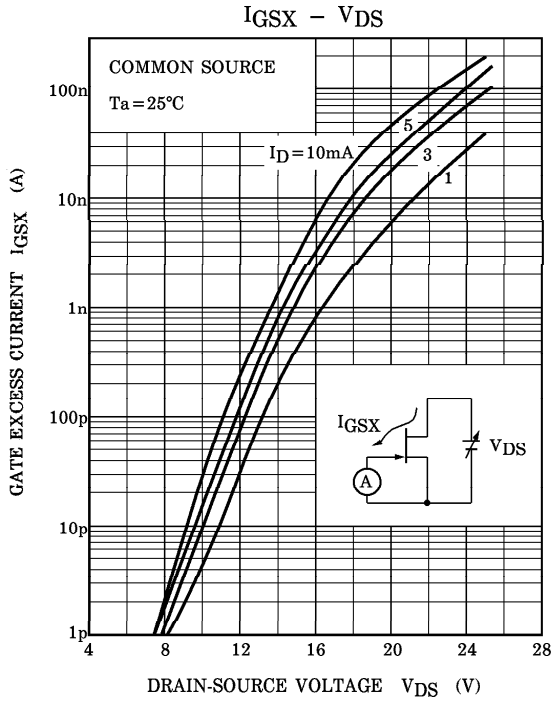

$|Y_{fs}|$ – $I_D$



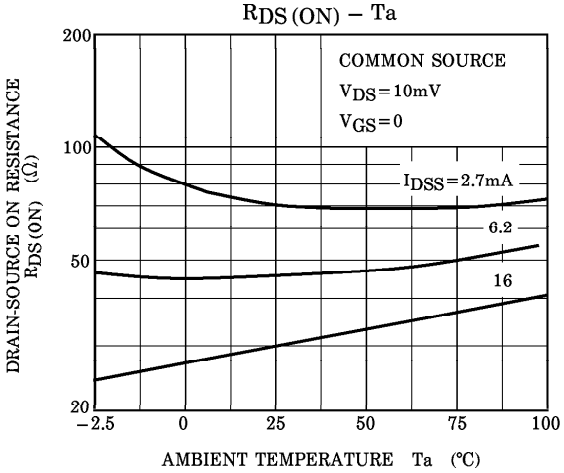

$R_{DS(ON)}$ – $I_{DSS}$



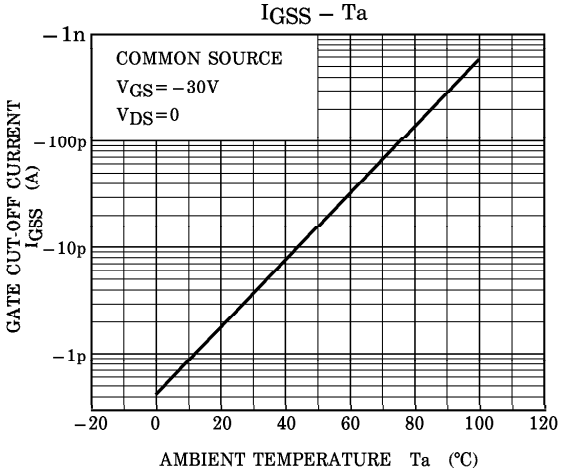

$I_{GSX}$ – $V_{DS}$



$R_{DS\,(ON)}$ – Ta




$I_{GSS}$ – Ta




$P_D$ – Ta