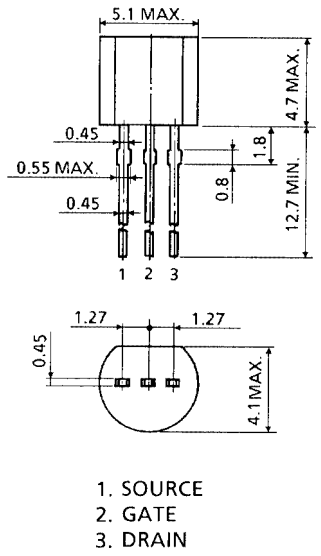
TOSHIBA Field Effect Transistor Silicon N Channel Junction Type

# 2SK246

For Constant Current, Impedance Converter and DC-AC High Input Impedance Amplifier Circuit Applications

- High breakdown voltage: $V_{GDS}$ = −50 V
- High input impedance: $I_{GSS}$ = −1 nA (max) ($V_{GS}$ = −30 V)

Unit: mm




| | |
|---|---|
| JEDEC | TO-92 |
| JEITA | SC-43 |
| TOSHIBA | 2-5F1C |

Weight: 0.21 g (typ.)

## Maximum Ratings (Ta = 25°C)

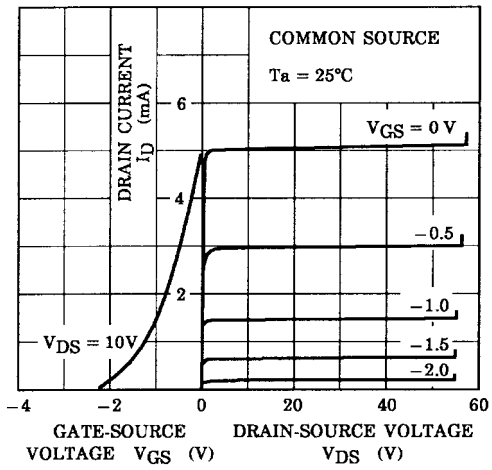
| Characteristics | Symbol | Rating | Unit |
|---|---|---|---|
| Gate-drain voltage | $V_{GDS}$ | −50 | V |
| Gate current | $I_G$ | 10 | mA |
| Drain power dissipation | $P_D$ | 300 | mW |
| Junction temperature | $T_j$ | 125 | °C |
| Storage temperature range | $T_{stg}$ | −55~125 | °C |

## Electrical Characteristics (Ta = 25°C)

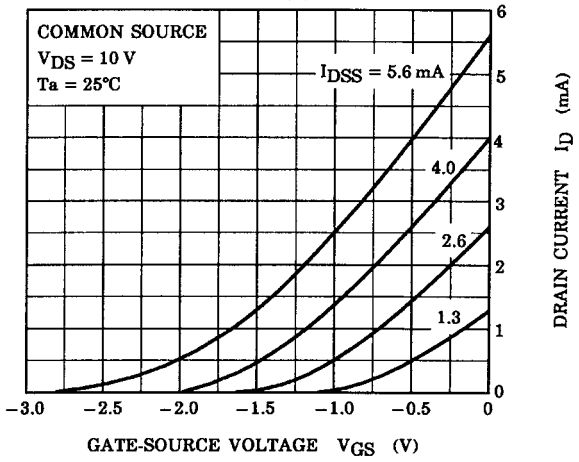
| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|---|---|---|---|---|---|---|
| Gate cut-off current | $I_{GSS}$ | $V_{GS}$ = −30 V, $V_{DS}$ = 0 | — | — | −1.0 | nA |
| Gate-drain breakdown voltage | $V_{(BR)\ GDS}$ | $V_{DS}$ = 0, $I_G$ = −100 μA | −50 | — | — | V |
| Drain current | $I_{DSS}$ (Note) | $V_{DS}$ = 10 V, $V_{GS}$ = 0 | 1.2 | — | 14 | mA |
| Gate-source cut-off voltage | $V_{GS\ (OFF)}$ | $V_{DS}$ = 10 V, $I_D$ = 0.1 μA | −0.7 | — | −6.0 | V |
| Forward transfer admittance | $\|Y_{fs}\|$ | $V_{DS}$ = 10 V, $V_{GS}$ = 0, f = 1 kHz | 1.5 | — | — | mS |
| Input capacitance | $C_{iss}$ | $V_{DS}$ = 10 V, $V_{GS}$ = 0, f = 1 MHz | — | 9.0 | — | pF |
| Reverse transfer capacitance | $C_{rss}$ | $V_{DG}$ = 10 V, $I_D$ = 0, f = 1 MHz | — | 2.5 | — | pF |

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

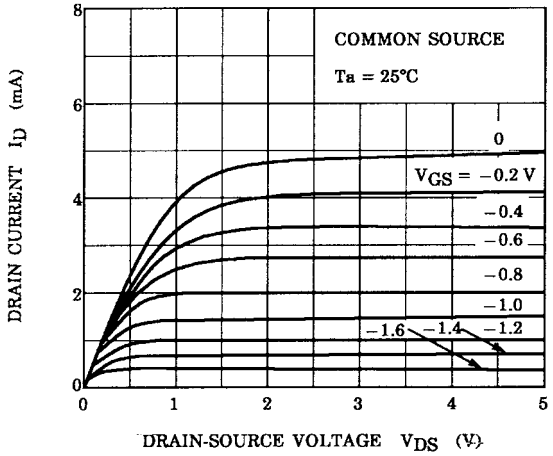
STATIC CHARACTERISTICS



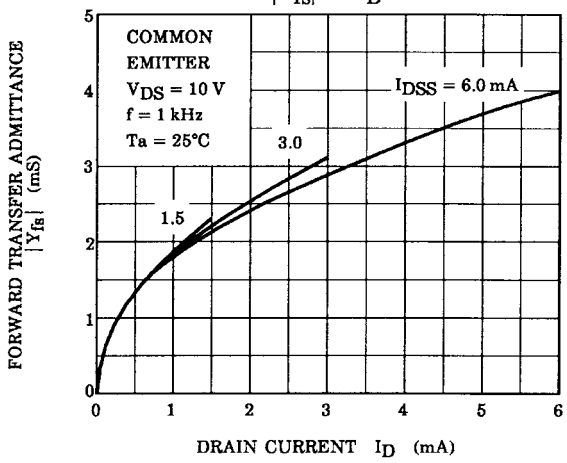

$I_D$ – $V_{GS}$



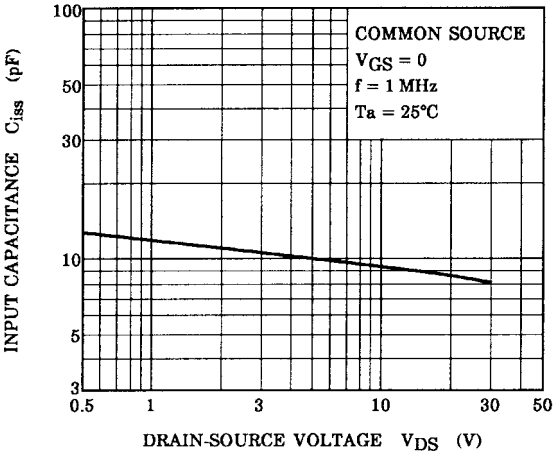

$I_D$ – $V_{DS}$ (LOW VOLTAGE RIGION)



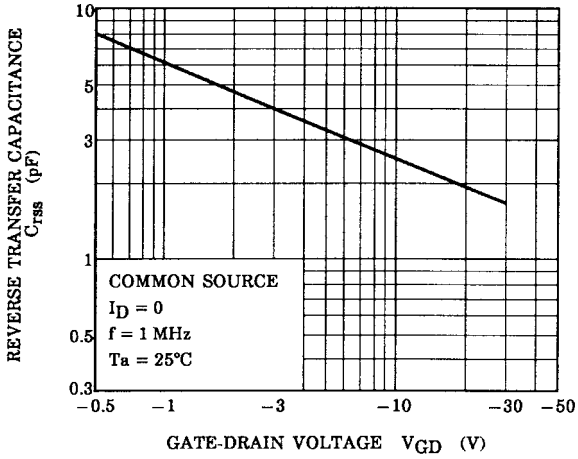

$|Y_{fs}|$ – $I_D$



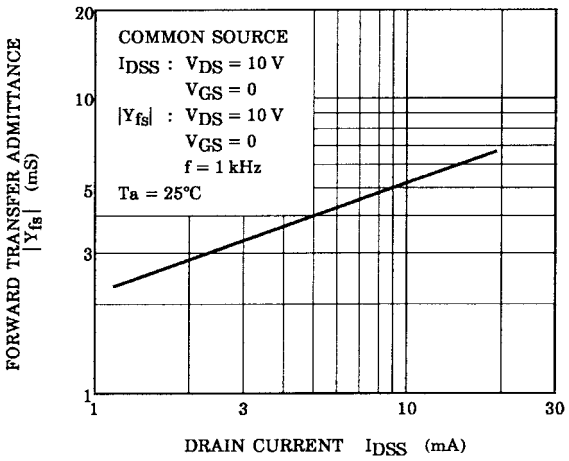

$C_{iss}$ – $V_{DS}$



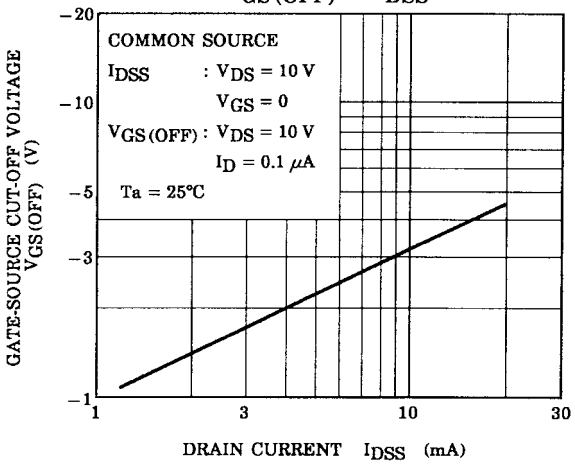

$C_{rss}$ – $V_{GD}$



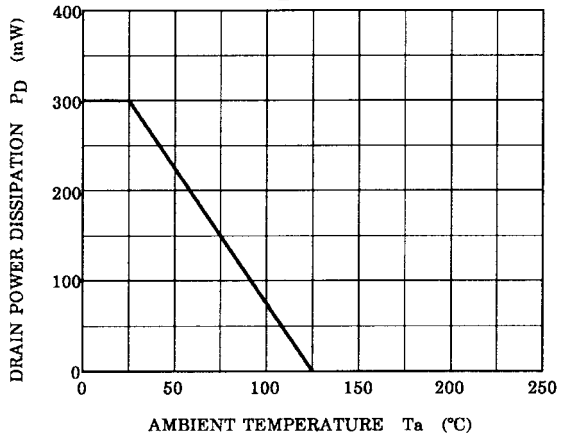
$|Y_{fs}|$ – $I_{DSS}$




$V_{GS\,(OFF)}$ – $I_{DSS}$




$P_D$ – Ta



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