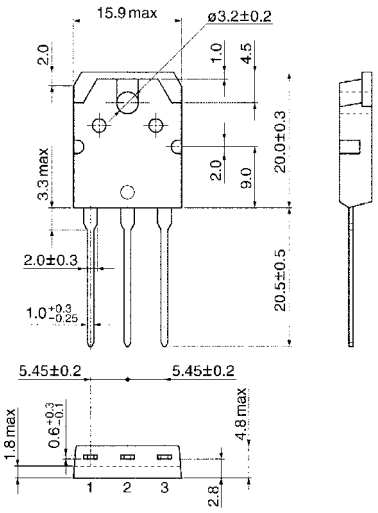
TOSHIBA Field Effect Transistor Silicon N Channel MOS Type

# 2SK1529

High Power Amplifier Application

- High breakdown voltage : $V_{DSS}$ = 180V
- High forward transfer admittance : $|Y_{fs}|$ = 4.0 S (typ.)
- Complementary to 2SJ200

Unit: mm




1. GATE
2. DRAIN (HEAT SINK)
3. SOURCE

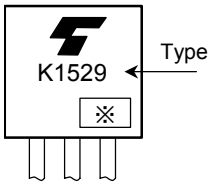
| | |
|---|---|
| JEDEC | — |
| JEITA | — |
| TOSHIBA | 2-16C1B |

Weight: 4.6 g (typ.)

## Maximum Ratings (Ta = 25°C)

| Characteristics | Symbol | Rating | Unit |
|---|---|---|---|
| Drain−source voltage | $V_{DSS}$ | 180 | V |
| Gate−source voltage | $V_{GSS}$ | ±20 | V |
| Drain current (Note 1) | $I_D$ | 10 | A |
| Drain power dissipation (Tc = 25°C) | $P_D$ | 120 | W |
| Channel temperature | $T_c$ | 150 | °C |
| Storage temperature range | $T_{stg}$ | −55~150 | °C |

## Marking




Type ※ Lot Number

Month (starting from alphabet A)

Year (last number of the christian era)

## Electrical Characteristics (Ta = 25°C)

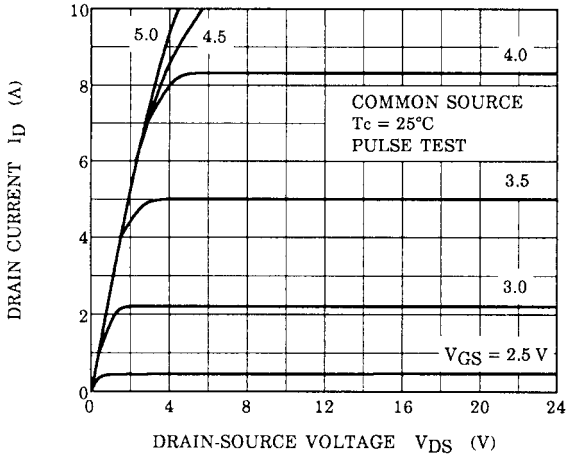
| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|---|---|---|---|---|---|---|
| Drain cut−off current | $I_{DSS}$ | $V_{DS}$ = 180 V, $V_{GS}$ = 0 | — | — | 1.0 | mA |
| Gate leakage current | $I_{GSS}$ | $V_{DS}$ = 0, $V_{GS}$ = ±20 V | — | — | ±0.5 | μA |
| Drain−source breakdown voltage | $V_{(BR)\ DSS}$ | $I_D$ = 10 mA, $V_{GS}$ = 0 | 180 | — | — | V |
| Drain−source saturation voltage | $V_{DS\ (ON)}$ | $I_D$ = 6 A, $V_{GS}$ = 10 V | — | 2.5 | 5.0 | V |
| Gate−source cut−off voltage (Note 2) | $V_{GS\ (OFF)}$ | $V_{DS}$ = 10 V, $I_D$ = 0.1 A | 0.8 | — | 2.8 | V |
| Forward transfer admittance | $\|Y_{fs}\|$ | $V_{DS}$ = 10 V, $I_D$ = 3 A | — | 4.0 | — | S |
| Input capacitance | $C_{iss}$ | $V_{DS}$ = 30 V, $V_{GS}$ = 0, f = 1 MHz | — | 700 | — | pF |
| Output capacitance | $C_{oss}$ | $V_{DS}$ = 30 V, $V_{GS}$ = 0, f = 1 MHz | — | 150 | — | |
| Reverse transfer capacitance | $C_{rss}$ | $V_{DD}$ ≈ 30 V, $V_{GS}$ = 0, f = 1 MHz | — | 90 | — | |

Note 1: Please use devices on condition that the channel temperature is below 150°C.

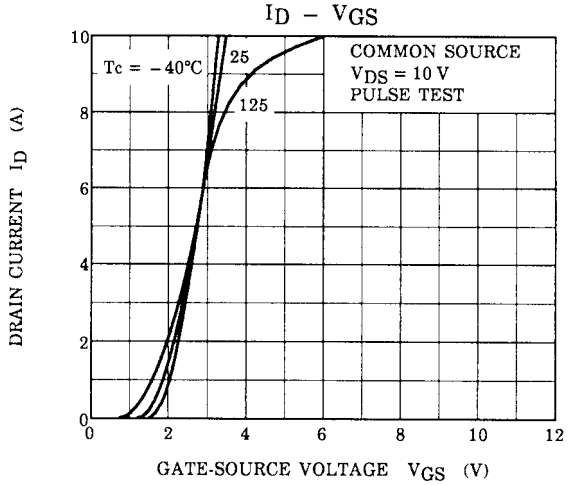
Note 2: $V_{GS\ (OFF)}$ Classification 0: 0.8~1.6 Y: 1.4~2.8

This transistor is an electrostatic sensitive device.
Please handle with caution.

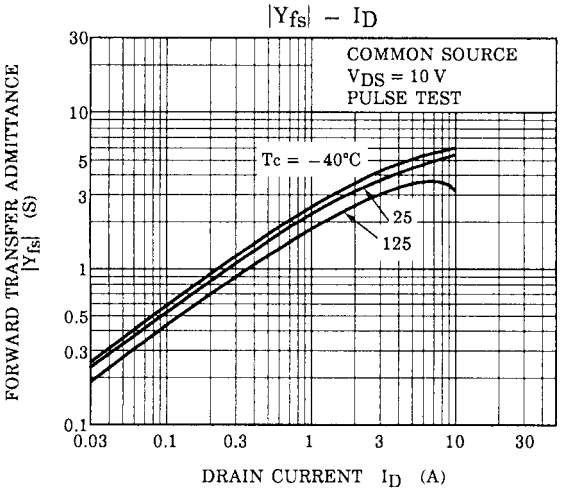
$I_D$ – $V_{DS}$



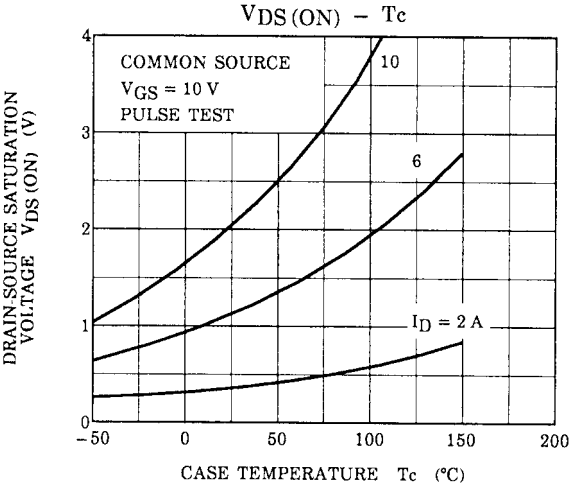

$I_D$ – $V_{GS}$



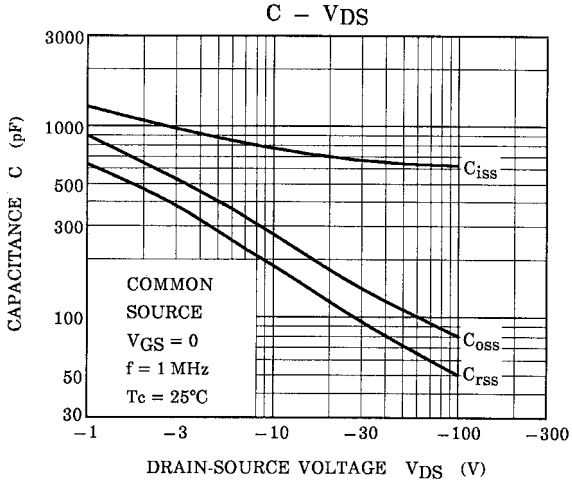

$|Y_{fs}|$ – $I_D$



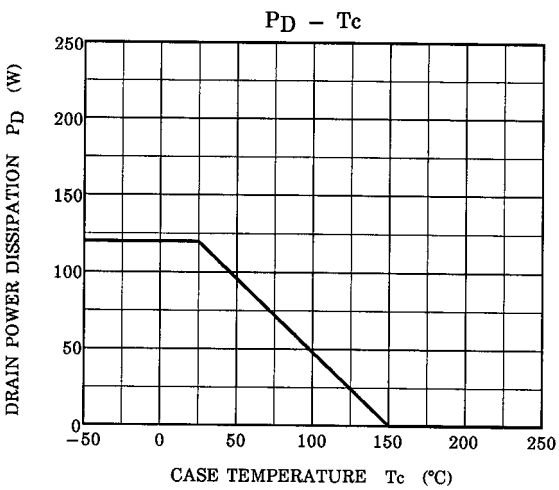

$V_{DS\,(ON)}$ – Tc

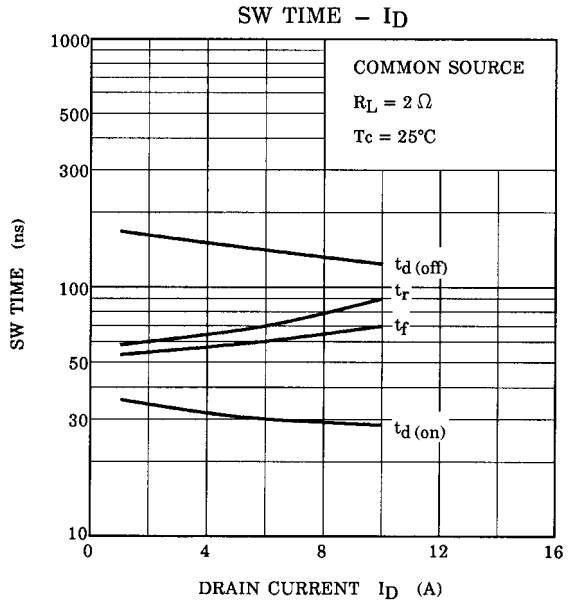


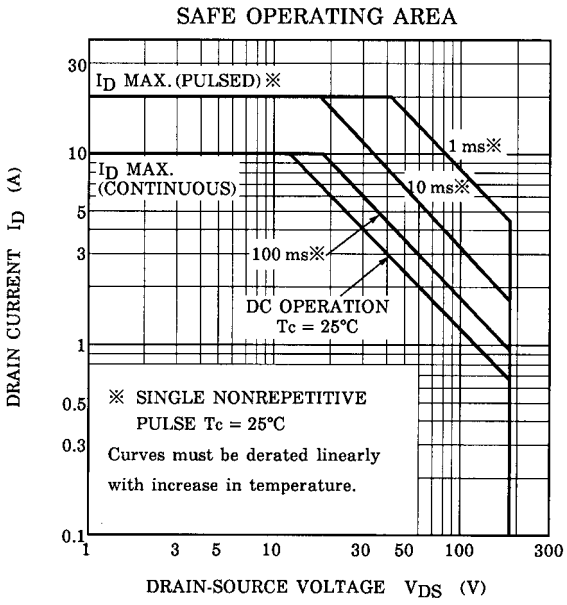

C – $V_{DS}$



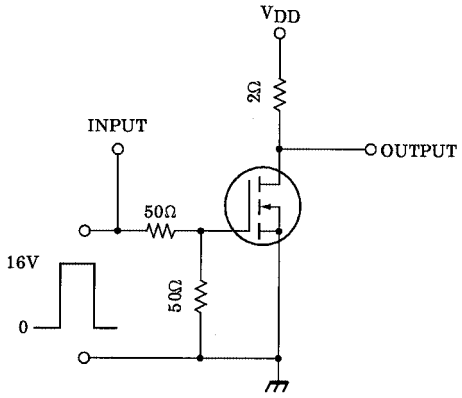

$P_D$ – Tc






## Switching Time Test Circuit




## Waveforms