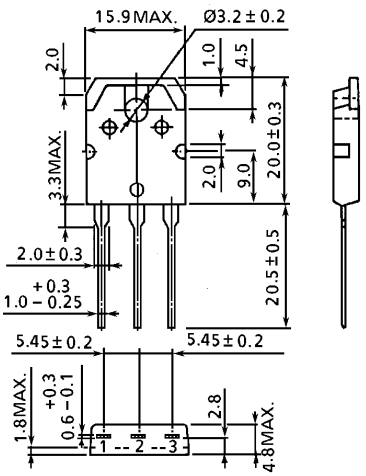
TOSHIBA FIELD EFFECT TRANSISTOR SILICON P CHANNEL MOS TYPE

# 2SJ200

HIGH POWER AMPLIFIER APPLICATION

- High Breakdown Voltage : $V_{DSS} = -180$ V
- High Forward Transfer Admittance : $|Y_{fs}| = 4.0$ S (Typ.)
- Complementary to 2SK1529

Unit in mm




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

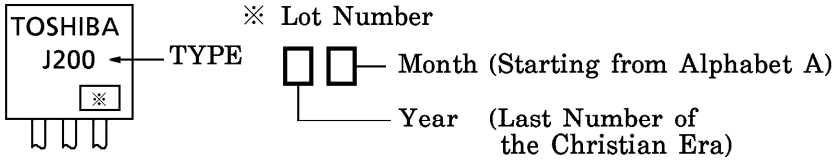
| | |
|---|---|
| JEDEC | — |
| EIAJ | SC-65 |
| TOSHIBA | 2-16C1B |

Weight : 4.7 g

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|---|---|---|
| Drain-Source Voltage | $V_{DSS}$ | −180 | V |
| Gate-Source Voltage | $V_{GSS}$ | ±20 | V |
| Drain Current | $I_D$ | −10 | A |
| Drain Power Dissipation (Tc = 25°C) | $P_D$ | 120 | W |
| Channel Temperature | $T_{ch}$ | 150 | °C |
| Storage Temperature Range | $T_{stg}$ | −55~150 | °C |

MARKING




ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | 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 | $I_{GSS}$ | $V_{DS} = 0$, $V_{GS} = \pm 20$ V | — | — | ±0.5 | μA |
| Drain-Source Breakdown Voltage | $V_{(BR)DSS}$ | $I_D = -10$ mA, $V_{GS} = 0$ | −180 | — | — | V |
| Gate-Source Cut-Off Voltage | $V_{GS(OFF)}$ (Note) | $V_{DS} = -10$ V, $I_D = -0.1$ A | −0.8 | — | −2.8 | V |
| Drain-Source Saturation Voltage | $V_{DS(ON)}$ | $I_D = -6$ A, $V_{GS} = -10$ V | — | −1.5 | −5.0 | 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 | — | 1300 | — | pF |
| Output Capacitance | $C_{oss}$ | $V_{DS} = -30$ V, $V_{GS} = 0$, f = 1 MHz | — | 350 | — | pF |
| Reverse Transfer Capacitance | $C_{rss}$ | $V_{DS} = -30$ V, $V_{GS} = 0$, f = 1 MHz | — | 200 | — | pF |

(Note) : $V_{GS(OFF)}$ Classification O : −0.8~−1.6, Y : −1.4~−2.8

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

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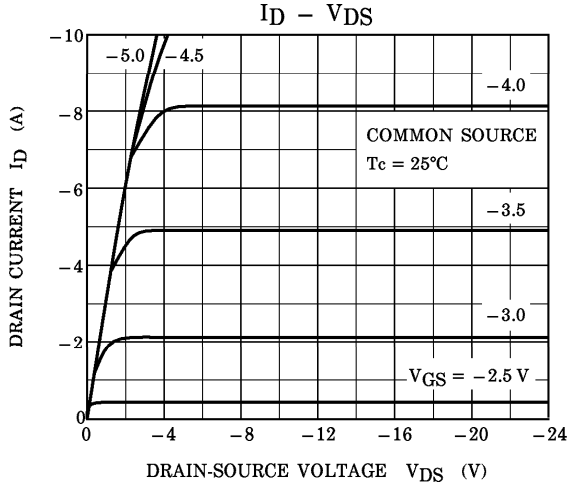
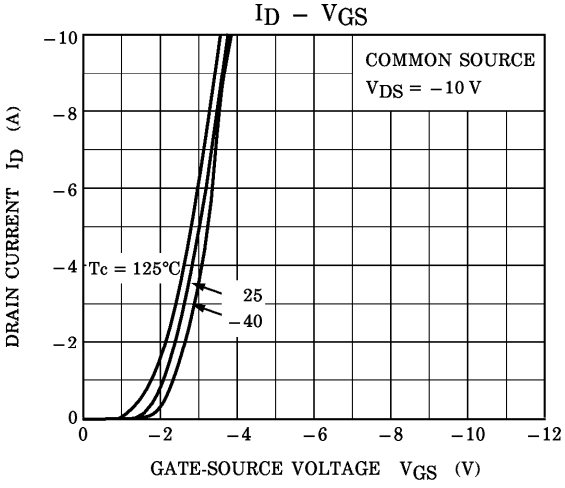
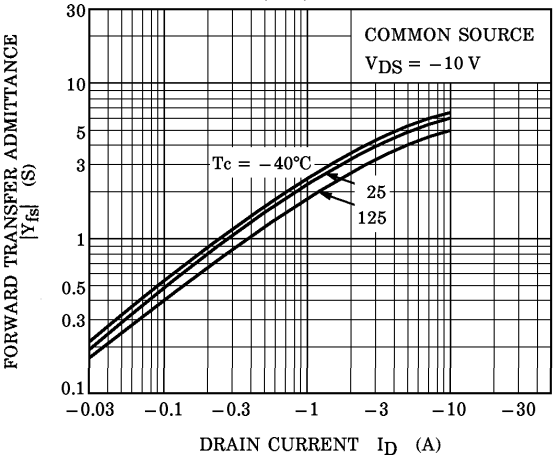
$I_D - V_{DS}$



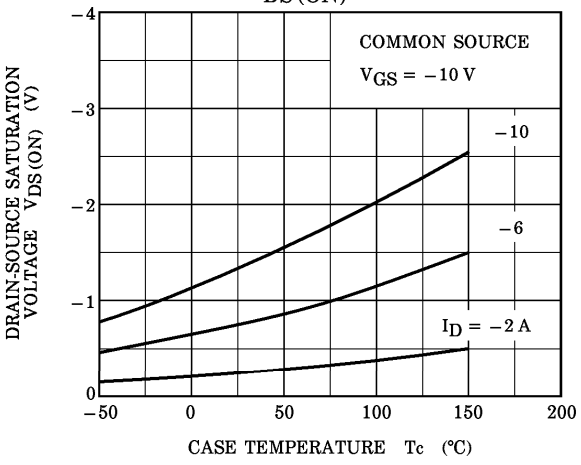

$I_D - V_{GS}$



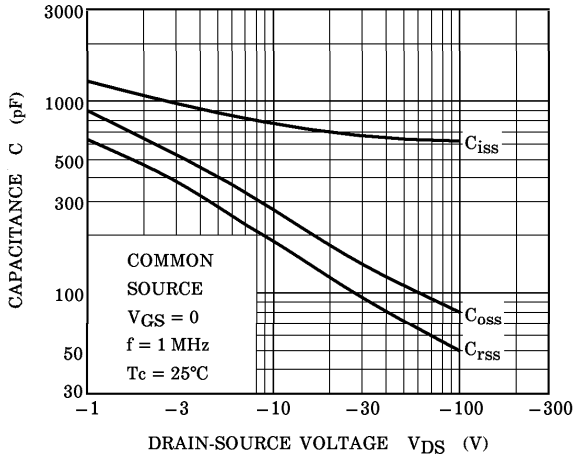

$|Y_{fs}| - I_D$



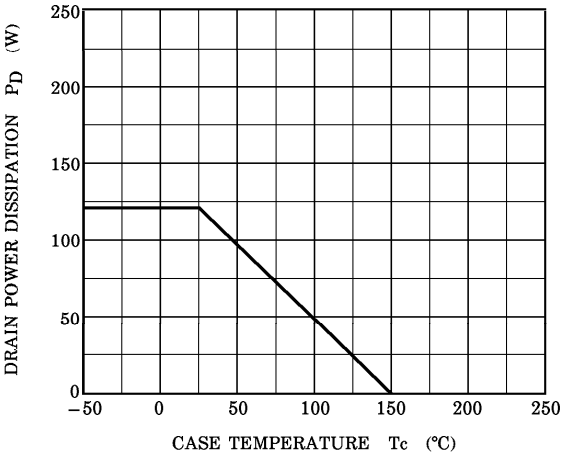

$V_{DS\,(ON)} - Tc$




$C - V_{DS}$




$P_D - Tc$

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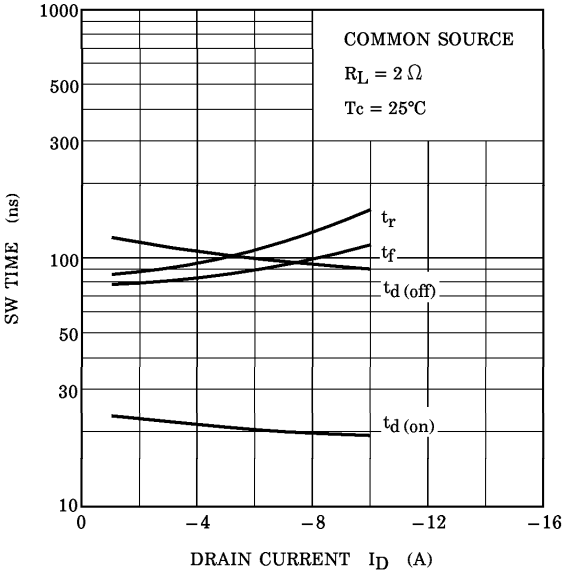
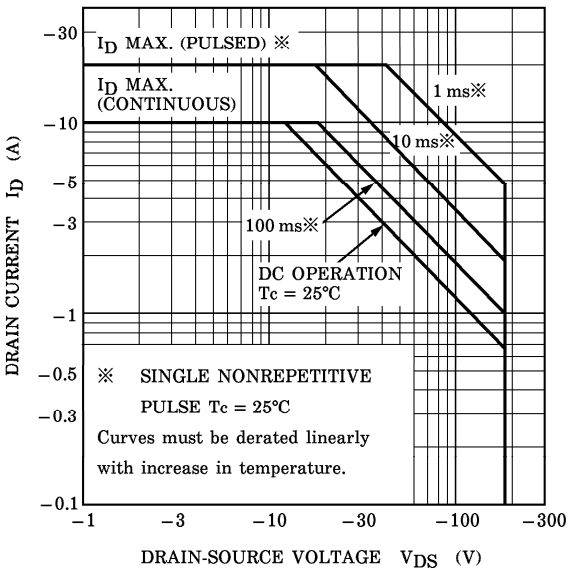
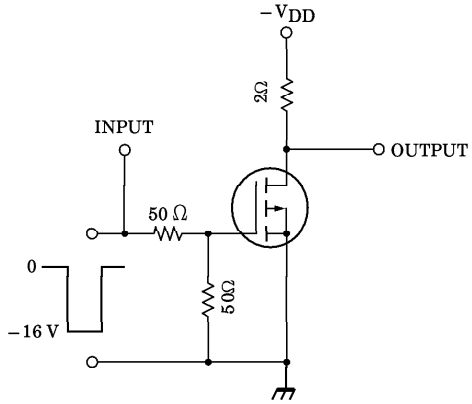
SW TIME – $I_D$




SAFE OPERATING AREA




SWITCHING TIME TEST CIRCUIT




WAVEFORMS