

TOSHIBA Field Effect Transistor Silicon N Channel MOS Type

2SK1530

High-Power Amplifier Application

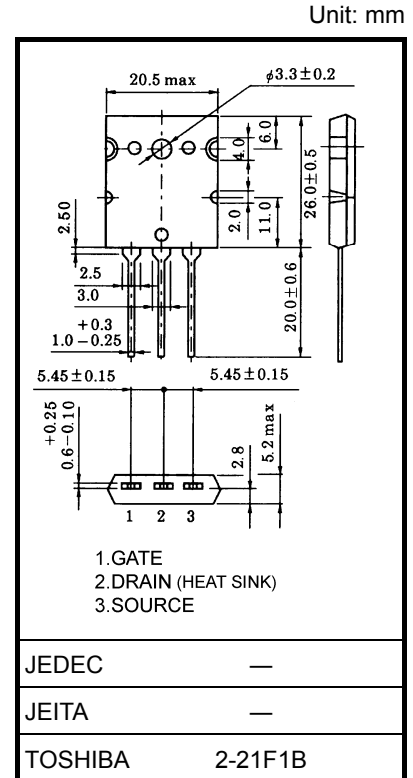
- High breakdown voltage : $V_{DS} = 200\text{ V}$
- High forward transfer admittance : $|Y_{fs}| = 5.0\text{ S (typ.)}$
- Complementary to 2SJ201

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

| Characteristics | Symbol | Rating | Unit |
|--|-----------|------------|------------------|
| Drain-source voltage | V_{DS} | 200 | V |
| Gate-source voltage | V_{GS} | ± 20 | V |
| Drain current (Note 1) | I_D | 12 | A |
| Drain power dissipation ($T_c = 25^\circ\text{C}$) | P_D | 150 | W |
| Channel temperature | T_{ch} | 150 | $^\circ\text{C}$ |
| Storage temperature range | T_{stg} | -55 to 150 | $^\circ\text{C}$ |

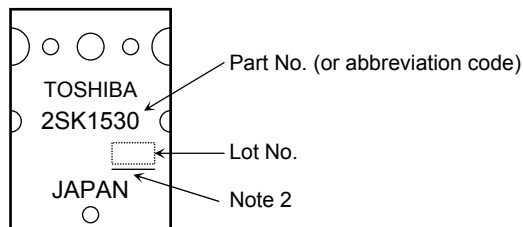
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Note 1: Ensure that the channel temperature does not exceed 150°C .



Weight: 9.75 g (typ.)

Marking



Note 2: A line under a Lot No. identifies the indication of product Labels.

Not underlined: $[[Pb]]/INCLUDES > MCV$

Underlined: $[[G]]/RoHS\ COMPATIBLE$ or $[[G]]/RoHS\ [[Pb]]$

Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

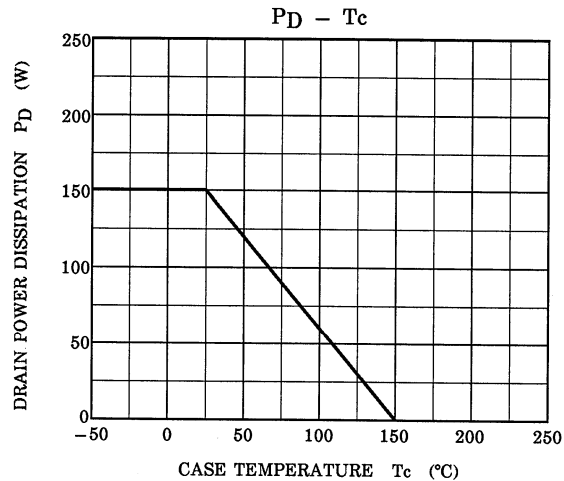
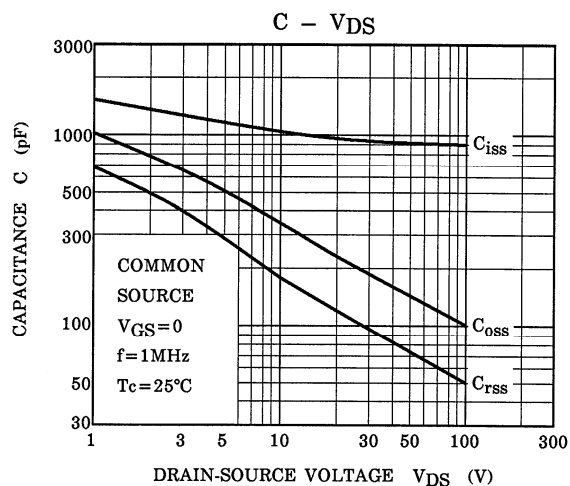
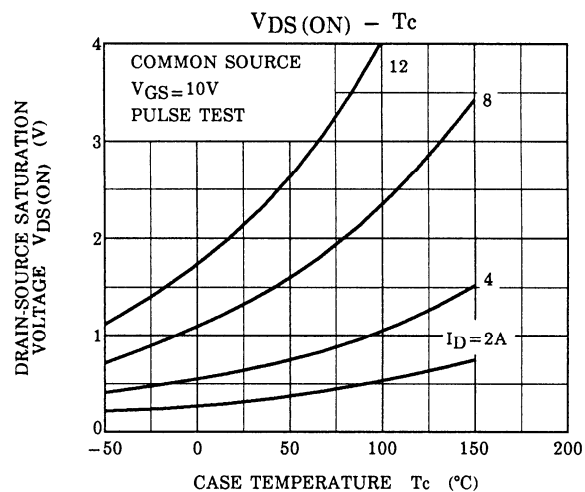
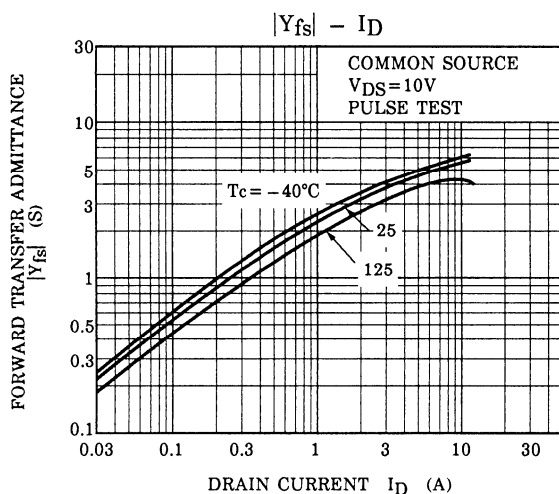
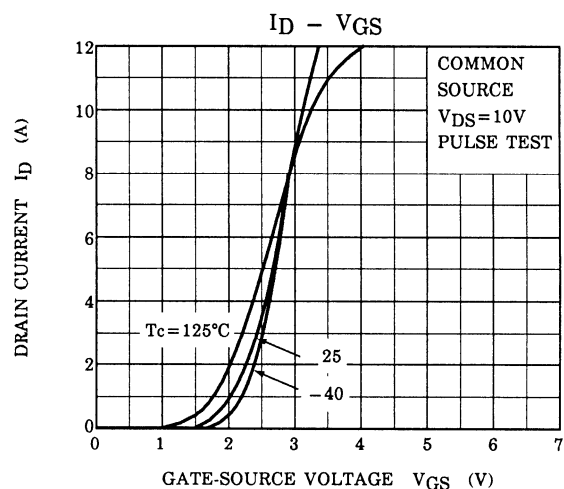
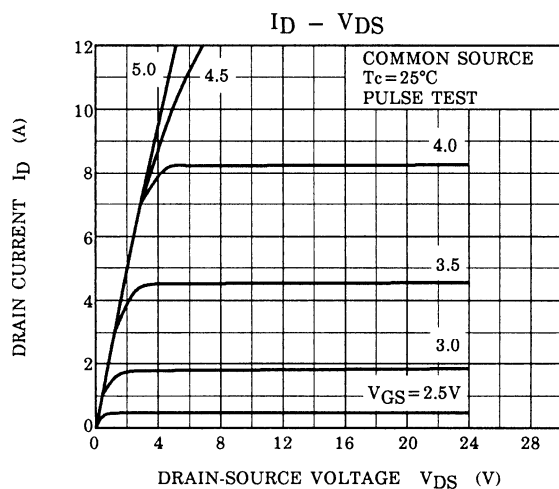
Electrical Characteristics ($T_a = 25^\circ\text{C}$)

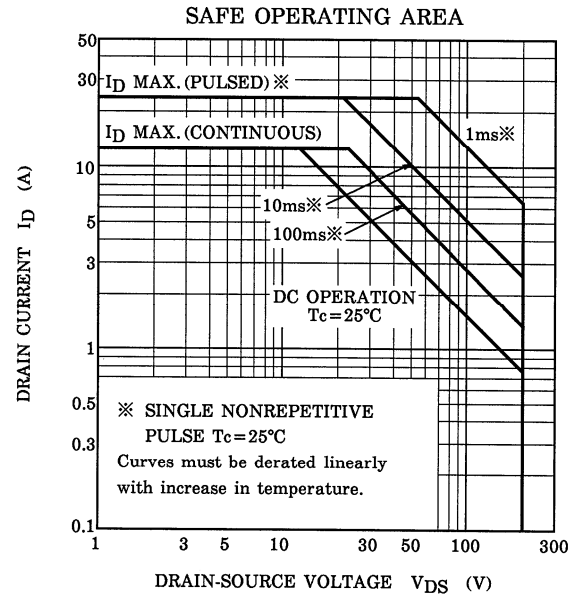
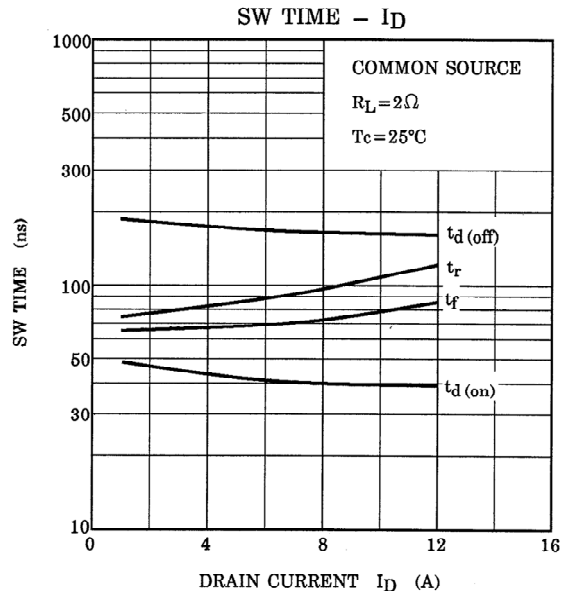
| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|---------------|--|-----|------|-----------|---------------|
| Drain cut-off current | I_{DSS} | $V_{DS} = 200\text{ V}, V_{GS} = 0$ | — | — | 1.0 | mA |
| Gate leakage current | I_{GSS} | $V_{DS} = 0\text{ V}, V_{GS} = \pm 20\text{ V}$ | — | — | ± 0.5 | μA |
| Drain-source breakdown voltage | $V_{(BR)DSS}$ | $I_D = 10\text{ mA}, V_{GS} = 0$ | 200 | — | — | V |
| Drain-source saturation voltage | $V_{DS(ON)}$ | $I_D = 8\text{ A}, V_{GS} = 10\text{ V}$ | — | 2.5 | 5.0 | V |
| Gate-source cut-off voltage (Note 3) | $V_{GS(OFF)}$ | $V_{DS} = 10\text{ V}, I_D = 0.1\text{ A}$ | 0.8 | — | 2.8 | V |
| Forward transfer admittance | $ Y_{fs} $ | $V_{DS} = 10\text{ V}, I_D = 5\text{ A}$ | — | 5.0 | — | S |
| Input capacitance | C_{iss} | $V_{DS} = 30\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$ | — | 900 | — | pF |
| Output capacitance | C_{oss} | $V_{DS} = 30\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$ | — | 180 | — | |
| Reverse transfer capacitance | C_{rss} | $V_{DS} = 30\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$ | — | 100 | — | |

Note 3: $V_{GS(OFF)}$ Classification 0: 0.8 to 1.6 Y: 1.4 to 2.8

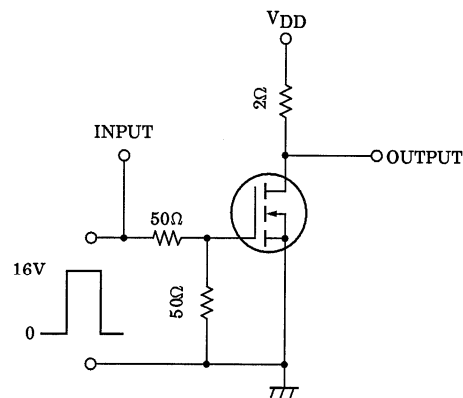
This transistor is an electrostatic-sensitive device.

Please handle with caution.

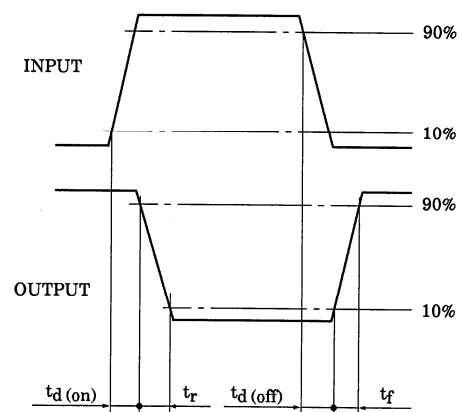




Switching Time Test Circuit



Waveforms



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