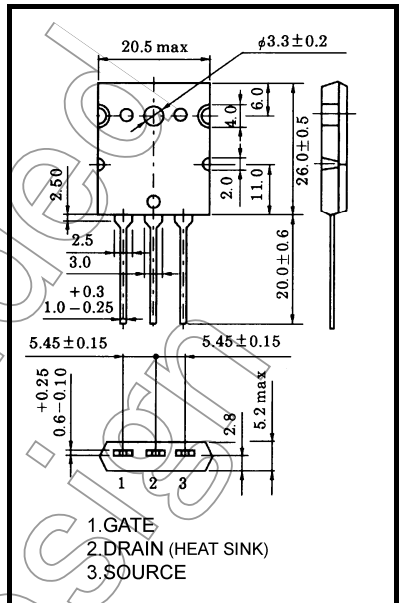
TOSHIBA Field Effect Transistor Silicon N Channel MOS Type

2SK1530

High-Power Amplifier Application

Unit: mm

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



JEDEC	—
JEITA	—
TOSHIBA	2-21F1B

Weight: 9.75 g (typ.)

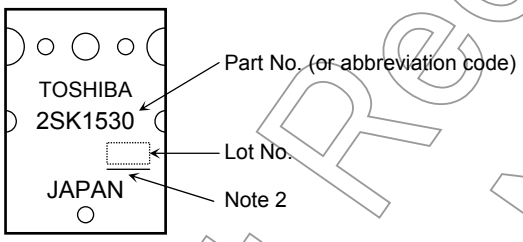
Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Drain−source voltage	V_{DSS}	200	V
Gate−source voltage	V_{GSS}	±20	V
Drain current (Note 1)	I_D	12	A
Drain power dissipation (Tc = 25°C)	P_D	150	W
Channel temperature	T_{ch}	150	°C
Storage temperature range	T_{stg}	−55 to 150	°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.

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 (Ta = 25°C)

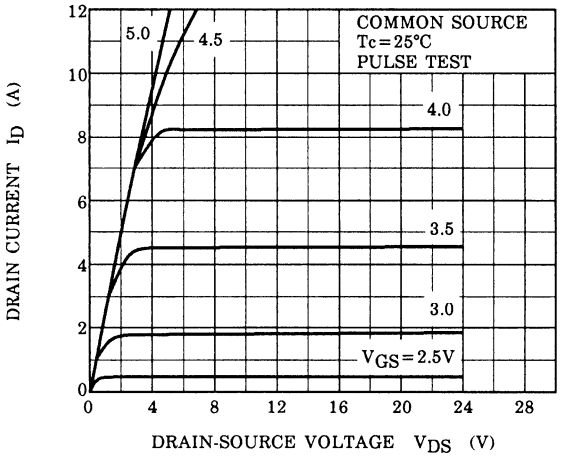
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Drain cut−off current	I_{DSS}	V_{DS} = 200 V, V_{GS} = 0	—	—	1.0	mA
Gate leakage current	I_{GSS}	V_{DS} = 0V, V_{GS} = ±20 V	—	—	±0.5	μA
Drain−source breakdown voltage	$V_{(BR)\ DSS}$	I_D = 10 mA, V_{GS} = 0	200	—	—	V
Drain−source saturation voltage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

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

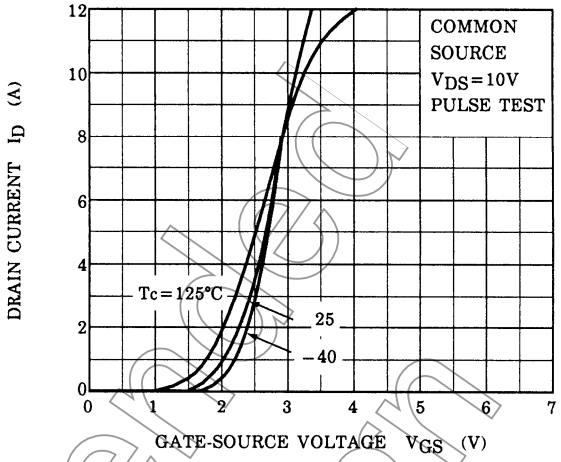
This transistor is an electrostatic-sensitive device.
Please handle with caution.

Not Recommended for New Design

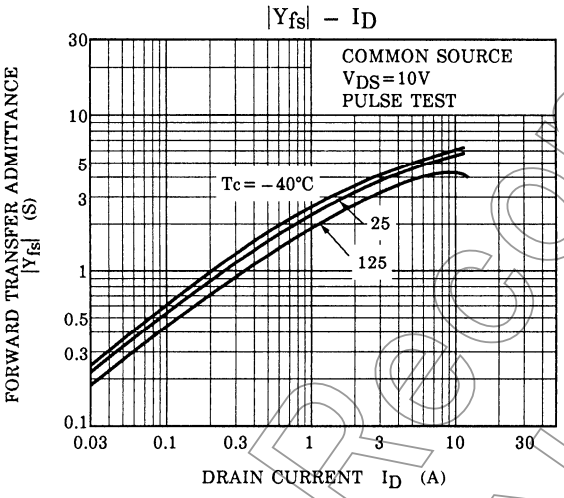
$I_D - V_{DS}$



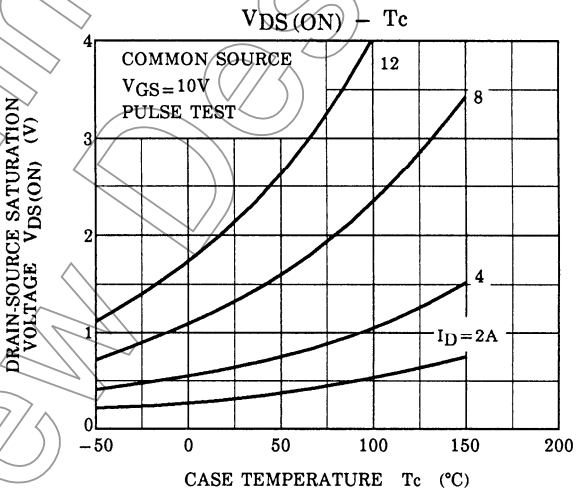
$I_D - V_{GS}$



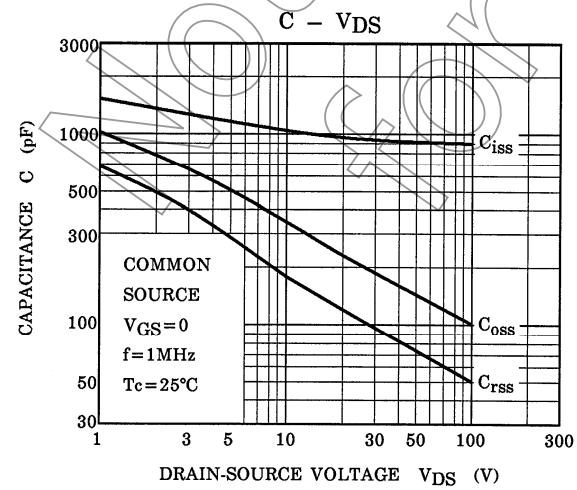
$|Y_{fs}| - I_D$



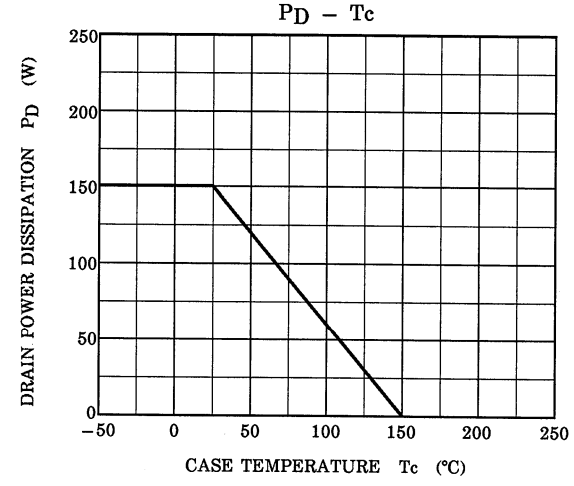
$V_{DS(ON)} - Tc$



$C - V_{DS}$

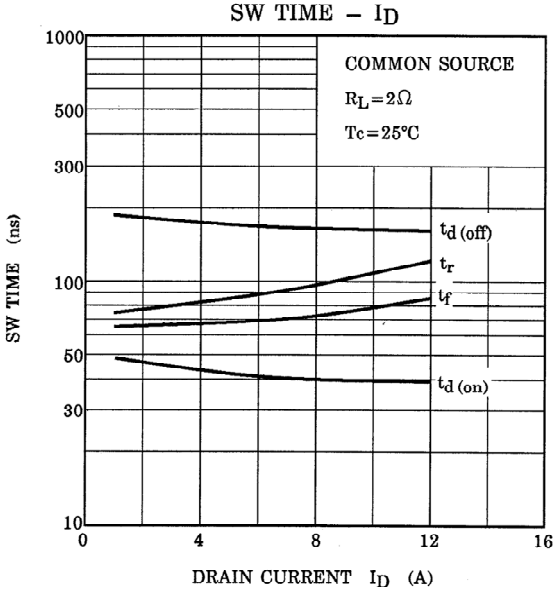


$P_D - Tc$

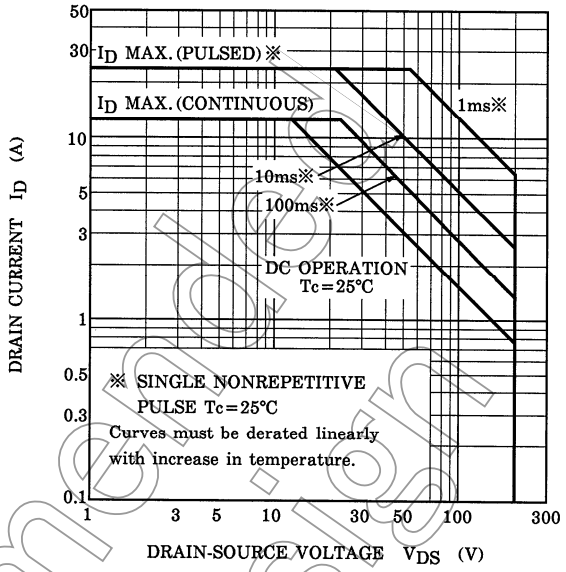


Not Recommended for New Design

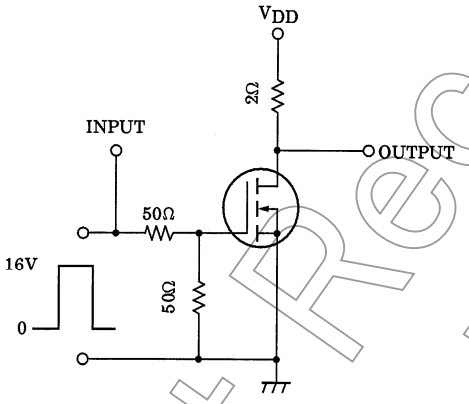
SW TIME – I_D



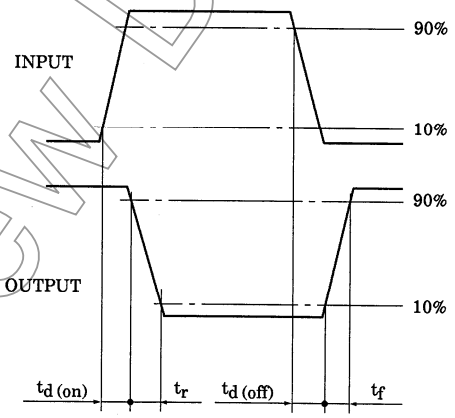
SAFE OPERATING AREA



Switching Time Test Circuit



Waveforms



Not Recommended for New Design

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