

TOSHIBA Field Effect Transistor Silicon N Channel MOS Type

2SK1529

Unit: mm

High-Power Amplifier Application

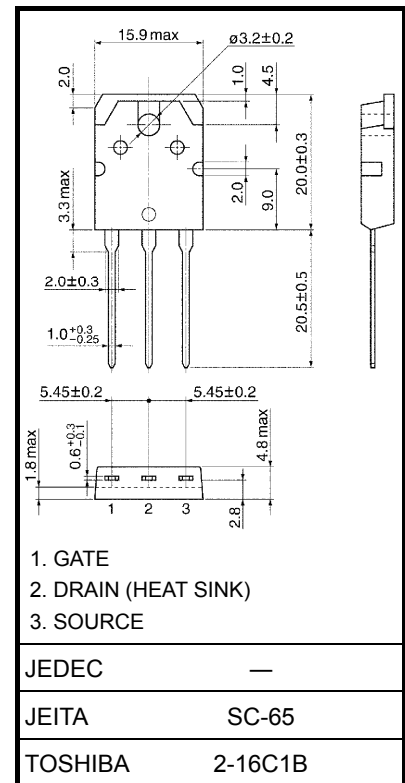
- High breakdown voltage : $V_{DSS} = 180\text{ V}$
- High forward transfer admittance : $|Y_{fs}| = 4.0\text{ S (typ.)}$
- Complementary to 2SJ200

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

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 ($T_c = 25^\circ\text{C}$)	P_D	120	W
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$

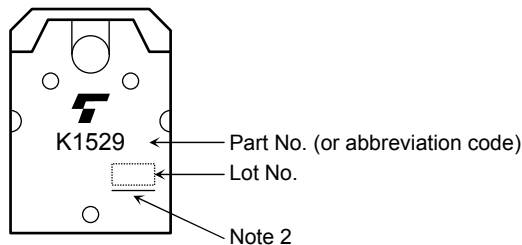
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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: 4.6 g (typ.)

Marking



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

Not underlined: $[[\text{Pb}]]/\text{INCLUDES} > \text{MCV}$

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

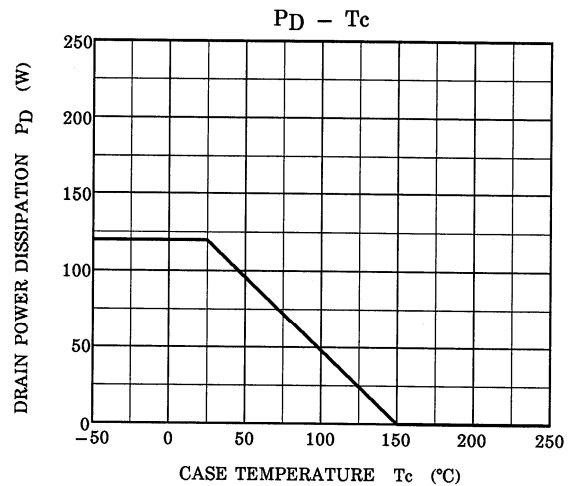
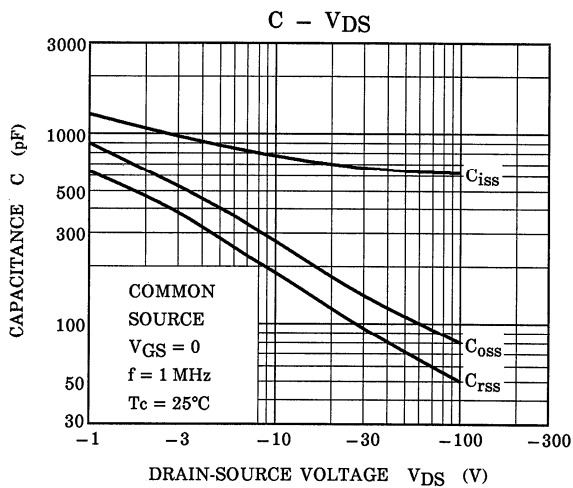
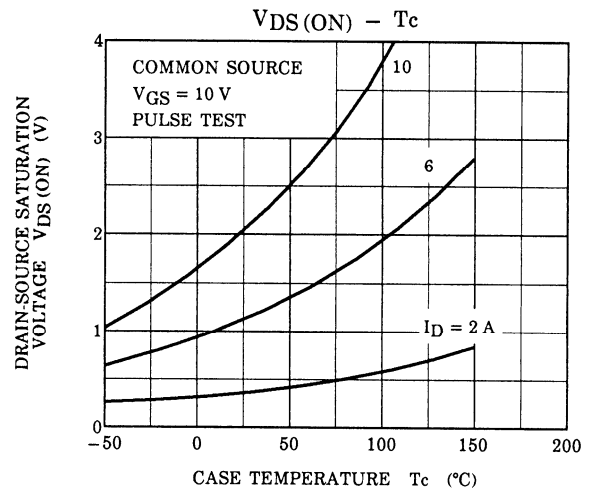
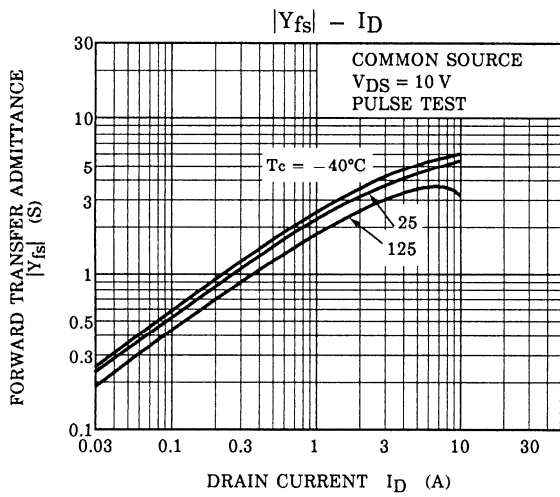
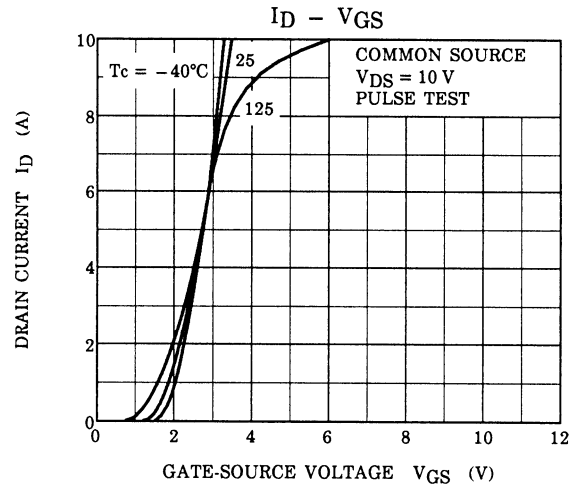
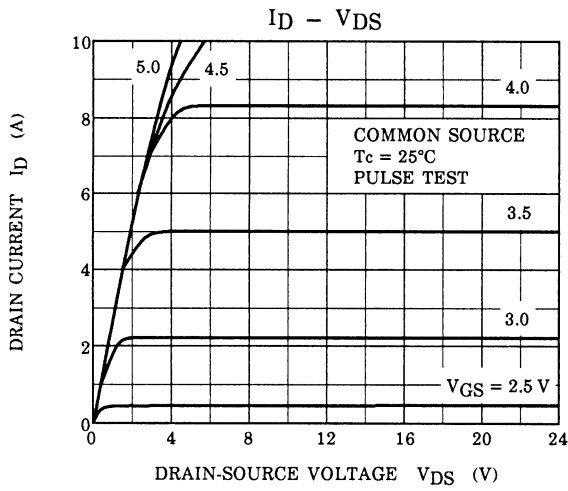
Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical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

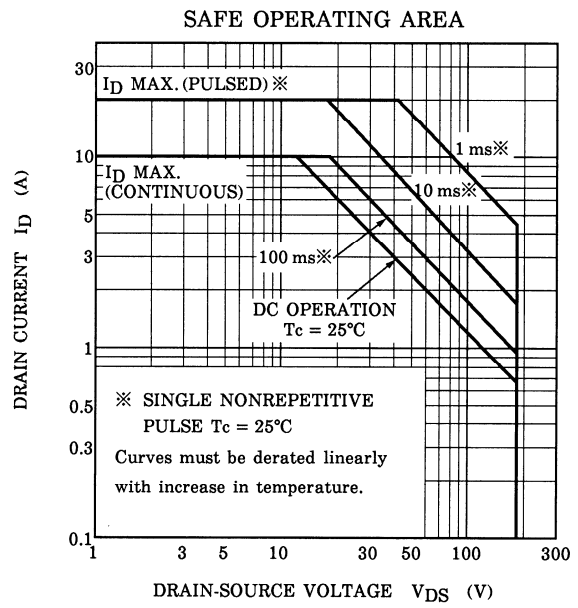
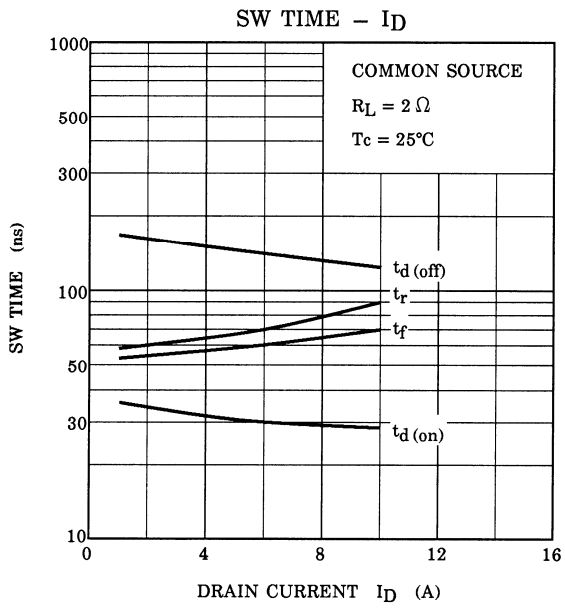
Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Drain cut-off current	I_{DSS}	$V_{DS} = 180\text{ V}, V_{GS} = 0$	—	—	1.0	mA
Gate leakage current	I_{GSS}	$V_{DS} = 0, V_{GS} = \pm 20\text{ V}$	—	—	± 0.5	μA
Drain-source breakdown voltage	$V_{(BR)DSS}$	$I_D = 10\text{ mA}, V_{GS} = 0$	180	—	—	V
Drain-source saturation voltage	$V_{DS(ON)}$	$I_D = 6\text{ A}, V_{GS} = 10\text{ V}$	—	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} $	$V_{DS} = 10\text{ V}, I_D = 3\text{ A}$	—	4.0	—	S
Input capacitance	C_{iss}	$V_{DS} = 30\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$	—	700	—	pF
Output capacitance	C_{oss}	$V_{DS} = 30\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$	—	150	—	
Reverse transfer capacitance	C_{rss}	$V_{DS} = 30\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$	—	90	—	

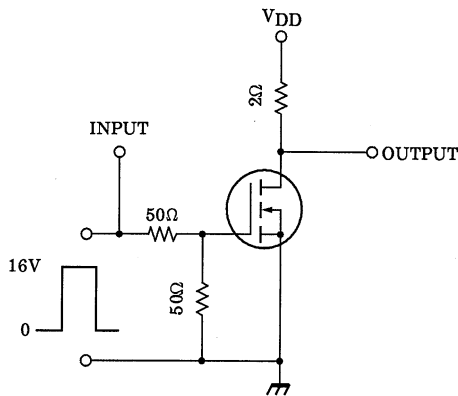
Note 3: $V_{GS(OFF)}$ Classification 0: 0.8 to 1.6 Y: 1.4 to 2.8

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

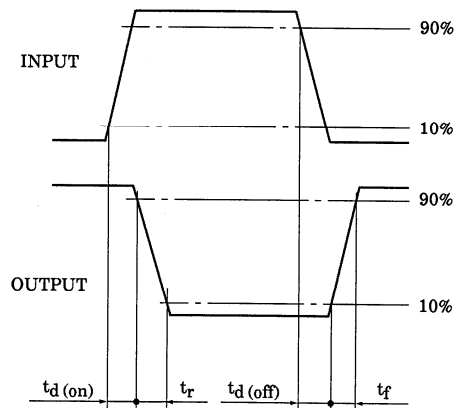




Switching Time Test Circuit



Waveforms



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