Unit: mm

TOSHIBA Field Effect Transistor Silicon N Channel MOS Type

## 2SK1530

#### **High-Power Amplifier Application**

High breakdown voltage :  $V_{DSS} = 200V$  High forward transfer admittance :  $|Y_{fs}| = 5.0 \text{ S (typ.)}$ 

• Complementary to 2SJ201

#### Absolute Maximum Ratings (Ta = 25°C)

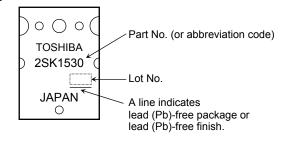
Characteristics	Symbol	Rating	Unit	
Drain-source voltage	$V_{DSS}$	200	V	
Gate-source voltage	V <sub>GSS</sub>	±20	V	
Drain current (Note 1)	ΙD	12	Α	
Drain power dissipation (Tc = 25°C)	$P_{D}$	150	W	
Channel temperature	T <sub>c</sub>	150	°C	
Storage temperature range	T <sub>stg</sub>	-55~150	°C	

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).

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Weight: 9.75 g (typ.)

#### Marking



#### **Electrical Characteristics (Ta = 25°C)**

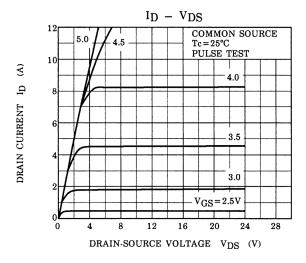
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Drain cut-off current	I <sub>DSS</sub>	V <sub>DS</sub> = 200 V, V <sub>GS</sub> = 0	_	_	1.0	mA
Gate leakage current	I <sub>GSS</sub>	V <sub>DS</sub> = 0V, V <sub>GS</sub> = ±20 V	_	_	±0.5	μΑ
Drain-source breakdown voltage	V <sub>(BR) DSS</sub>	I <sub>D</sub> = 10 mA, V <sub>GS</sub> = 0	200	_	_	V
Drain-source saturation voltage	V <sub>DS</sub> (ON)	I <sub>D</sub> = 8 A, V <sub>GS</sub> = 10 V	_	2.5	5.0	V
Gate-source cut-off voltage (Note 2)	V <sub>GS</sub> (OFF)	V <sub>DS</sub> = 10 V, I <sub>D</sub> = 0.1 A	0.8	_	2.8	٧
Forward transfer admittance	Y <sub>fs</sub>	V <sub>DS</sub> = 10 V, I <sub>D</sub> = 5 A	_	5.0	_	S
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 30 V, V <sub>GS</sub> = 0, f = 1 MHz	_	900	_	
Output capacitance	C <sub>oss</sub>	V <sub>DS</sub> = 30 V, V <sub>GS</sub> = 0, f = 1 MHz	_	180	_	pF
Reverse transfer capacitance	C <sub>rss</sub>	V <sub>DD</sub> = 30 V, V <sub>GS</sub> = 0, f = 1 MHz	_	100	_	

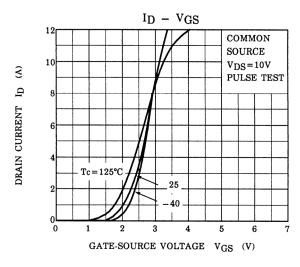
Note 1: Ensure that the channel temperature does not exceed 150°C.

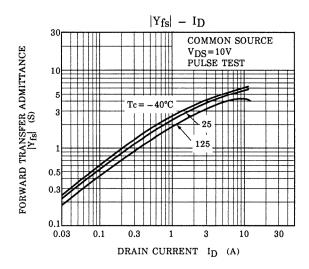
Note 2: V<sub>GS (OFF)</sub> Classification 0: 0.8~1.6 Y: 1.4~2.8

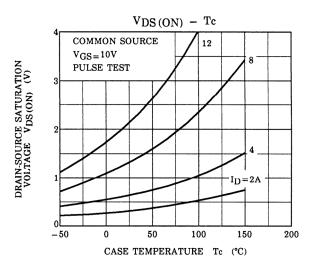
This transistor is an electrostatic-sensitive device.

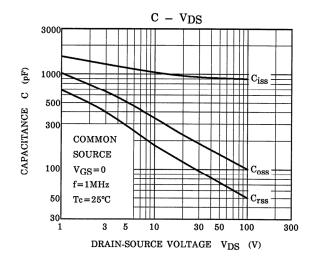
Please handle with caution.

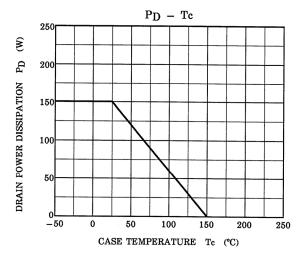


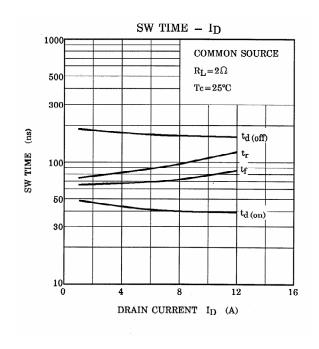


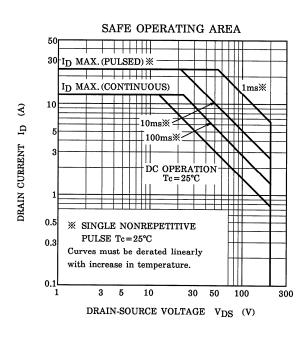




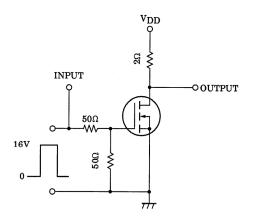




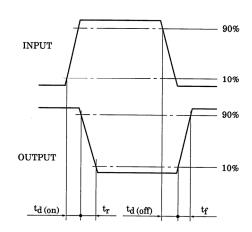




### **Switching Time Test Circuit**



#### **Waveforms**



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20070701-EN

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