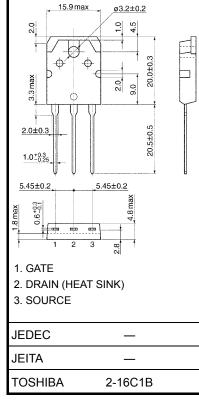
TOSHIBA Field Effect Transistor Silicon P Channel MOS Type

# 2SJ200

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

- High breakdown voltage •
- : VDSS = -180 V
- $|Y_{fs}| = 4.0 \text{ S (typ.)}$ High forward transfer admittance
- Complementary to 2SK1529



Weight: 4.6 g (typ.)

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).

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

Characteristics	Symbol	Rating	Unit	
Drain-source voltage	V <sub>DSS</sub>	-180	V	
Gate-source voltage	V <sub>GSS</sub>	±20	V	
Drain current (Note 1	) I <sub>D</sub>	-10	А	
Drain power dissipation (Tc = 25°C)	PD	120	W	
Channel temperature	T <sub>ch</sub>	150	°C	
Storage temperature range	T <sub>stg</sub>	-55~150	°C	

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Unit: mm

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

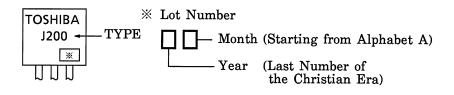
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Drain cut-off current	I <sub>DSS</sub>	$V_{DS}$ = -180 V, $V_{GS}$ = 0	_	_	-1.0	mA
Gate leakage current	I <sub>GSS</sub>	V <sub>DS</sub> = 0, V <sub>GS</sub> = ±20 V	_	_	±0.5	μA
Drain-source breakdown voltage	V (BR) DSS	I <sub>D</sub> = -10 mA, V <sub>GS</sub> = 0	-180	—	—	V
Gate-source cut-off voltage (Note 2)	V <sub>GS (OFF)</sub>	V <sub>DS</sub> = -10 V, I <sub>D</sub> = -0.1 A	-0.8	_	-2.8	V
Drain-source saturation voltage	V <sub>DS (ON)</sub>	$I_D = -6 A, V_{GS} = -10 V$	—	-1.5	-5.0	V
Forward transfer admittance	Y <sub>fs</sub>	$V_{DS} = -10 \text{ V}, \text{ I}_{D} = -3 \text{ A}$	—	4.0	—	S
Input capacitance	C <sub>iss</sub>	$V_{DS}$ = -30 V, $V_{GS}$ = 0, f = 1 MHz	—	1300	—	
Output capacitance	C <sub>oss</sub>	V <sub>DS</sub> = −30 V, V <sub>GS</sub> = 0, f = 1 MHz	_	350	_	pF
Reverse transfer capacitance	C <sub>rss</sub>	V <sub>DS</sub> = −30 V, V <sub>GS</sub> = 0, f = 1 MHz	_	200	_	

Note 1: Please use devices on condition that the channel temperature is below 150°C.

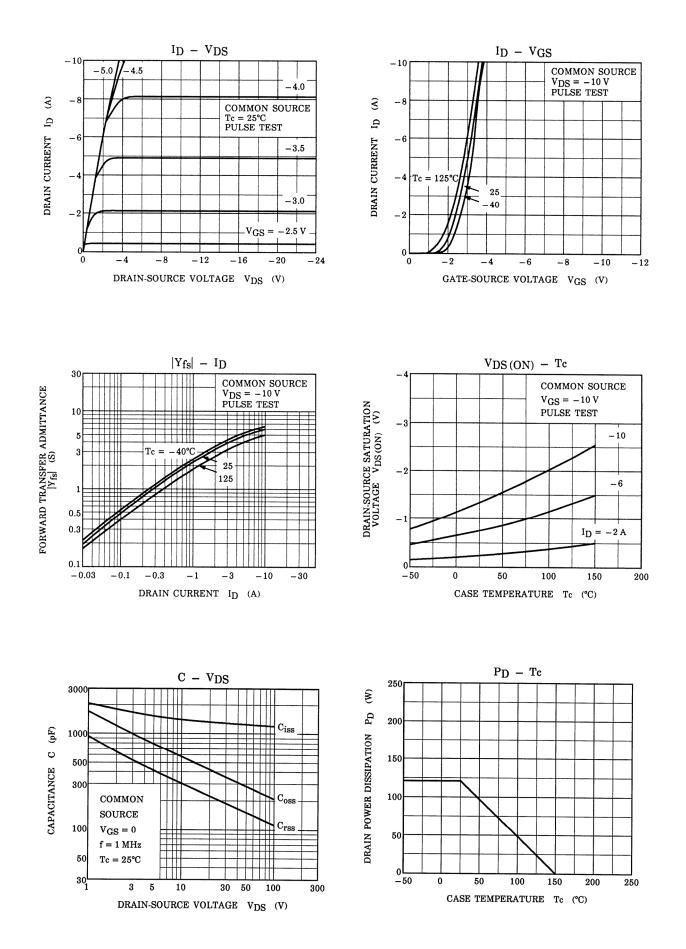
Note 2: V<sub>GS (OFF)</sub> Classification O: -0.8~-1.6, Y: -1.4~-2.8

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

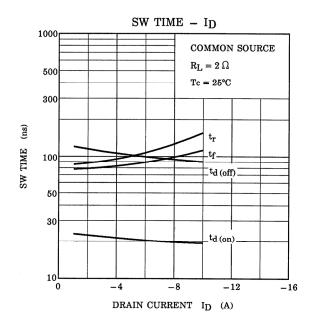
### Marking

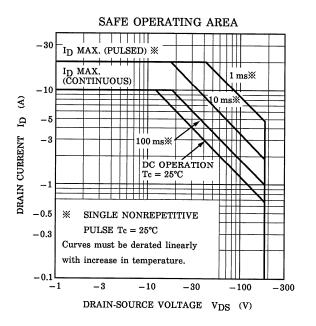


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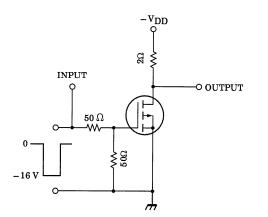


### TOSHIBA

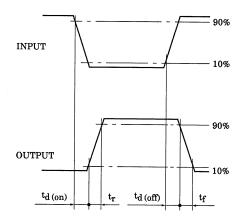




### Switching Time Test Circuit



#### Waveforms



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