

# 2SJ338

## Audio-Frequency Power Amplifier Applications

- High breakdown voltage :  $V_{DSS} = -180\text{ V}$
- High forward transfer admittance :  $|Y_{fs}| = 0.7\text{ S (typ.)}$
- Complementary to 2SK2162

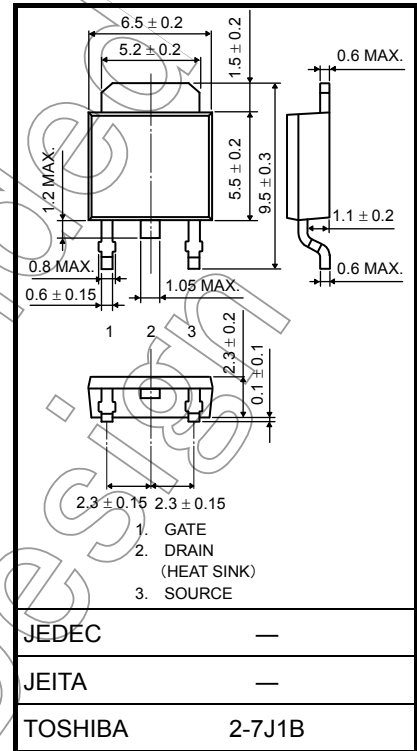
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristic	Symbol	Rating	Unit
Drain-source voltage	$V_{DSS}$	-180	V
Gate-source voltage	$V_{GSS}$	$\pm 20$	V
Drain current (Note 1)	$I_D$	-1	A
Drain power dissipation ( $T_c = 25^\circ\text{C}$ )	$P_D$	20	W
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 to 150	$^\circ\text{C}$

Note 1: Ensure that the channel temperature does not exceed  $150^\circ\text{C}$ .

Note 2: 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).

Unit: mm



Weight: 0.36 g (typ.)

Not for New

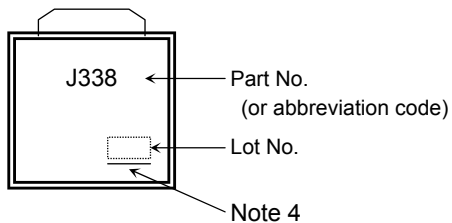
## Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current	$I_{GSS}$	$V_{DS} = 0, V_{GS} = \pm 20 \text{ V}$	—	—	$\pm 100$	nA
Drain-source breakdown voltage	$V_{(BR) DSS}$	$I_D = -10 \text{ mA}, V_{GS} = 0$	-180	—	—	V
Gate-source cutoff voltage (Note 3)	$V_{GS (OFF)}$	$V_{DS} = -10 \text{ V}, I_D = -10 \text{ mA}$	-0.8	—	-2.8	V
Drain-source saturation voltage	$V_{DS (ON)}$	$I_D = -0.6 \text{ A}, V_{GS} = -10 \text{ V}$	—	-1.2	-3.0	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = -10 \text{ V}, I_D = -0.3 \text{ A}$	—	0.7	—	S
Input capacitance	$C_{iss}$	$V_{DS} = -10 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	—	210	—	pF
Output capacitance	$C_{oss}$	$V_{DS} = -10 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	—	90	—	
Reverse transfer capacitance	$C_{rss}$	$V_{DS} = -10 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	—	45	—	

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

This transistor is an electrostatic-sensitive device. Handle with care.

## Marking



Note 4: A line under a Lot No. identifies the indication of product Labels  
[[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 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.

Not Recommended for New

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