TOSHIBA Field Effect Transistor Silicon N-Channel MOS Type

2SK2162

Audio-Frequency Power Amplifier Applications

- High breakdown voltage: V_{DSS} = 180 V
- High forward transfer admittance: $|Y_{fs}|$ = 0.7 S (typ.)
- Complementary to 2SJ338

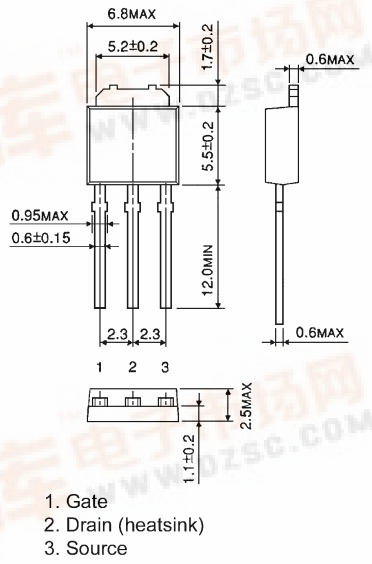
Absolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Drain-source voltage	V_{DSS}	180	V
Gate-source voltage	V_{GSS}	±20	V
Drain current (Note 1)	I_D	1	A
Power dissipation (Tc = 25°C)	P_D	20	W
Channel temperature	T_{ch}	150	°C
Storage temperature range	T_{stg}	−55~150	°C

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

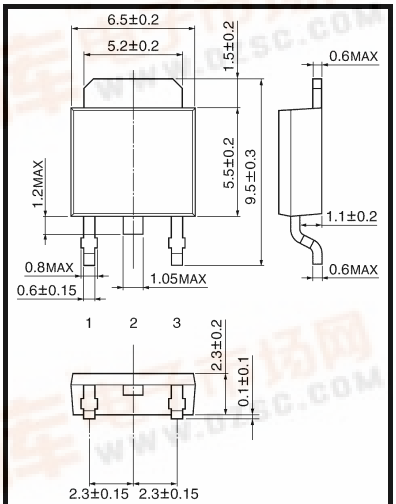
Unit: mm



1. Gate
2. Drain (heatsink)
3. Source

JEDEC	—
JEITA	SC-64
TOSHIBA	2-7B1B

Weight: 0.36 g (typ.)



1. Gate
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JEDEC	—
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TOSHIBA	2-7J1B

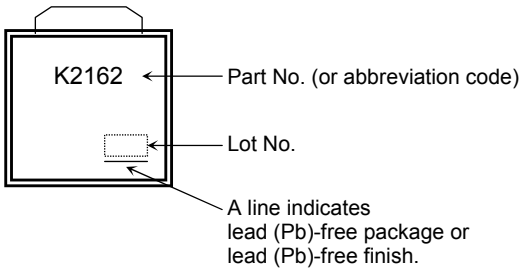
Weight: 0.36 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±20 V	—	—	±100	nA
Drain-source breakdown voltage	$V_{(BR)\ DSS}$	I_D = 10 mA, V_{GS} = 0 V	180	—	—	V
Gate-source cutoff current	$V_{GS\ (OFF)}$	V_{DS} = 10 V, I_D = 10 mA	1.4	—	2.8	V
Drain-source saturation voltage	$V_{DS\ (ON)}$	I_D = 0.6 A, V_{GS} = 10 V	—	1.7	3.0	V
Forward transfer admittance	$\|Y_{fs}\|$	V_{DS} = 10 V, I_D = 0.3 A	—	0.7	—	S
Input capacitance	C_{iss}	V_{DS} = 10 V, V_{GS} = 0 V, f = 1 MHz	—	170	—	pF
Output capacitance	C_{oss}		—	45	—	pF
Reverse transfer capacitance	C_{rss}		—	17	—	pF

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

Marking



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- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property.
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