

# 2SK3628

## Silicon N-channel power MOSFET

For high-speed switching

### ■ Features

- Avalanche energy capability guaranteed
- High-speed switching
- Low ON resistance  $R_{DS(on)}$
- No secondary breakdown

### ■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

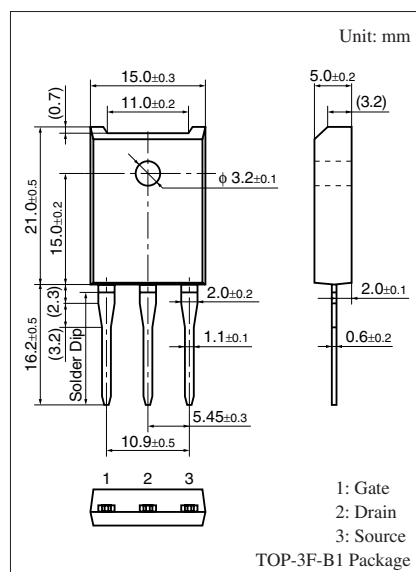
Parameter	Symbol	Rating	Unit
Drain-source surrender voltage	$V_{DSS}$	230	V
Gate-source surrender voltage	$V_{GSS}$	$\pm 30$	V
Drain current	$I_D$	20	A
Peak drain current	$I_{DP}$	80	A
Avalanche energy capability *	EAS	570	mJ
Power dissipation	$P_D$	100	W
$T_a = 25^\circ\text{C}$		3	
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	$-55$ to $+150$	$^\circ\text{C}$

Note) \*:  $L = 2.23$  mH,  $I_L = 20$  A,  $V_{DD} = 50$  V, 1 pulse,  $T_a = 25^\circ\text{C}$

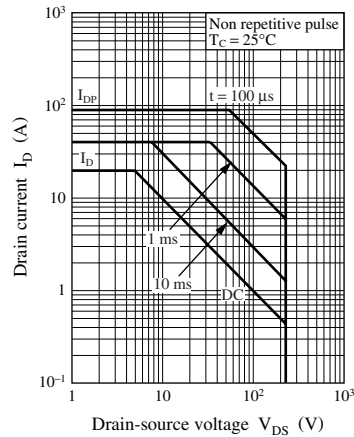
### ■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Gate-drain surrender voltage	$V_{DSS}$	$I_D = 1$ mA, $V_{GS} = 0$	230			V
Diode forward voltage	$V_{DSF}$	$I_{DR} = 20$ A, $V_{GS} = 0$			-1.5	V
Gate threshold voltage	$V_{th}$	$V_{DS} = 25$ V, $I_D = 1$ mA	1.7		3.7	V
Drain-source cutoff current	$I_{DSS}$	$V_{DS} = 184$ V, $V_{GS} = 0$			100	$\mu\text{A}$
Gate-source cutoff current	$I_{GSS}$	$V_{GS} = \pm 30$ V, $V_{DS} = 0$			$\pm 1$	$\mu\text{A}$
Drain-source on resistance	$R_{DS(on)}$	$V_{GS} = 10$ V, $I_D = 10$ A		65	85	m $\Omega$
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 25$ V, $I_D = 10$ A	7	14		S
Short-circuit forward transfer capacitance (Common-source)	$C_{iss}$	$V_{DS} = 25$ V, $V_{GS} = 0$ , $f = 1$ MHz		2300		pF
Short-circuit output capacitance (Common-source)	$C_{oss}$			330		pF
Reverse transfer capacitance (Common-source)	$C_{rss}$			30		pF
Turn-on delay time	$t_{d(on)}$	$V_{DD} \approx 100$ V, $I_D = 15$ A $R_L = 6.7$ $\Omega$ , $V_{GS} = 10$ V		35		ns
Rise time	$t_r$			26		ns
Turn-off delay time	$t_{d(off)}$			220		ns
Fall time	$t_f$			36		ns

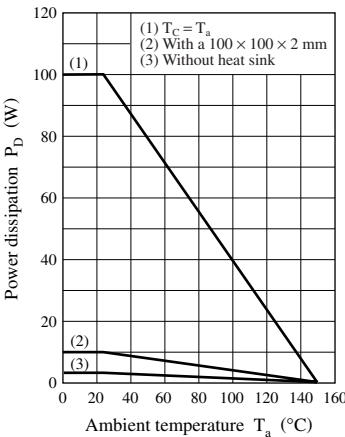
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.



Safe operation area



$P_D - T_a$



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