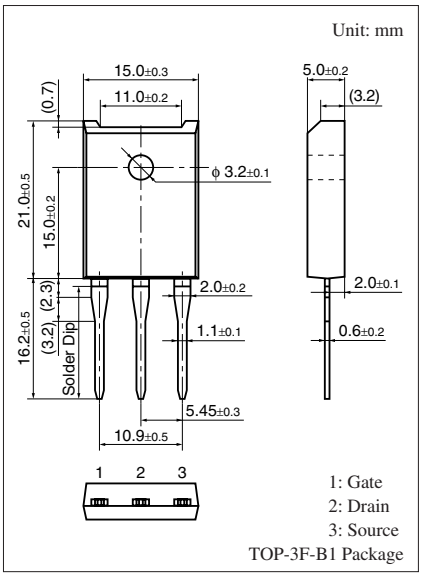
2SK3628

Silicon N-channel power MOSFET

For hihg-speed switching



■ Features

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

■ Absolute Maximum Ratings $T_C = 25°C$

Parameter		Symbol	Rating	Unit
Drain-source surrender voltage		V_{DSS}	230	V
Gate-source surrender voltage		V_{GSS}	±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
	$T_a = 25°C$		3	
Channel temperature		T_{ch}	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

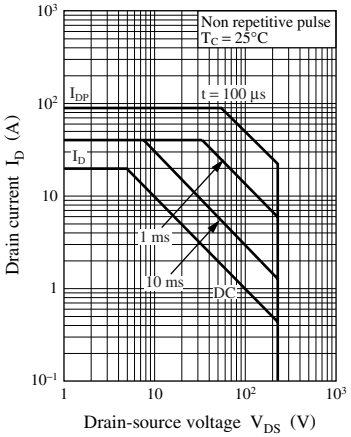
Note) *: L = 2.23 mH, I_L = 20 A, V_{DD} = 50 V, 1 pulse, $T_a = 25°C$

■ Electrical Characteristics $T_C = 25°C \pm 3°C$

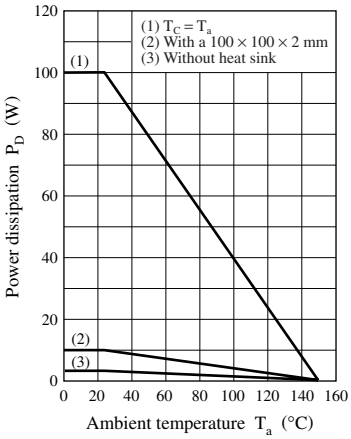
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Gate-drain surrender voltage	V_{DSS}	I_D = 1 mA, V_{GS} = 0	230			V
Diode forward voltage	V_{DSF}	I_{DR} = 20 A, V_{GS} = 0			−1.5	V
Gate threshold voltage	V_{th}	V_{DS} = 25 V, I_D = 1 mA	1.7		3.7	V
Drain-source cutoff current	I_{DSS}	V_{DS} = 184 V, V_{GS} = 0			100	μA
Gate-source cutoff currentt	I_{GSS}	V_{GS} = ±30 V, V_{DS} = 0			±1	μA
Drain-source on resistance	$R_{DS(on)}$	V_{GS} = 10 V, I_D = 10 A		65	85	mΩ
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		2 300		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		35		ns
Rise time	t_r	R_L = 6.7 Ω, V_{GS} = 10 V		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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