

2SK3022

Silicon N-channel power MOSFET

■ Features

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

■ Applications

- Non-contact relay
- Solenoid drive
- Motor drive
- Control equipment
- Switching mode regulator

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

Parameter	Symbol	Rating	Unit
Drain-source surrender voltage	V_{DSS}	60	V
Gate-source surrender voltage	V_{GSS}	± 20	V
Drain current	I_D	± 5	A
Peak drain current	I_{DP}	± 15	A
Avalanche energy capability *	EAS	6.25	mJ
Power dissipation	P_D	10	W
		$T_a = 25^\circ\text{C}$	1
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Note) *: $L = 0.5 \text{ mH}$, $I_L = 5 \text{ A}$, 1 pulse

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source surrender voltage	V_{DSS}	$I_D = 1 \text{ mA}$, $V_{GS} = 0$	60			V
Drain-source cutoff current	I_{DSS}	$V_{DS} = 50 \text{ V}$, $V_{GS} = 0$			10	μA
Gate-source cutoff current	I_{GSS}	$V_{GS} = \pm 20 \text{ V}$, $V_{DS} = 0$			± 10	μA
Gate threshold voltage	V_{th}	$V_{DS} = 10 \text{ V}$, $I_D = 1 \text{ mA}$	1.0		2.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 10 \text{ V}$, $I_D = 3 \text{ A}$	2	4		S
Drain-source ON resistance	$R_{DS(on)1}$	$V_{GS} = 10 \text{ V}$, $I_D = 3 \text{ A}$		90	130	m Ω
	$R_{DS(on)2}$	$V_{GS} = 4 \text{ V}$, $I_D = 3 \text{ A}$		130	200	
Diode forward voltage	V_{DSF}	$I_{DR} = 5 \text{ A}$, $V_{GS} = 0$			-1.3	V
Short-circuit forward transfer capacitance (Common source)	C_{iss}	$V_{DS} = 10 \text{ V}$, $V_{GS} = 0$, $f = 1 \text{ MHz}$		220		pF
	C_{oss}			90		pF
	C_{rss}			50		pF
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 30 \text{ V}$, $I_D = 3 \text{ A}$, $R_L = 10 \Omega$ $V_{GS} = 10 \text{ V}$		15		ns
Rise time	t_r			30		ns
Fall time	t_f			170		ns
Turn-off delay time	$t_{d(off)}$			550		ns
Thermal resistance (ch-c)	$R_{th(ch-c)}$				12.5	$^\circ\text{C}/\text{W}$
Thermal resistance (ch-a)	$R_{th(ch-a)}$				125	$^\circ\text{C}/\text{W}$

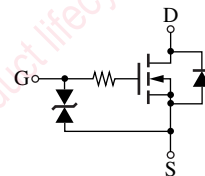
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

■ Package

- Code
U-G2
- Pin Name
1: Gate
2: Drain
3: Source

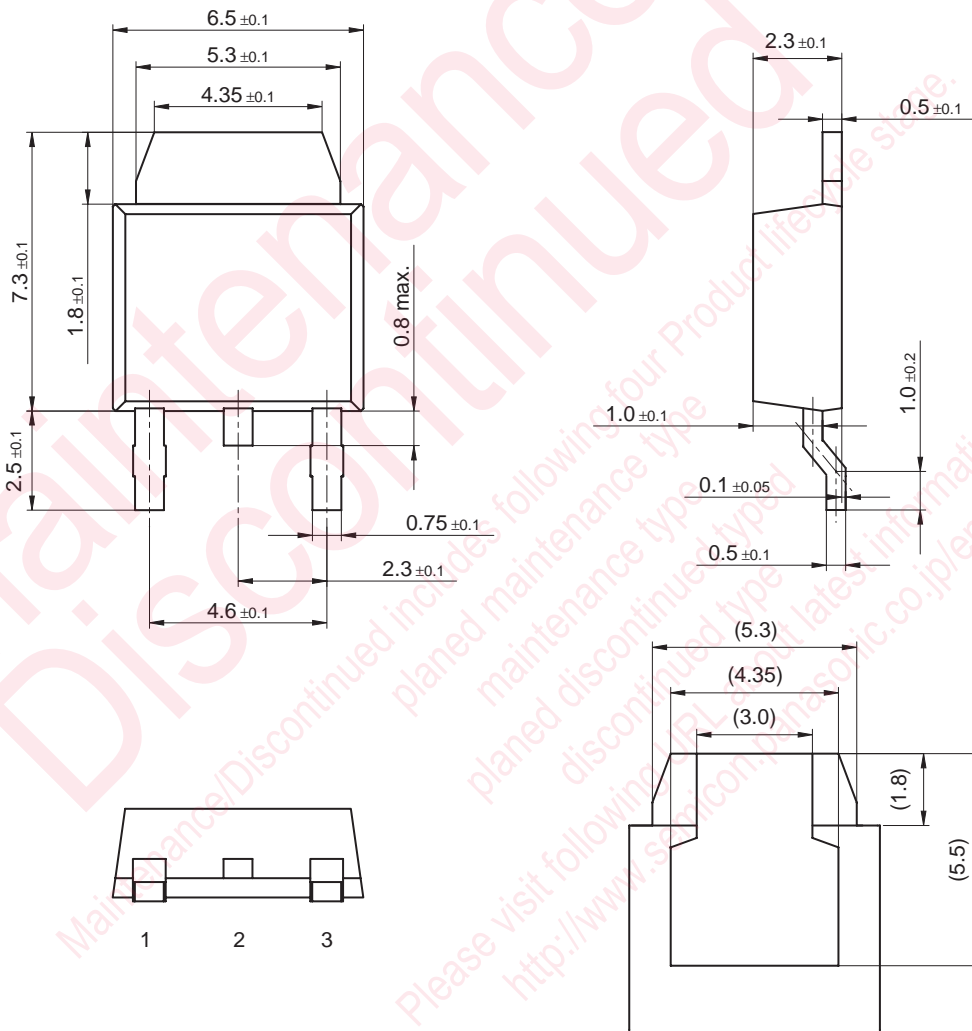
■ Marking Symbol: K3022

■ Internal Connection



U-G2

Unit: mm



utions in using the technical information and scribed in this book

s book is to be exported or provided to non-residents, the laws and
rd to security export control, must be observed.

ly to show the main characteristics and application circuit examples
l property right or other right owned by our company or any other
any as to the infringement upon any such right owned by any other
rmation described in this book.

standard applications or general electronic equipment (such as office
and household appliances).

ng applications:

biles, traffic control equipment, combustion equipment, life support
reliability are required, or if the failure or malfunction of the prod-

ck are subject to change without notice for modification and/or im-
use of the products, therefore, ask for the most up-to-date Product
atisfy your requirements.

bsolute maximum rating and the guaranteed operating conditions
(.). Especially, please be careful not to exceed the range of absolute
er-off and mode-switching. Otherwise, we will not be liable for any

take into the consideration of incidence of break down and failure
n the systems such as redundant design, arresting the spread of fire
al injury, fire, social damages, for example, by using the products.

own and characteristics change due to external factors (ESD, EOS,
mounting or at customer's process. When using products for which
shelf life and the elapsed time since first opening the packages.

ly or partially, without the prior written permission of Matsushita

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

 [View 2SK302200L on WIN SOURCE](#)

 [Panasonic Information](#)

Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management