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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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# 2SK3025

## Silicon N-channel power MOS FET

### ■ 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	$V_{GSS}$	$\pm 20$	V
Drain current	$I_D$	$\pm 30$	A
Peak drain current	$I_{DP}$	$\pm 90$	A
Avalanche energy capability *	EAS	45	mJ
Power dissipation	$P_D$	25	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) \*:  $L = 0.1 \text{ mH}$ ,  $I_L = 30 \text{ A}$ , 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	$\mu\text{A}$	
Gate-source cutoff current	$I_{GSS}$	$V_{GS} = \pm 20 \text{ V}$ , $V_{DS} = 0$			$\pm 10$	$\mu\text{A}$	
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} $	$V_{DS} = 10 \text{ V}$ , $I_D = 15 \text{ A}$	10	18		S	
Drain-source ON resistance	$R_{DS(on)1}$	$V_{GS} = 10 \text{ V}$ , $I_D = 15 \text{ A}$		25	40	m $\Omega$	
	$R_{DS(on)2}$	$V_{GS} = 4 \text{ V}$ , $I_D = 15 \text{ A}$		35	55		
Diode forward voltage	$V_{DSF}$	$I_{DR} = 15 \text{ A}$ , $V_{GS} = 0$			-1.3	V	
Short-circuit forward transfer capacitance (Common source)	$C_{iss}$	$V_{DS} = 10 \text{ V}$ , $V_{GS} = 0$ , $f = 1 \text{ MHz}$		1200		pF	
					400		pF
					200		
Reverse transfer capacitance (Common source)	$C_{rss}$						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 30 \text{ V}$ , $I_D = 15 \text{ A}$ , $R_L = 2 \Omega$ $V_{GS} = 10 \text{ V}$		10		ns	
Rise time	$t_r$			20		ns	
Fall time	$t_f$			140		ns	
Turn-off delay time	$t_{d(off)}$			350		ns	
Thermal resistance (ch-c)	$R_{th(ch-c)}$				5.0	$^\circ\text{C/W}$	
Thermal resistance (ch-a)	$R_{th(ch-a)}$				125	$^\circ\text{C/W}$	

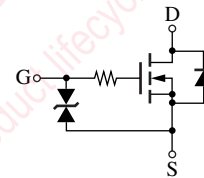
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

### ■ Package

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

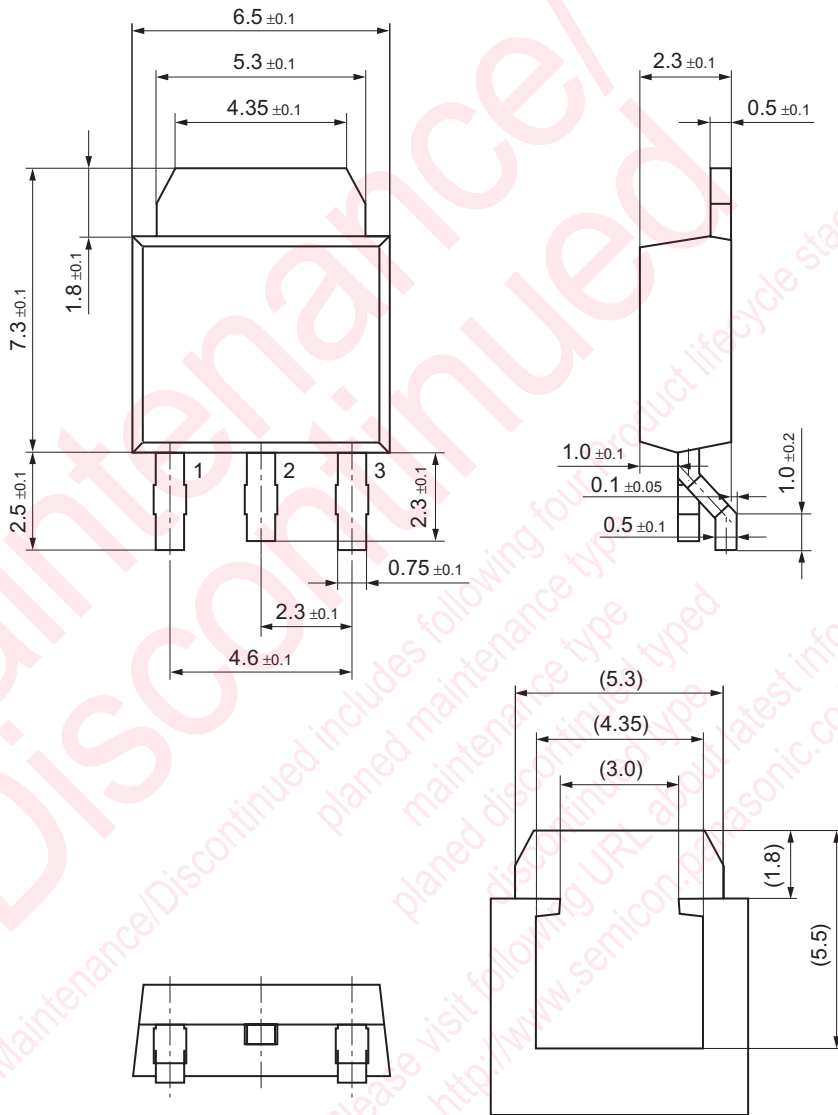
### ■ Marking Symbol: K3025

### ■ Internal Connection



U-DL

Unit: mm



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