

# 2SK2342

## Silicon N-Channel MOS

For motor drive

For DC-DC converter

### ■ Features

- Low ON-resistance  $R_{DS(on)}$
- High-speed switching

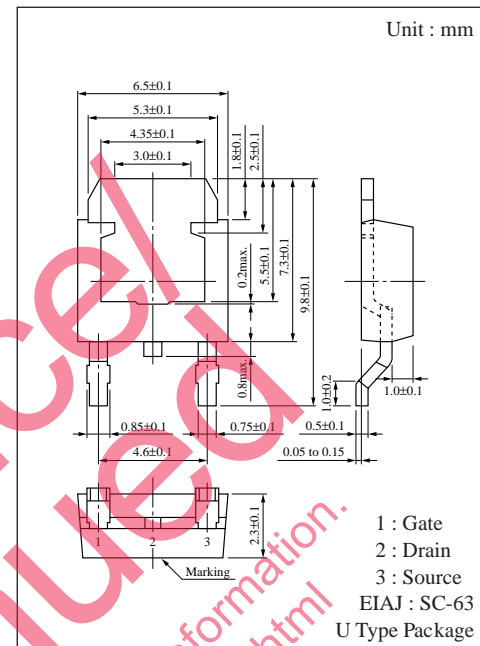
### ■ Absolute Maximum Ratings ( $T_c = 25^\circ\text{C}$ )

Parameter	Symbol	Rating	Unit
Drain-Source breakdown voltage	$V_{DSS}$	30	V
Gate-Source voltage	$V_{GSS}$	$\pm 15$	V
Drain current	$I_D$	$\pm 2$	A
	$I_{DP}^{*1}$	$\pm 8$	A
Allowable power dissipation	$P_D$	0.75	W
	$P_D^{*2}$	10	W
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

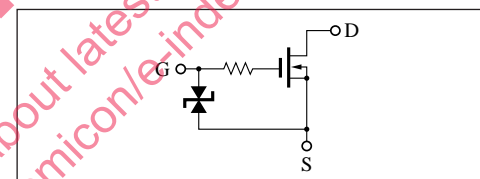
\*1  $t \leq 200\mu\text{s}$ , Duty Cycle < 10% \*2  $T_c = 25^\circ\text{C}$

### ■ Electrical Characteristics ( $T_c = 25^\circ\text{C}$ )

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source cut-off current	$I_{DSS}$	$V_{DS} = 25\text{V}$ , $V_{GS} = 0$			10	$\mu\text{A}$
Gate-Source leakage current	$I_{GSS}$	$V_{GS} = \pm 15\text{V}$ , $V_{DS} = 0$			$\pm 10$	$\mu\text{A}$
Drain-Source breakdown voltage	$V_{DSS}$	$I_D = 0.1\text{mA}$ , $V_{GS} = 0$	30			V
Gate threshold voltage	$V_{th}$	$V_{DS} = 5\text{V}$ , $I_D = 1\text{mA}$	0.8		2	V
Drain-Source ON-resistance	$R_{DS(on)1}$	$V_{GS} = 4\text{V}$ , $I_D = 1\text{A}$		0.32	0.45	$\Omega$
	$R_{DS(on)2}$	$V_{GS} = 10\text{V}$ , $I_D = 1\text{A}$		0.26	0.35	$\Omega$
Forward transadmittance	$ Y_{fs} $	$V_{DS} = 10\text{V}$ , $I_D = 1\text{A}$	1			S
Input capacitance	$C_{iss}$	$V_{DS} = 10\text{V}$ , $V_{GS} = 0$ , $f = 1\text{MHz}$		185		pF
Output capacitance	$C_{oss}$				90	pF
Feedback capacitance	$C_{rss}$				35	pF
Turn-on time	$t_{on}$	$V_{GS} = 10\text{V}$ , $I_D = 1\text{A}$ , $V_{DD} = 10\text{V}$ $R_L = 10\Omega$		40		ns
Fall time	$t_f$				100	ns
Turn-off time (delay time)	$t_{d(off)}$				180	ns



### ■ Internal Connection



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