

## 2SK2315

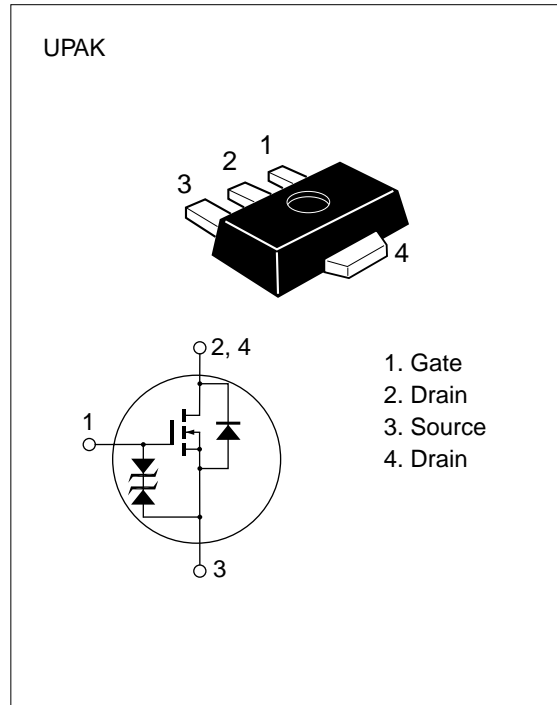
### Silicon N Channel MOS FET

#### Application

High speed power switching

#### Features

- Low on-resistance
- High speed switching
- Low drive current
- 2.5 V gate drive device - - - can be driven from 3 V source.
- Suitable for DC – DC converter, motor drive, power switch, solenoid drive



**Table 1 Absolute Maximum Ratings** (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	V <sub>DSS</sub>	60	V
Gate to source voltage	V <sub>GSS</sub>	±20	V
Drain current	I <sub>D</sub>	2	A
Drain peak current	I <sub>D(pulse)</sub> *	±4	A
Body-drain diode reverse drain current	I <sub>DR</sub>	2	A
Channel dissipation	P <sub>ch</sub> **	1	W
Channel temperature	T <sub>ch</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

\* PW ≤ 10 μs, duty cycle ≤ 1 %

\*\* When using the alumina ceramic board (12.5 × 20 × 0.7mm)

\*\*\* Marking is "TY"

**Table 2 Electrical Characteristics** (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Drain to source breakdown voltage	$V_{(BR)DSS}$	60	—	—	V	$I_D = 10 \text{ mA}, V_{GS} = 0$
Gate to source breakdown voltage	$V_{(BR)GSS}$	$\pm 20$	—	—	V	$I_G = \pm 100 \text{ }\mu\text{A}, V_{DS} = 0$
Gate to source leak current	$I_{GSS}$	—	—	$\pm 5$	$\mu\text{A}$	$V_{GS} = \pm 16 \text{ V}, V_{DS} = 0$
Zero gate voltage drain current	$I_{DSS}$	—	—	5	$\mu\text{A}$	$V_{DS} = 50 \text{ V}, V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	0.5	—	1.5	V	$I_D = 1 \text{ mA}, V_{DS} = 10 \text{ V}$
Static drain to source on state resistance	$R_{DS(on)}$	—	0.4	0.6	$\Omega$	$I_D = 0.3 \text{ A}$ $V_{GS} = 3 \text{ V}^*$
		—	0.35	0.45	$\Omega$	$I_D = 1 \text{ A}$ $V_{GS} = 4 \text{ V}^*$
Forward transfer admittance	$ y_{fs} $	1.5	1.8	—	S	$I_D = 1 \text{ A}$ $V_{DS} = 10 \text{ V}^*$
Input capacitance	$C_{iss}$	—	173	—	pF	$V_{DS} = 10 \text{ V}$
Output capacitance	$C_{oss}$	—	85	—	pF	$V_{GS} = 0$
Reverse transfer capacitance	$C_{rss}$	—	23	—	pF	$f = 1 \text{ MHz}$
Turn-on time	$t_{on}$	—	21	—	ns	$I_D = 1 \text{ A}, R_L = 30 \text{ }\Omega$
Turn-off time	$t_{off}$	—	85	—	ns	$V_{GS} = 10 \text{ V}$

\* Pulse Test

