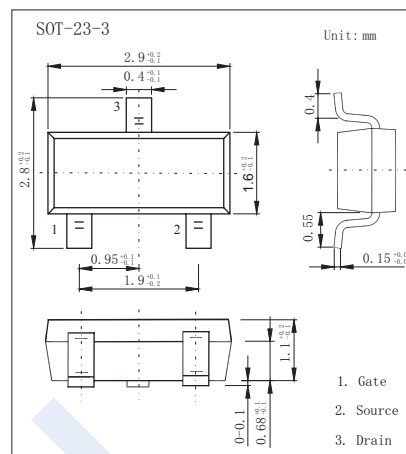
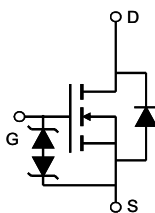


## N-Channel Enhancement MOSFET

## 2SK3012DSE

## ■ Features

- $V_{DS}=20V$
- $I_D = 6.5A$
- $R_{DS(on)} \leq 22m\Omega @ V_{GS}=4.5V, I_D=6.5A$
- $R_{DS(on)} \leq 30m\Omega @ V_{GS}=2.5V, I_D=5.5A$

■ Absolute Maximum Ratings  $T_a = 25^\circ C$ 

| Parameter                 | Symbol    | Rating     | Unit       |
|---------------------------|-----------|------------|------------|
| Drain-Source Voltage      | $V_{DS}$  | 20         | V          |
| Gate-Source Voltage       | $V_{GS}$  | $\pm 10$   |            |
| Continuous Drain Current  | $I_D$     | 6.5        | A          |
|                           |           | 4.8        |            |
| Pulsed Drain Current      | $I_{DM}$  | 30         | W          |
| Power Dissipation         | $P_D$     | 1.3        |            |
|                           |           | 0.8        |            |
| Junction Temperature      | $T_J$     | 150        | $^\circ C$ |
| Storage Temperature Range | $T_{stg}$ | -55 to 150 |            |

■ Electrical Characteristics  $T_a = 25^\circ C$ 

| Parameter                             | Symbol       | Test Conditions                         | Min  | Typ  | Max      | Unit      |
|---------------------------------------|--------------|-----------------------------------------|------|------|----------|-----------|
| Drain-Source Breakdown Voltage        | $V_{DSS}$    | $I_D=250\mu A, V_{GS}=0V$               | 20   |      |          | V         |
| Zero Gate Voltage Drain Current       | $I_{DSS}$    | $V_{DS}=20V, V_{GS}=0V$                 |      |      | 1        | $\mu A$   |
|                                       |              | $V_{DS}=20V, V_{GS}=0V, T_J=55^\circ C$ |      |      | 10       |           |
| Gate-Body Leakage Current             | $I_{GSS}$    | $V_{DS}=0V, V_{GS}=\pm 10V$             |      |      | $\pm 10$ | $\mu A$   |
| Gate Threshold Voltage                | $V_{GS(th)}$ | $V_{DS}=V_{GS}, I_D=250\mu A$           | 0.45 |      | 1        | V         |
| Static Drain-Source On-Resistance     | $R_{DS(on)}$ | $V_{GS}=4.5V, I_D=6.5A$                 |      |      | 22       | $m\Omega$ |
|                                       |              | $V_{GS}=2.5V, I_D=5.5A$                 |      |      | 30       |           |
| Forward Transconductance *1           | $g_{FS}$     | $V_{DS}=5V, I_D=6.5A$                   |      | 6    |          | S         |
| Maximum Body-Diode Continuous Current | $I_S$        |                                         |      |      | 1.6      | A         |
| Diode Forward Voltage                 | $V_{SD}$     | $I_S=1.6A, V_{GS}=0V$                   |      | 0.76 | 1.2      | V         |

\*1: Pulse test:  $PW \leq 300\mu s$  duty cycle  $\leq 2\%$

## ■ Marking

|         |      |
|---------|------|
| Marking | 2310 |
|---------|------|