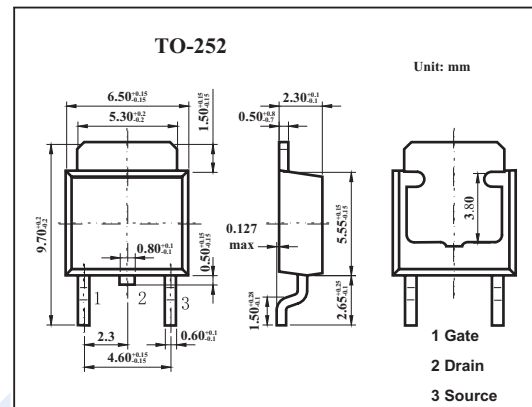


## Silicon N-Channel MOSFET

### 2SK2094

#### ■ Features

- Low on-resistance
- Fast switching speed
- Low-voltage drive
- Easily designed drive circuits



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

| Parameter               | Symbol    | Rating      | Unit             |
|-------------------------|-----------|-------------|------------------|
| Drain to source voltage | $V_{DS}$  | 60          | V                |
| Gate to source voltage  | $V_{GS}$  | $\pm 20$    | V                |
| Drain current           | $I_D$     | 2           | A                |
|                         | $I_{Dp}$  | 8           | A                |
| Power dissipation       | $P_D$     | 20          | W                |
| Channel temperature     | $T_{ch}$  | 150         | $^\circ\text{C}$ |
| Storage temperature     | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

| Parameter                           | Symbol       | Testconditions                                                     | Min | Typ | Max       | Unit          |
|-------------------------------------|--------------|--------------------------------------------------------------------|-----|-----|-----------|---------------|
| Drain cut-off current               | $I_{DSS}$    | $V_{DS}=60\text{V}, V_{GS}=0$                                      |     |     | 100       | $\mu\text{A}$ |
| Gate leakage current                | $I_{GSS}$    | $V_{GS}=\pm 20\text{V}, V_{DS}=0$                                  |     |     | $\pm 100$ | nA            |
| Gate threshold voltage              | $V_{GS(th)}$ | $V_{DS}=10\text{V}, I_D=1\text{mA}$                                | 1.0 |     | 2.5       | V             |
| Forward transfer admittance         | $ Y_{fs} $   | $V_{DS}=10\text{V}, I_D=1\text{A}$                                 | 1.0 |     |           | S             |
| Drain to source on-state resistance | $R_{DS(on)}$ | $V_{GS}=10\text{V}, I_D=1\text{A}$                                 |     | 0.3 | 0.35      | $\Omega$      |
|                                     |              | $V_{GS}=4\text{V}, I_D=1\text{A}$                                  |     | 0.4 | 0.5       | $\Omega$      |
| Input capacitance                   | $C_{iss}$    | $V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHz}$                       |     | 400 |           | pF            |
| Output capacitance                  | $C_{oss}$    |                                                                    |     | 150 |           | pF            |
| Reverse transfer capacitance        | $C_{rss}$    |                                                                    |     | 50  |           | pF            |
| Turn-on delay time                  | $t_{d(on)}$  | $I_D=1\text{A}, V_{GS(on)}=10\text{V}, R_L=30\Omega, R_G=10\Omega$ |     | 10  |           | ns            |
| Rise time                           | $t_r$        |                                                                    |     | 20  |           | ns            |
| Turn-off delay time                 | $t_{d(off)}$ |                                                                    |     | 100 |           | ns            |
| Fall time                           | $t_f$        |                                                                    |     | 40  |           | ns            |