

# 2SK2474

## Silicon N-Channel MOS

For high-speed switching

### ■ Features

- Low ON-resistance  $R_{DS(on)}$
- High-speed switching
- High drain-source voltage ( $V_{DSS}$ )

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

| Parameter                      | Symbol    | Rating          | Unit             |
|--------------------------------|-----------|-----------------|------------------|
| Drain-Source breakdown voltage | $V_{DSS}$ | 250             | V                |
| Gate-Source voltage            | $V_{GSS}$ | $\pm 30$        | V                |
| Drain current                  | $I_D$     | $\pm 2$         | A                |
| Max drain current              | $I_{DP}$  | $\pm 4$         | A                |
| Allowable power dissipation    | $P_D^*$   | 10              | W                |
| Channel temperature            | $T_{ch}$  | 150             | $^\circ\text{C}$ |
| Storage temperature            | $T_{stg}$ | $-55$ to $+150$ | $^\circ\text{C}$ |

\*  $T_C = 25^\circ\text{C}$

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

| Parameter                      | Symbol       | Condition                                                                          | Min | Typ | Max     | Unit          |
|--------------------------------|--------------|------------------------------------------------------------------------------------|-----|-----|---------|---------------|
| Drain-Source cut-off current   | $I_{DSS}$    | $V_{DS} = 200\text{V}, V_{GS} = 0$                                                 |     |     | 0.1     | mA            |
| Gate-Source leakage current    | $I_{GSS}$    | $V_{GS} = \pm 30\text{V}, V_{DS} = 0$                                              |     |     | $\pm 1$ | $\mu\text{A}$ |
| Drain-Source breakdown voltage | $V_{DSS}$    | $I_D = 1\text{mA}, V_{GS} = 0$                                                     | 250 |     |         | V             |
| Gate threshold voltage         | $V_{th}$     | $V_{DS} = 10\text{V}, I_D = 1\text{mA}$                                            | 1   |     | 5       | V             |
| Drain-Source ON-resistance     | $R_{DS(on)}$ | $V_{GS} = 10\text{V}, I_D = 1\text{A}$                                             |     | 1.2 | 2       | $\Omega$      |
| Forward transadmittance        | $ Y_{fs} $   | $V_{DS} = 25\text{V}, I_D = 1\text{A}$                                             | 0.5 | 1   |         | S             |
| Input capacitance              | $C_{iss}$    | $V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{MHz}$                                 |     | 280 |         | pF            |
| Output capacitance             | $C_{oss}$    |                                                                                    |     | 80  |         | pF            |
| Feedback capacitance           | $C_{rss}$    |                                                                                    |     | 30  |         | pF            |
| Turn-on time                   | $t_{on}$     | $V_{GS} = 10\text{V}, I_D = 1\text{A},$<br>$V_{DD} = 100\text{V}, R_L = 100\Omega$ |     | 30  |         | ns            |
| Fall time                      | $t_f$        |                                                                                    |     | 45  |         | ns            |
| Turn-off time (delay time)     | $t_{d(off)}$ |                                                                                    |     | 90  |         | ns            |

