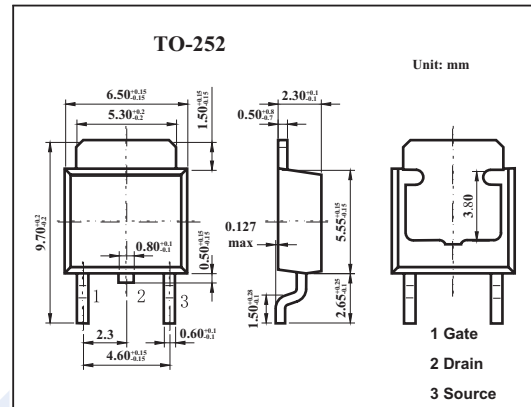


MOS Field Effect Transistor

2SK3224

■ Features

- Low On-State Resistance
 $R_{DS(on)1} = 40 \text{ m}\Omega \text{ MAX. (} V_{GS} = 10 \text{ V, } I_D = 10 \text{ A)}$
 $R_{DS(on)2} = 60 \text{ m}\Omega \text{ MAX. (} V_{GS} = 4.0 \text{ V, } I_D = 10 \text{ A)}$
- Low C_{iss} : $C_{iss} = 790 \text{ pF TYP.}$
- Built-in Gate Protection Diode



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

| Parameter | Symbol | Rating | Unit |
|-------------------------|---------------|------------------------|------------------|
| Drain to source voltage | V_{DSS} | 60 | V |
| Gate to source voltage | $V_{GSS(AC)}$ | ± 20 | V |
| | $V_{GSS(DC)}$ | +20, -10 | V |
| Drain current | I_D | ± 20 | A |
| | I_{dp}^* | ± 70 | A |
| Power dissipation | P_D | $T_c=25^\circ\text{C}$ | 25 |
| | | $T_A=25^\circ\text{C}$ | 1.0 |
| Channel temperature | T_{ch} | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

* $PW \leq 10 \mu\text{s}$, Duty Cycle $\leq 1\%$

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

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|-------------------------------------|---------------|--------------------------------------------------------------------------|-----|-----|----------|------------------|
| Drain cut-off current | I_{DSS} | $V_{DS}=60\text{V}, V_{GS}=0$ | | | 10 | μA |
| Gate leakage current | I_{GSS} | $V_{GS} = \pm 20\text{V}, V_{DS}=0$ | | | ± 10 | μA |
| Gate to source cut off voltage | $V_{GS(off)}$ | $V_{DS}=10\text{V}, I_D=1\text{mA}$ | 1.0 | 1.5 | 2.0 | V |
| Forward transfer admittance | $ Y_{fs} $ | $V_{DS}=10\text{V}, I_D=10\text{A}$ | 8.0 | 15 | | S |
| Drain to source on-state resistance | $R_{DS(on)}$ | $V_{GS}=10\text{V}, I_D=10\text{A}$ | | 24 | 40 | $\text{m}\Omega$ |
| | | $V_{GS}=4\text{V}, I_D=10\text{A}$ | | 33 | 60 | $\text{m}\Omega$ |
| Input capacitance | C_{iss} | $V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHz}$ | | 790 | | pF |
| Output capacitance | C_{oss} | | | 240 | | pF |
| Reverse transfer capacitance | C_{rss} | | | 100 | | pF |
| Turn-on delay time | t_{on} | | | | 19 | ns |
| Rise time | t_r | $I_D=10\text{A}, V_{GS(on)}=10\text{V}, R_G=10\Omega, V_{DD}=30\text{V}$ | | 165 | | ns |
| Turn-off delay time | t_{off} | | | 62 | | ns |
| Fall time | t_f | | | 71 | | ns |