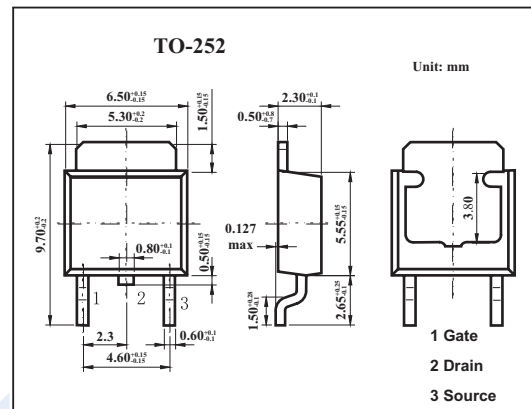
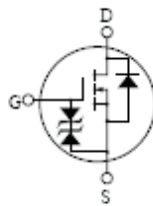


Silicon N-Channel Power F-MOSFET

2SK3024

■ Features

- Avalanche energy capacity guaranteed
- High-speed switching
- Low ON-resistance
- No secondary breakdown
- Low-voltage drive
- High electrostatic breakdown voltage



■ 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} | ± 20 | V |
| Drain current | I_D | ± 20 | A |
| | I_{DP}^* | ± 40 | A |
| Power dissipation | P_D | $T_C=25^\circ\text{C}$ | 20 |
| | | $T_A=25^\circ\text{C}$ | 1 |
| 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 to source breakdown voltage | V_{DS} | $I_D=1\text{mA}, V_{GS}=0$ | 60 | | | V |
| Drain cut-off current | I_{DSS} | $V_{DS}=50\text{V}, V_{GS}=0$ | | | 10 | μA |
| Gate leakage current | I_{GSS} | $V_{GS}=\pm 20\text{V}, V_{DS}=0$ | | | ± 10 | μA |
| Gate threshold voltage | V_{th} | $V_{DS}=10\text{V}, I_D=1\text{mA}$ | 1 | | 2.5 | V |
| Forward transfer admittance | $ Y_{fs} $ | $V_{DS}=10\text{V}, I_D=10\text{A}$ | 8 | 12 | | S |
| Drain to source on-state resistance | $R_{DS(on)}$ | $V_{GS}=10\text{V}, I_D=10\text{A}$ | | 33 | 50 | $\text{m}\Omega$ |
| | | $V_{GS}=4\text{V}, I_D=10\text{A}$ | | 44 | 70 | $\text{m}\Omega$ |
| Input capacitance | C_{iss} | $V_{DS}=10\text{V}, V_{GS}=0, f=1\text{MHz}$ | | 330 | | pF |
| Output capacitance | C_{oss} | | | 290 | | pF |
| Reverse transfer capacitance | C_{rss} | | | 70 | | pF |
| Turn-on delay time | t_{on} | | | | 20 | ns |
| Rise time | t_r | $I_D=10\text{A}, V_{GS(on)}=10\text{V}, R_L=3\Omega, V_{DD}=30\text{V}$ | | 125 | | ns |
| Turn-off delay time | t_{off} | | | 1480 | | ns |
| Fall time | t_f | | | 520 | | ns |