# 2SK2573(Tentative)

## Silicon N-Channel Power F-MOS

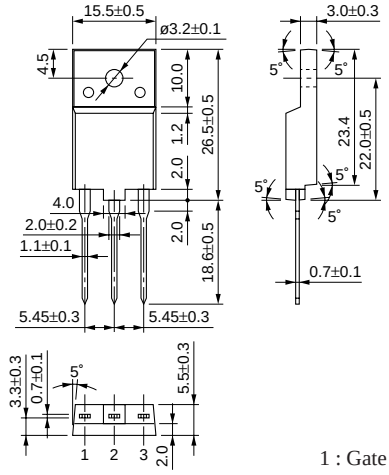
### ■ Features

- Avalanche energy capability guaranteed
- High-speed switching
- Low ON-resistance
- No secondary breakdown

### ■ Applications

- Non-contact relay
- Solenoid drive
- Motor drive
- Control equipment
- Switching mode regulator

Unit : mm




1 : Gate
2 : Drain
3 : Source
TOP-3E Package

### ■ Absolute Maximum Ratings (Tc = 25˚C)

| Parameter | | Symbol | Rating | Unit |
|---|---|---|---|---|
| Drain-Source breakdown voltage | | $V_{DSS}$ | 500 | V |
| Gate-Source voltage | | $V_{GSS}$ | ±30 | V |
| Drain current | DC | $I_D$ | ±20 | A |
| | Pulse | $I_{DP}$ | ±40 | A |
| Avalanche energy capability | | EAS * | 20 | mJ |
| Allowable power dissipation | $T_C$= 25˚C | $P_D$ | 100 | W |
| | Ta= 25˚C | | 3 | |
| Channel temperature | | $T_{ch}$ | 150 | ˚C |
| Storage temperature | | $T_{stg}$ | –55 to +150 | ˚C |

* L= 0.1mH, $I_L$= 20A, 1 pulse

### ■ Electrical Characteristics (Tc = 25˚C)

| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Drain-Source cut-off current | $I_{DSS}$ | $V_{DS}$= 400V, $V_{GS}$= 0 | | | 100 | μA |
| Gate-Source leakage current | $I_{GSS}$ | $V_{GS}$= ±20V, $V_{DS}$= 0 | | | ±1 | μA |
| Drain-Source breakdown voltage | $V_{DSS}$ | $I_D$=1mA, $V_{GS}$= 0 | 500 | | | V |
| Gate threshold voltage | $V_{th}$ | $V_{DS}$= 25V, $I_D$=1mA | 1 | | 5 | V |
| Drain-Source ON-resistance | $R_{DS(on)}$ | $V_{GS}$=10V, $I_D$=10A | | 0.32 | 0.4 | Ω |
| Forward transadmittance | $\|Y_{fs}\|$ | $V_{DS}$= 25V, $I_D$=10A | 7.2 | 12 | | S |
| Diode forward voltage | $V_{DSF}$ | $I_{DR}$= 20A, $V_{GS}$= 0 | | | –2.8 | V |
| Input capacitance | $C_{iss}$ | $V_{DS}$= 20V, $V_{GS}$= 0, f=1MHz | | 3000 | | pF |
| Output capacitance | $C_{oss}$ | | | 430 | | pF |
| Feedback capacitance | $C_{rss}$ | | | 175 | | pF |
| Turn-on time | $t_{on}$ | $V_{DD}$=150V, $I_D$=10A<br>$V_{GS}$=10V, $R_L$=15Ω | | 150 | | ns |
| Fall time | $t_f$ | | | 140 | | ns |
| Turn-off time (delay time) | $t_{d(off)}$ | | | 480 | | ns |
| Channel-Case heat resistance | $R_{th(ch-c)}$ | | | | 1.25 | ˚C/W |
| Channel-Atmosphere heat resistance | $R_{th(ch-a)}$ | | | | 41.67 | ˚C/W |