# 2SK2277

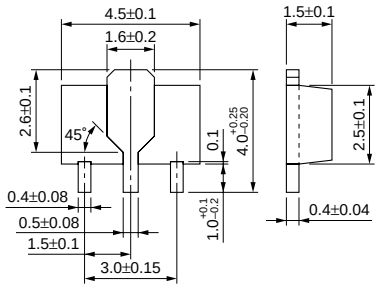
## Silicon N-Channel MOS

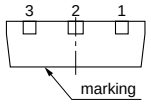
For switching

## ■ Features

- Low ON-resistance $R_{DS(on)}$
- High-speed switching
- Downsizing of sets by mini-type package and automatic insertion by magazine packing are available.

Unit : mm



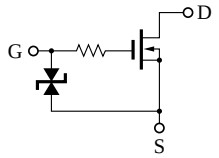

1 : Gate
2 : Drain
3 : Source
EIAJ : SC-62
Mini-Power Type Package (3-pin)

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

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Drain-Source breakdown voltage | $V_{DS}$ | 60 | V |
| Gate-Source voltage | $V_{GSO}$ | ± 20 | V |
| Drain current | $I_D$ | ±1 | A |
| Max drain current | $I_{PD}$ | ± 2 | A |
| Allowable power dissipation | $P_D$ * | 1 | W |
| Channel temperature | $T_{ch}$ | 150 | ˚C |
| Storage temperature | $T_{stg}$ | – 55 to +150 | ˚C |

* PC board : Copper foil area of drain portion shoud be $1cm^2$ or more, thickness 1.7mm.

## ■ Internal Connection




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

| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Drain-Source cut-off current | $I_{DSS}$ | $V_{DS}$= 50V, $V_{GS}$= 0 | | | 10 | µA |
| Gate-Source leakage current | $I_{GSS}$ | $V_{GS}$= ±15V, $V_{DS}$= 0 | | | ±10 | µA |
| Drain-Source breakdown voltage | $V_{DSS}$ | $I_D$= 0.1mA, $V_{GS}$= 0 | 60 | | | V |
| Gate-Source voltage | $V_{GSS}$ | $I_{GS}$= 0.1mA, $V_{DS}$= 0 | ± 20 | | | V |
| Gate threshold voltage | $V_{th}$ | $V_{DS}$= 5V, $I_D$=1mA | 0.8 | | 2 | V |
| Drain-Source ON-resistance | $R_{DS(on)}$ 1*1 | $V_{GS}$= 4V, $I_D$= 0.5A | | 0.72 | 1 | Ω |
| | $R_{DS(on)}$ 2*1 | $V_{GS}$=10V, $I_D$= 0.5A | | 0.55 | 0.85 | Ω |
| Forward transadmittance | $\|Y_{fs}\|$ *1 | $V_{DS}$=10V, $I_D$= 0.5A | 0.5 | | | S |
| Input capacitance | $C_{iss}$ | $V_{DS}$=10V, $V_{GS}$= 0, f=1MHz | | 75 | | pF |
| Output capacitance | $C_{oss}$ | | | 30 | | pF |
| Feedback capacitance | $C_{rss}$ | | | 7 | | pF |
| Turn-on time | $t_{on}$ | $V_{GS}$=10V, $I_D$= 0.5A<br>$V_{DD}$=10V, $R_L$= 20Ω | | 35 | | ns |
| Fall time | $t_f$ | | | 80 | | ns |
| Turn-off time (delay time) | $t_{d(off)}$ | | | 130 | | ns |

*1 Pulse measurement

## ■ Marking