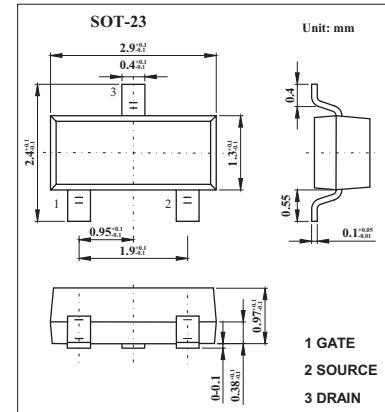


MOS Field Effect Transistor

2SK1657

■ Features

- Directly driven by Ics having a 3V power supply.
- Has low gate leakage current
 $I_{GSS} = \pm 5\text{nA MAX.}@V_{GS} = \pm 3.0\text{V}$



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

| Parameter | Symbol | Rating | Unit |
|-------------------------|-----------|-------------|------------------|
| Drain to source voltage | V_{DS} | 30 | V |
| Gate to source voltage | V_{GS} | ± 7 | V |
| Drain current (DC) | I_D | ± 100 | mA |
| Drain current(pulse) * | I_D | ± 200 | mA |
| Power dissipation | P_D | 200 | mW |
| Channel temperature | T_{ch} | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

* $PW \leq 10\text{ms}$, duty cycle $\leq 5\%$

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

| Parameter | Symbol | Testconditions | Min | Typ | Max | Unit |
|-------------------------------------|---------------|--|-----|-----|-----------|---------------|
| Drain cut-off current | I_{DSS} | $V_{DS}=30\text{V}, V_{GS}=0$ | | | 1.0 | μA |
| Gate leakage current | I_{GSS} | $V_{GS} = \pm 3.0\text{V}, V_{DS}=0$ | | | ± 5.0 | nA |
| Gate to source cutoff voltage | $V_{GS(off)}$ | $V_{DS}=3.0\text{V}, I_D=1\mu\text{A}$ | 0.9 | 1.2 | 1.5 | V |
| Forward transfer admittance | $ Y_{fs} $ | $V_{DS}=3.0\text{V}, I_D=10\text{mA}$ | 20 | 40 | | ms |
| Drain to source on-state resistance | $R_{DS(on)}$ | $V_{GS}=2.5\text{V}, I_D=10\text{mA}$ | | 25 | 45 | Ω |
| | | $V_{GS}=4.0\text{V}, I_D=10\text{mA}$ | | 18 | 25 | Ω |
| Input capacitance | C_{iss} | $V_{DS}=3.0\text{V}, V_{GS}=0, f=1\text{MHz}$ | | 15 | | pF |
| Output capacitance | C_{oss} | | | 10 | | pF |
| Reverse transfer capacitance | C_{rss} | | | 1.5 | | pF |
| Turn-on delay time | $t_{d(on)}$ | | | | 95 | ns |
| Rise time | t_r | $I_D=10\text{mA}, V_{GS(on)}=3\text{V}, R_L=300\Omega, V_{DD}=3.0\text{V}, R_G=10\Omega$ | | 360 | | ns |
| Turn-off delay time | $t_{d(off)}$ | | | 150 | | ns |
| Fall time | t_f | | | 150 | | ns |

■ Marking

| | |
|---------|-----|
| Marking | G19 |
|---------|-----|