

SOT-23 Plastic-Encapsulate MOSFETS

CJ3134K N-Channel MOSFET

FEATURES

- Lead Free Product is Acquired
- Surface Mount Package
- N-Channel Switch with Low $R_{DS(on)}$
- Operated at Low Logic Level Gate Drive

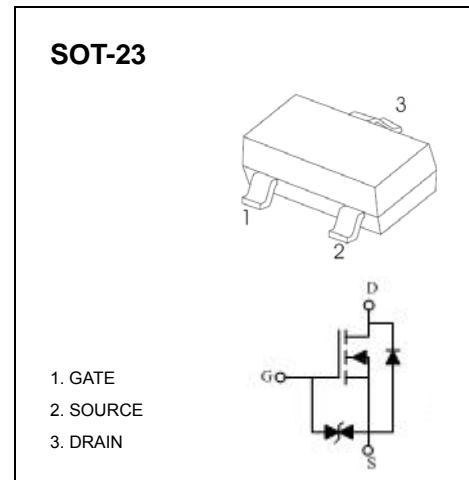
APPLICATIONS

- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

MARKING: 34K

Maximum ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|-----------------|----------|-----------------------------|
| Drain-Source Voltage | V_{DS} | 20 | V |
| Gate-Source Voltage | V_{GS} | ± 12 | V |
| Continuous Drain Current (note 1) | I_D | 0.75 | A |
| Pulsed Drain Current ($t_p=10\mu\text{s}$) | I_{DM} | 1.8 | A |
| Power Dissipation (note 1) | P_D | 350 | mW |
| Thermal Resistance from Junction to Ambient (note 1) | $R_{\theta JA}$ | 357 | $^{\circ}\text{C}/\text{W}$ |
| Junction Temperature | T_J | 150 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{STG} | -55~+150 | $^{\circ}\text{C}$ |
| Lead Temperature for Soldering Purposes(1/8" duration for 10 s) | T_L | 260 | $^{\circ}\text{C}$ |



Electrical characteristics (T_a=25°C unless otherwise noted)

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|---|----------------------|--|------|------|-----|------|
| STATIC CHARACTERISTICS | | | | | | |
| Drain-source breakdown voltage | V _{(BR)DSS} | V _{GS} = 0V, I _D =250μA | 20 | | | V |
| Zero gate voltage drain current | I _{DSS} | V _{DS} =20V, V _{GS} = 0V | | | 1 | μA |
| Gate-body leakage current | I _{GSS} | V _{GS} =±12V, V _{DS} = 0V | | | ±50 | μA |
| Gate threshold voltage (note 2) | V _{GS(th)} | V _{DS} =V _{GS} , I _D =250μA | 0.35 | | 1 | V |
| Drain-source on-resistance (note 2) | R _{DS(on)} | V _{GS} =4.5V, I _D =0.65A | | | 380 | mΩ |
| | | V _{GS} =2.5V, I _D =0.55A | | | 450 | mΩ |
| | | V _{GS} =1.8V, I _D =0.45A | | | 800 | mΩ |
| Forward transconductance (note 2) | g _{FS} | V _{DS} =10V, I _D =0.8A | | 1.6 | | S |
| Diode forward voltage | V _{SD} | I _S =0.15A, V _{GS} = 0V | | | 1.2 | V |
| DYNAMIC CHARACTERISTICS (note 4) | | | | | | |
| Input capacitance | C _{iss} | V _{DS} =16V, V _{GS} =0V, f =1MHz | | 79 | 120 | pF |
| Output capacitance | C _{oss} | | | 13 | 20 | pF |
| Reverse transfer capacitance | C _{rss} | | | 9 | 15 | pF |
| SWITCHING CHARACTERISTICS (note 4) | | | | | | |
| Turn-on delay time (note 3) | t _{d(on)} | V _{GS} =4.5V, V _{DS} =10V, I _D =500mA, R _{GEN} =10Ω | | 6.7 | | ns |
| Turn-on rise time (note 3) | t _r | | | 4.8 | | ns |
| Turn-off delay time (note 3) | t _{d(off)} | | | 17.3 | | ns |
| Turn-off fall time (note 3) | t _f | | | 7.4 | | ns |

Notes :

1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse Width=300μs, Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producing.

