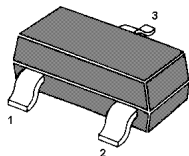
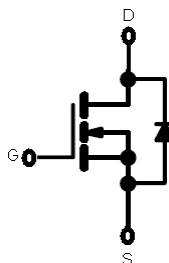


## N-Channel MOSFET

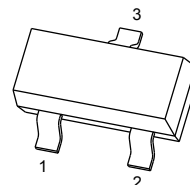
SOT-23



MARKING : 34N\*\*



SOT-23



1. GATE
2. SOURCE
3. DRAIN

**FEATURE**

- TrenchFET Power MOSFET

**APPLICATION**

- Load Switch for Portable Devices
- DC/DC Converter

| $V_{(BR)DSS}$ | $R_{DS(on)MAX}$ | $I_D$ |
|---------------|-----------------|-------|
| 30 V          | 50mΩ@10V        | 5 A   |
|               | 66mΩ@4.5V       |       |

**Maximum ratings (at  $T_A=25^{\circ}C$  unless otherwise noted)**

| Parameter                                                      | Symbol          | Value      | Unit |
|----------------------------------------------------------------|-----------------|------------|------|
| Drain-Source voltage                                           | $V_{DS}$        | 30         | V    |
| Gate-Source Voltage                                            | $V_{GS}$        | ±20        |      |
| Continuous Drain Current ( $T_J=150^{\circ}C$ ) <sup>a,b</sup> | $I_D$           | 5          | A    |
| Pulsed Drain Current                                           | $I_{DM}$        | 20         |      |
| Continuous Source Current(Diode Conduction) <sup>a,b</sup>     | $I_S$           | 0.62       | W    |
| Maximum Power Dissipation <sup>a,b</sup>                       | $P_D$           | 0.75       |      |
| Thermal Resistance from Junction to Ambient ( $t \leq 5s$ )    | $R_{\theta JA}$ | 100        | °C/W |
| Operating Junction and Storage Temperature Range               | $T_J, T_{stg}$  | -55 to 150 | °C   |

**Notes :**

- a. Surface Mounted on 1" × 1" FR4 board,  $t \leq 5s$ .
- b. Pulse width limited by maximum junction temperature.

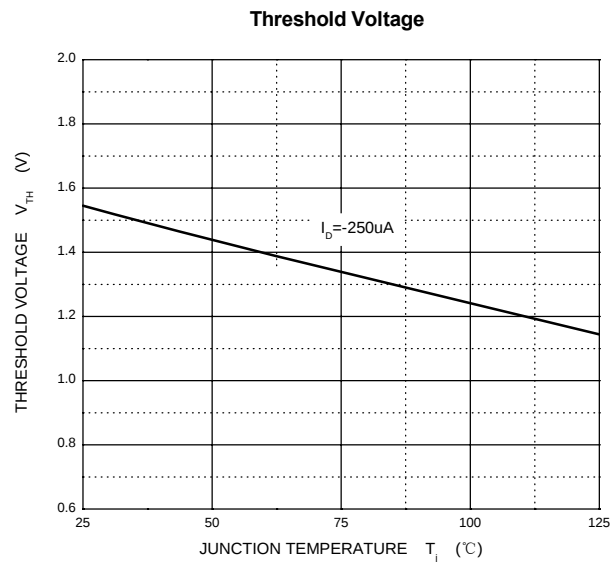
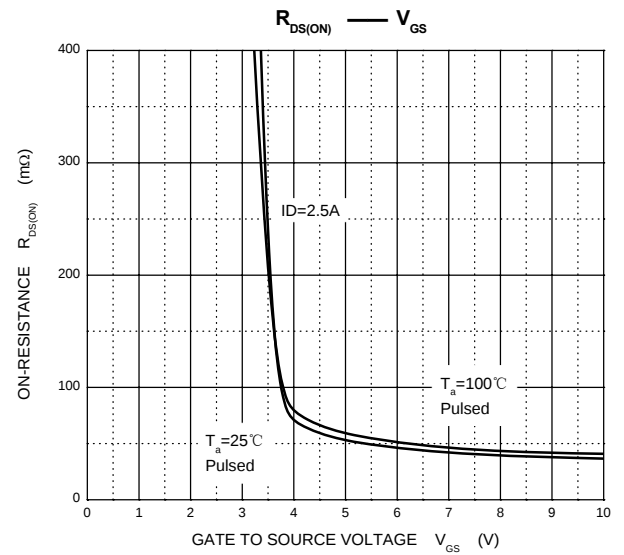
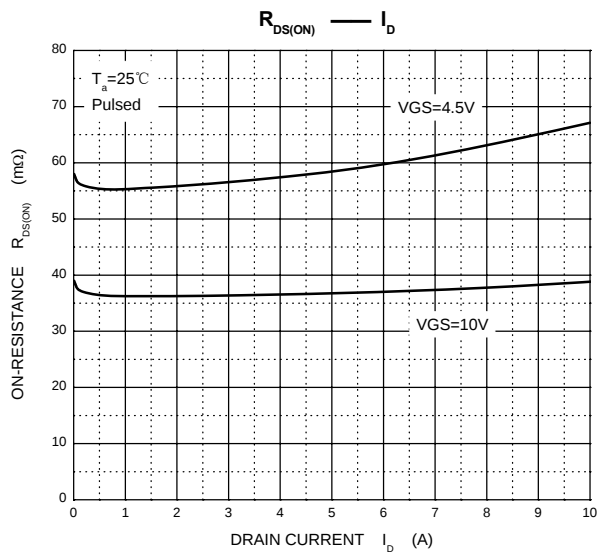
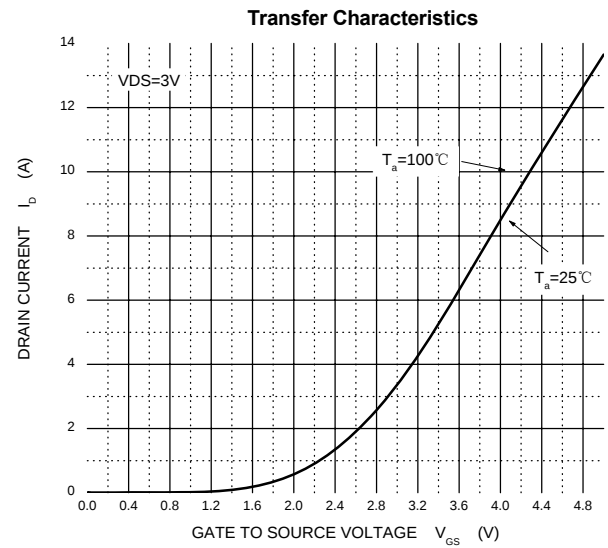
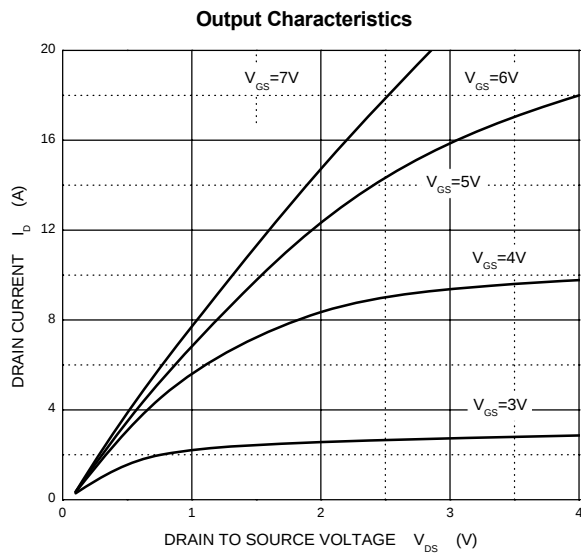
**T<sub>a</sub>=25 °C unless otherwise specified**

| Parameter                               | Symbol              | Test Condition                                                                                                | Min | Typ   | Max   | Unit |
|-----------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------|-----|-------|-------|------|
| Static                                  |                     |                                                                                                               |     |       |       |      |
| Drain-Source Breakdown Voltage          | V <sub>(BR)DS</sub> | V <sub>GS</sub> = 0V, I <sub>D</sub> =250μA                                                                   | 30  |       |       | V    |
| Gate-Threshold Voltage                  | V <sub>GS(th)</sub> | V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA                                                      | 1.0 |       | 3.0   |      |
| Gate-Body Leakage                       | I <sub>GSS</sub>    | V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V                                                                    |     |       | ±100  | nA   |
| Zero Gate Voltage Drain Current         | I <sub>DSS</sub>    | V <sub>DS</sub> =30V, V <sub>GS</sub> =0V                                                                     |     |       | 0.5   | μA   |
| Drain-Source On-Resistance <sup>a</sup> | R <sub>DS(on)</sub> | V <sub>GS</sub> =10V, I <sub>D</sub> =5A                                                                      |     | 0.038 | 0.050 | Ω    |
|                                         |                     | V <sub>GS</sub> =4.5V, I <sub>D</sub> =2.8A                                                                   |     | 0.052 | 0.066 |      |
| Forward Transconductance <sup>a</sup>   | g <sub>fs</sub>     | V <sub>DS</sub> =4.5V, I <sub>D</sub> =2.5A                                                                   |     | 7.0   |       | S    |
| Diode Forward Voltage                   | V <sub>SD</sub>     | I <sub>S</sub> =1.25A,V <sub>GS</sub> =0V                                                                     |     | 0.8   | 1.2   | V    |
| Dynamic                                 |                     |                                                                                                               |     |       |       |      |
| Gate Charge                             | Q <sub>g</sub>      | V <sub>DS</sub> =15V,V <sub>GS</sub> =5V,I <sub>D</sub> =2.5A                                                 |     | 3.0   | 4.5   | nC   |
| Total Gate Charge                       | Q <sub>gt</sub>     | V <sub>DS</sub> =15V,V <sub>GS</sub> =10V,I <sub>D</sub> =2.5A                                                |     | 6     | 9     |      |
| Gate-Source Charge                      | Q <sub>gs</sub>     |                                                                                                               |     | 1.6   |       |      |
| Gate-Drain Charge                       | Q <sub>gd</sub>     |                                                                                                               |     | 0.6   |       |      |
| Gate Resistance                         | R <sub>g</sub>      | f =1.0MHz                                                                                                     | 2.5 | 5     | 7.5   | Ω    |
| Input Capacitance                       | C <sub>iss</sub>    | V <sub>DS</sub> =15V,V <sub>GS</sub> =0V,f =1MHz                                                              |     | 305   |       | pF   |
| Output Capacitance                      | C <sub>oss</sub>    |                                                                                                               |     | 65    |       |      |
| Reverse Transfer Capacitance            | C <sub>rss</sub>    |                                                                                                               |     | 29    |       |      |
| Switching                               |                     |                                                                                                               |     |       |       |      |
| Turn-On Delay Time                      | t <sub>d(on)</sub>  | V <sub>DD</sub> =15V,<br>R <sub>L</sub> =15Ω, I <sub>D</sub> ≈1A,<br>V <sub>GEN</sub> =10V,R <sub>g</sub> =6Ω |     | 7     | 11    | ns   |
| Rise Time                               | t <sub>r</sub>      |                                                                                                               |     | 12    | 18    |      |
| Turn-Off Delay Time                     | t <sub>d(off)</sub> |                                                                                                               |     | 14    | 25    |      |
| Fall Time                               | t <sub>f</sub>      |                                                                                                               |     | 6     | 10    |      |

**Notes :**

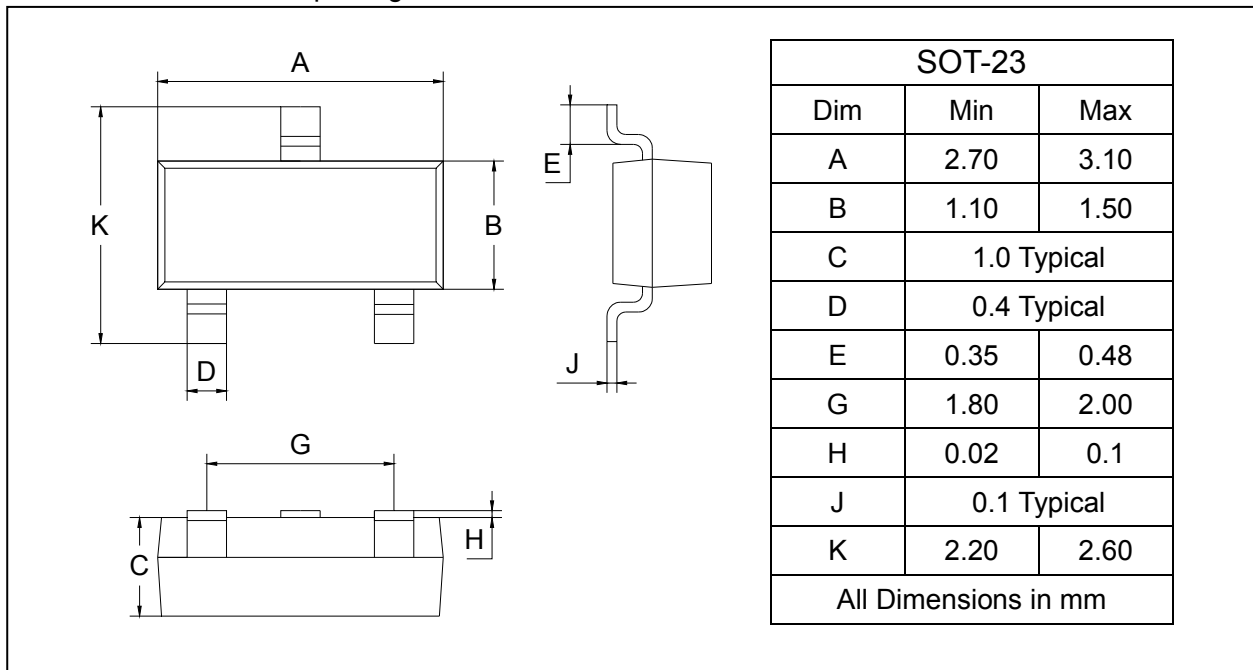
a.Pulse Test : Pulse Width≤300μs, duty cycle ≤2%.

## Typical Characteristics



Plastic surface mounted package

SOT-23



## SOLDERING FOOTPRINT

