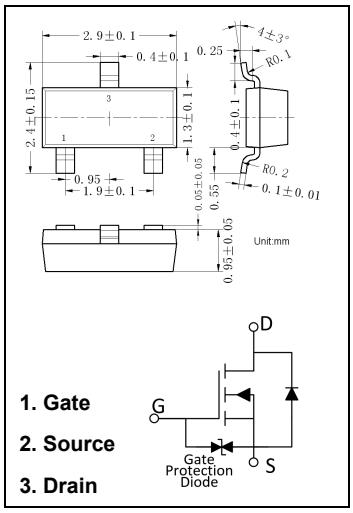
# SOT-23 Plastic-Encapsulate Mosfets

## 2SK3018 N-Channel MOSFET




### Features

- Low on-resistance
- Fast switching speed
- Low voltage drive makes this device ideal for Portable equipment
- Easily designed drive circuits
- Easy to parallel

### Applications

- Interfacing, Switching

### Marking: KN

### Maximum Ratings ($T_a$=25°C unless otherwise specified)

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{DS}$ | Drain-Source voltage | 30 | V |
| $V_{GS}$ | Gate-Source voltage | ±20 | |
| $I_D$ | Continuous Drain Current | 0.1 | A |
| $P_D$ | Power Dissipation | 0.35 | W |
| $T_J$ | Junction Temperature | 150 | °C |
| $T_{stg}$ | Storage Temperature | -55~+150 | °C |
| $R_{\theta JA}$ | Thermal Resistance, Junction-to-Ambient | 357 | °C/W |

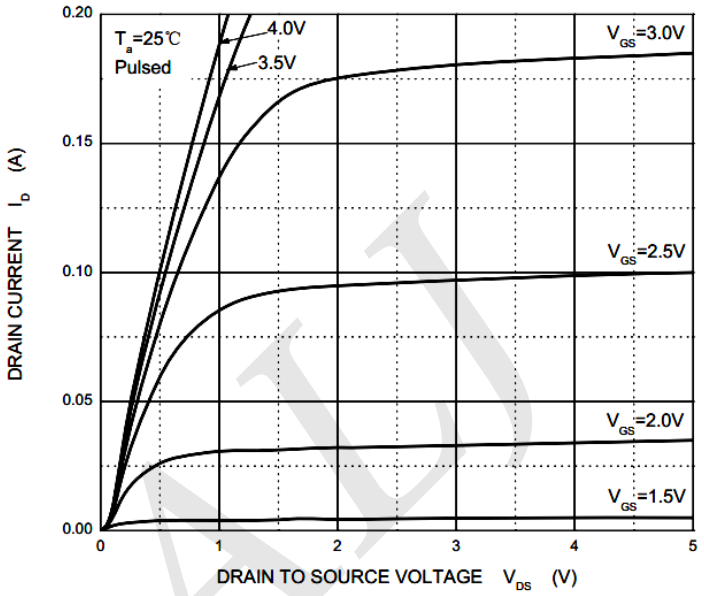
### Electrical Characteristics ($T_J$=25°C unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Off Characteristics** | | | | | | |
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}$ = 0V, $I_D$ = 10μA | 30 | | | V |
| $I_{DSS}$ | Zero Gate Voltage Drain Current | $V_{DS}$ = 30V, $V_{GS}$ = 0V | | | 0.2 | μA |
| $I_{GSS}$ | Gate-body Leakage current | $V_{DS}$ = 0 V, $V_{GS}$ = ±20 V | | | ±500 | nA |
| $V_{GS(th)}$ | Gate-Threshold Voltage | $V_{DS}$ = 3V, $I_D$ = 100μA | 0.8 | | 1.5 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}$ = 4V, $I_D$ = 10mA | | | 8 | Ω |
| | | $V_{GS}$ = 2.5V, $I_D$ = 1mA | | | 13 | Ω |
| $g_{fs}$ | Forward Trans conductance | $V_{DS}$ = 3V, $I_D$ =10mA | 20 | | | mS |
| **Dynamic Characteristics*** | | | | | | |
| $C_{iss}$ | Input Capacitance | $V_{GS}$ = 0V | | 13 | | pF |
| $C_{oss}$ | Output Capacitance | $V_{DS}$ = 5V | | 9 | | |
| $C_{rss}$ | Reverse Transfer Capacitance | f = 1.0MHz | | 4 | | |
| **Switching Characteristics*** | | | | | | |
| $t_{d(on)}$ | Turn-On Delay Time | $V_{GS}$ = 5V, $V_{DD}$ = 5V, $I_D$ =10mA, $R_g$= 10Ω, $R_L$ = 500Ω | | 15 | | ns |
| $t_r$ | Rise Time | | | 35 | | |
| $t_{d(off)}$ | Turn-Off Delay Time | | | 80 | | |
| $t_f$ | Fall Time | | | 80 | | |

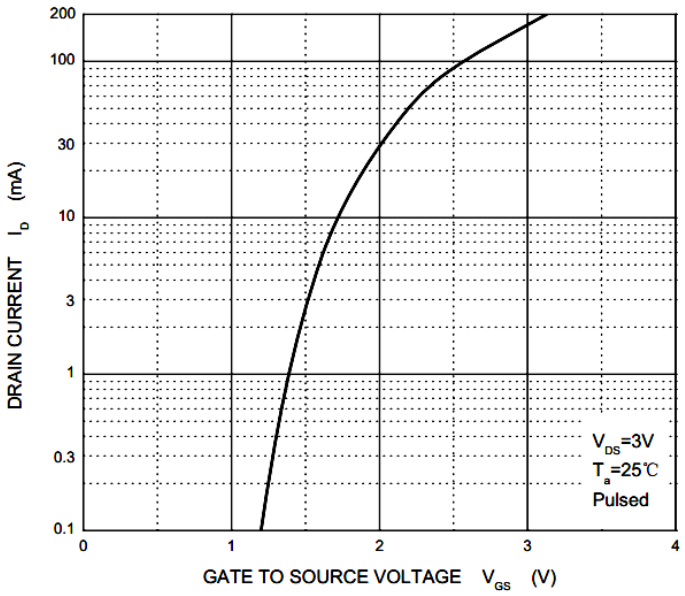
* These parameters have no way to verify.

## Typical Characteristics

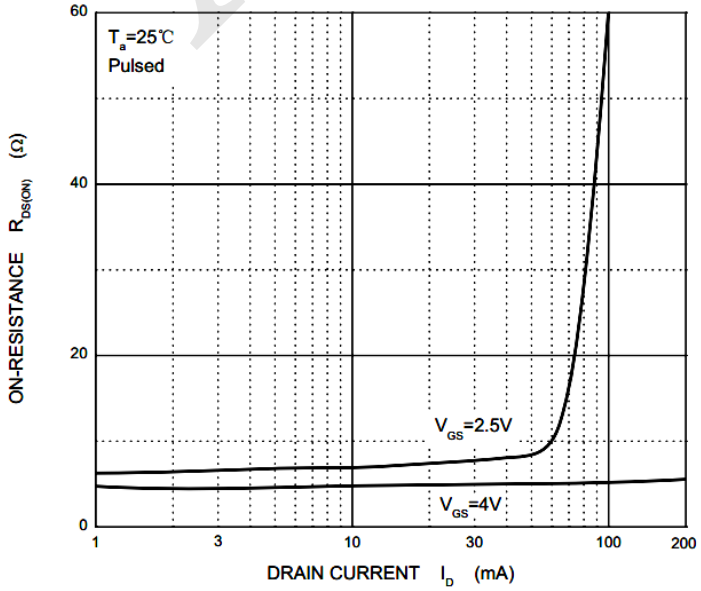
### Output Characteristics



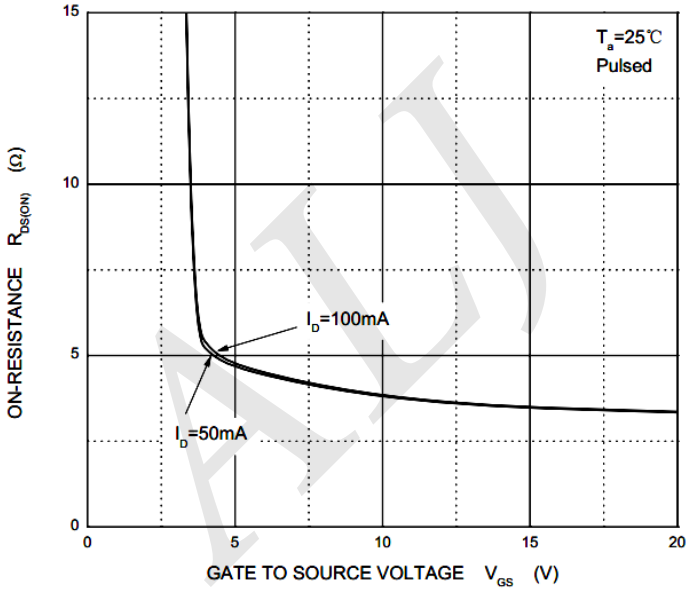

### Transfer Characteristics



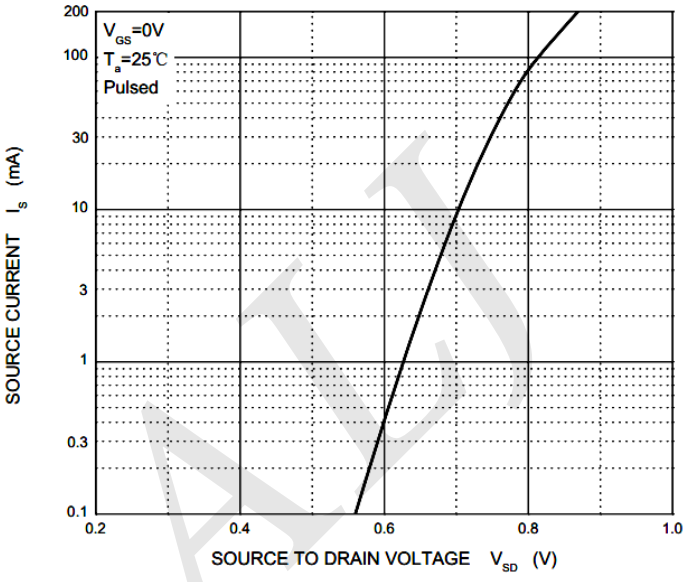

### $R_{DS(ON)}$ — $I_D$




### $R_{DS(ON)}$ — $V_{GS}$




### $I_S$ — $V_{SD}$




ALJ