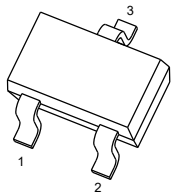
# 2SK3018W

**N-Channel Enhancement Mode Power MOSFET**

| $V_{(BR)DSS}$ | $R_{DS(on)}$MAX | $I_D$ |
|---|---|---|
| 30 V | 8Ω@4V | 100mA |
| | 13Ω@2.5V | |

**SOT-323**

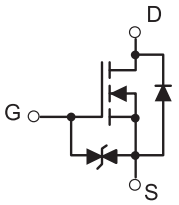



1. GATE
2. SOURCE
3. DRAIN

## FEATURE

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

**Equivalent Circuit**




## APPLICATION

- Interfacing , Switching

**MARKING** :KN

**MOSFET MAXIMUM RATINGS ($T_a$ = 25°C unless otherwise noted)**

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{DS}$ | Drain-Source voltage | 30 | V |
| $V_{GS}$ | Gate-Source Voltage | ±20 | V |
| $I_D$ | Continuous Drain Current | 0.1 | A |
| $P_D$ | Power Dissipation | 0.2 | W |
| $T_J$,$T_{stg}$ | Operation Junction and Storage Temperature Range | -55-150 | ℃ |
| $R_{\theta JA}$ | Thermal Resistance from Junction to Ambient | 625 | ℃ /W |

## MOSFET ELECTRICAL CHARACTERISTICS

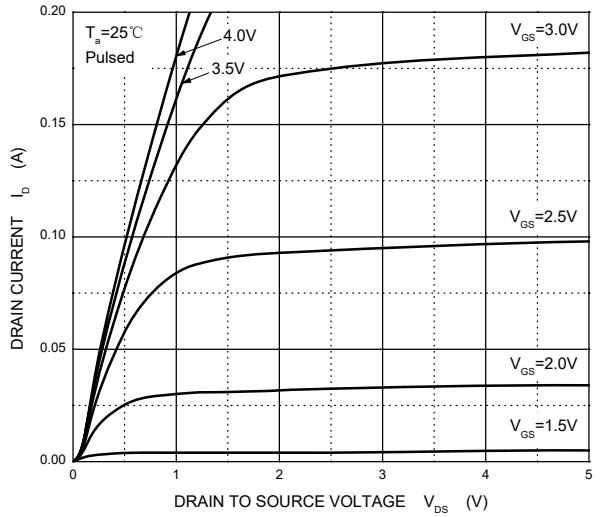
**$T_a$=25℃ unless otherwise specified**

| Parameter | Symbol | Test Condition | Min | Typ | Max | Units |
|---|---|---|---|---|---|---|
| **Off Characteristics** | | | | | | |
| Drain-Source Breakdown Voltage | $V_{(BR)DSS}$ | $V_{GS}$ = 0V, $I_D$ = 10μA | 30 | | | V |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$ =30V,$V_{GS}$ = 0V | | | 1 | μA |
| Gate –Source leakage current | $I_{GSS}$ | $V_{GS}$ =±20V, $V_{DS}$ = 0V | | | ±10 | μA |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}$ =$V_{GS}$, $I_D$ =250uA | 0.6 | | 1.5 | V |
| Drain-Source On-Resistance | $R_{DS(on)}$ | $V_{GS}$ = 4V, $I_D$ =10mA | | 5 | 8 | Ω |
| | | $V_{GS}$ =2.5V,$I_D$ =1mA | | 8 | 13 | Ω |
| Forward Transconductance | $g_{FS}$ | $V_{DS}$ =3V, $I_D$ = 10mA | 20 | | | mS |
| **Dynamic Characteristics*** | | | | | | |
| Input Capacitance | $C_{iss}$ | $V_{DS}$ =5V,$V_{GS}$ =0V,f =1MHz | | 13 | | pF |
| Output Capacitance | $C_{oss}$ | | | 9 | | pF |
| Reverse Transfer Capacitance | $C_{rss}$ | | | 4 | | pF |
| **Switching Characteristics*** | | | | | | |
| Turn-On Delay Time | $t_{d(on)}$ | $V_{GS}$ =5V, $V_{DD}$ =5V, $I_D$ =10mA, Rg=10Ω, $R_L$=500Ω | | 15 | | ns |
| Rise Time | $t_r$ | | | 35 | | ns |
| Turn-Off Delay Time | $t_{d(off)}$ | | | 80 | | ns |
| Fall Time | $t_f$ | | | 80 | | ns |

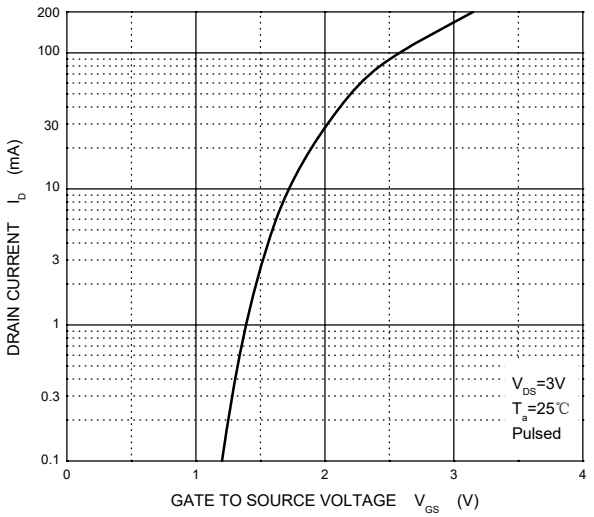
*These parameters have no way to verify.

## Typical Characteristics

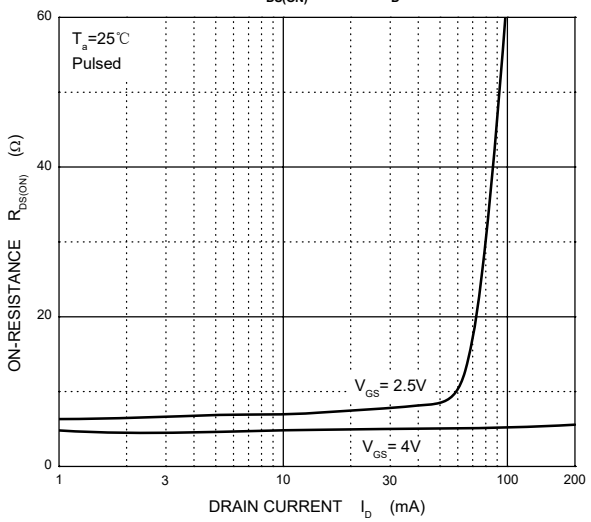
**Output Characteristics**



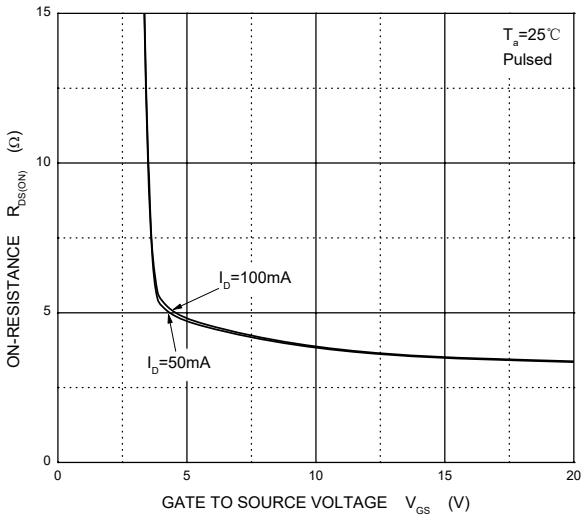

**Transfer Characteristics**



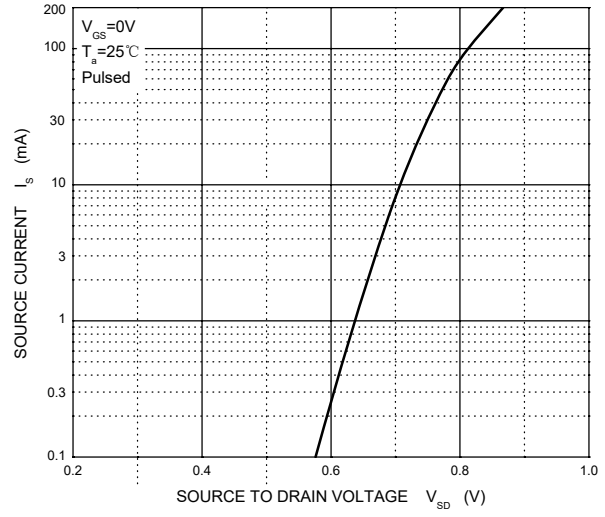

**$R_{DS(ON)}$ — $I_D$**



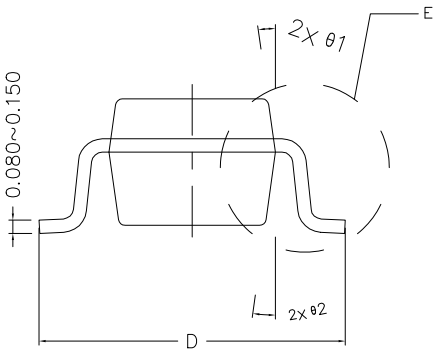

**$R_{DS(ON)}$ — $V_{GS}$**



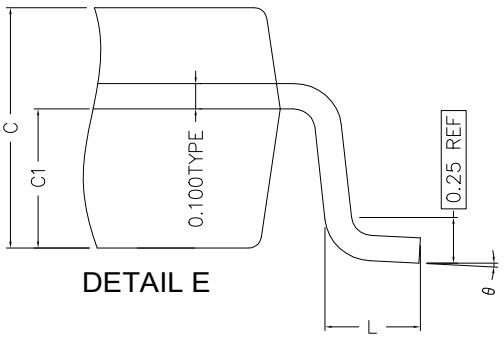

**$I_S$ — $V_{SD}$**



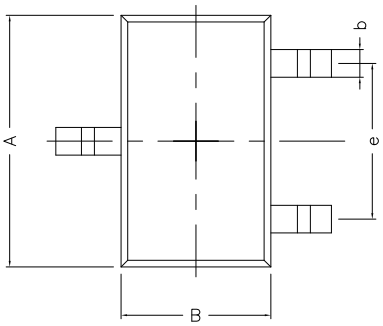
## SOT-323 Package Outline Dimensions



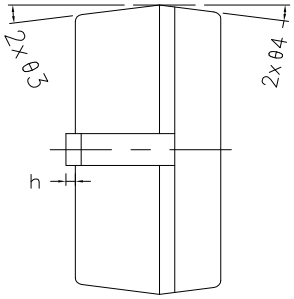

SIDE VIEW




DETAIL E




TOP VIEW




SIDE VIEW

| COMMON DIMENSIONS (UNITS OF MEASURE IS mm) | | | |
|---|---|---|---|
| | MIN | NORMAL | MAX |
| A | 2.000 | 2.100 | 2.200 |
| B | 1.150 | 1.250 | 1.350 |
| C | 0.900 | 0.950 | 1.000 |
| C1 | 0.500 | 0.550 | 0.600 |
| D | 2.100 | 2.300 | 2.500 |
| L | 0.220 | 0.360 | 0.500 |
| b | 0.200 | 0.250 | 0.400 |
| h | 0.020 | 0.050 | 0.100 |
| e | 1.300TYPE | | |
| $\theta_1$ | 8° TYPE | | |
| $\theta_2$ | 8° TYPE | | |
| $\theta_3$ | 8° TYPE | | |
| $\theta_4$ | 8° TYPE | | |
| $\theta$ | 0~8° TYPE | | |

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