

2SK3018

Features

- Low ON-Resistance
- Low Input Capacitance
- Low Voltage drive makes this device idipmental for portable equipment
- Fast Switching Speed
- Easily Designed Drive Circuits
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensivity Level 1

Mechanical Data

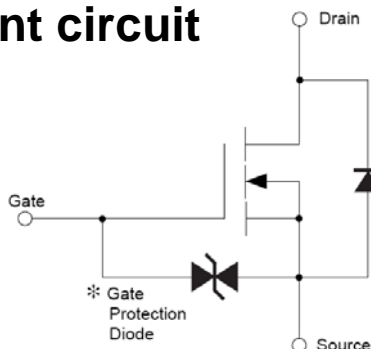
- Halogen free available upon request by adding suffix "-HF"
- Case: SOT-323, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking: KN

Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 625°C/W Junction To Ambient

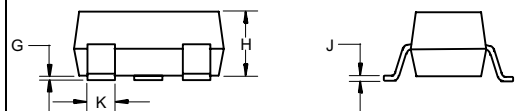
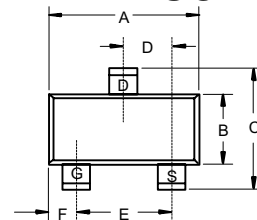
| Parameter | Symbol | Value | Unit |
|--------------------------|-----------|----------|------|
| Drain-Source-Voltage | V_{DSS} | 30 | V |
| Gate-Source-Voltage | V_{GSS} | ± 20 | V |
| Continuous Drain Current | I_D | 100 | mA |
| Total Power Dissipation | P_D | 200 | mW |

Equivalent circuit



N-Channel Enhancement Mode Field Effect Transistor

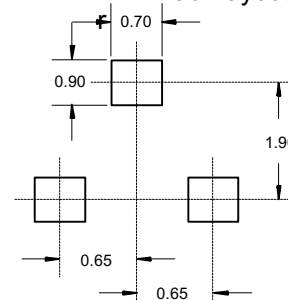
SOT-323



DIMENSIONS

| DIM | INCHES | | MM | | NOTE |
|-----|--------------|------|-------------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .071 | .087 | 1.80 | 2.20 | |
| B | .045 | .053 | 1.15 | 1.35 | |
| C | .083 | .096 | 2.10 | 2.45 | |
| D | .026 Nominal | | 0.65Nominal | | |
| E | .047 | .055 | 1.20 | 1.40 | |
| F | .012 | .016 | .30 | .40 | |
| G | .000 | .004 | .000 | .100 | |
| H | .035 | .039 | .90 | 1.00 | |
| J | .004 | .010 | .100 | .250 | |
| K | .006 | .016 | .15 | .40 | |

Suggested Solder Pad Layout



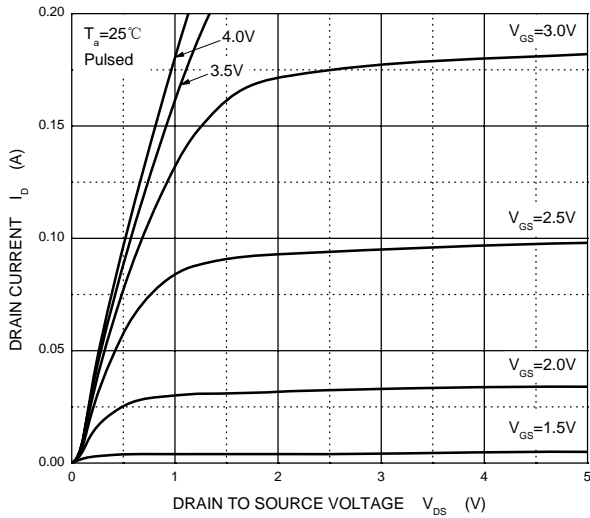
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

| 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 | | | 0.2 | μA |
| Gate –Source leakage current | I _{GSS} | V _{GS} =±20V, V _{DS} = 0V | | | ±500 | nA |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} = 3V, I _D =100μA | 0.8 | | 1.5 | V |
| Drain-Source On-Resistance | R _{DS(on)} | V _{GS} = 4V, I _D =10mA | | | 8 | Ω |
| | | V _{GS} =2.5V, I _D =1mA | | | 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, R _g =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 |

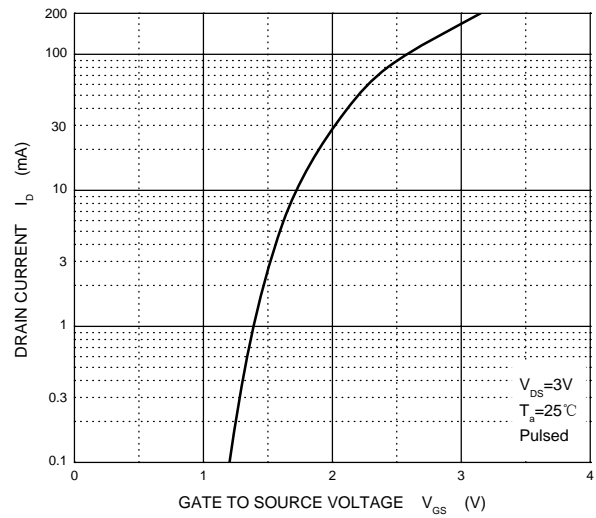
*These parameters have no way to verify.

Typical Characteristics

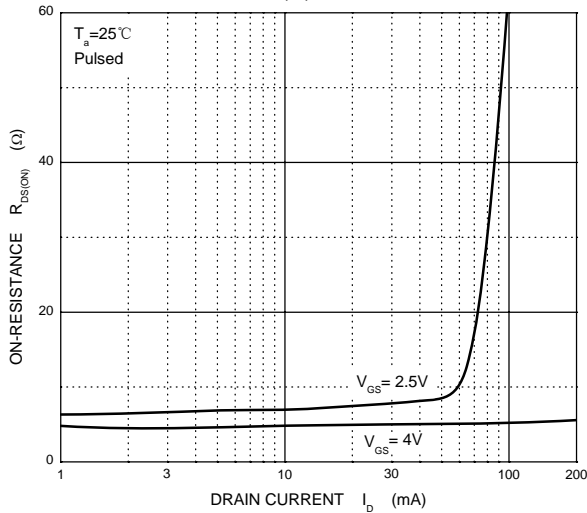
Output Characteristics



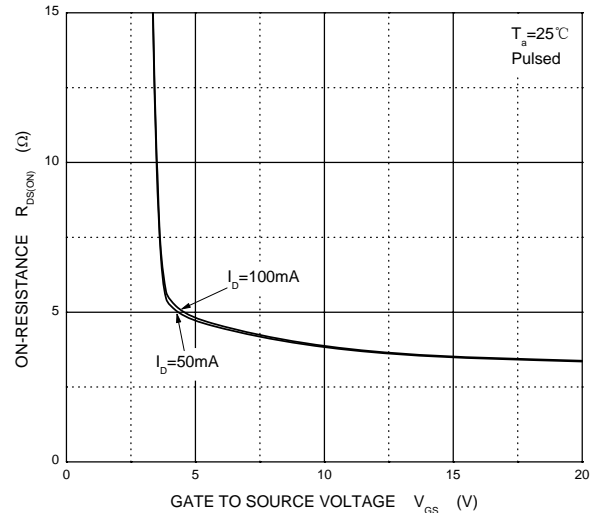
Transfer Characteristics



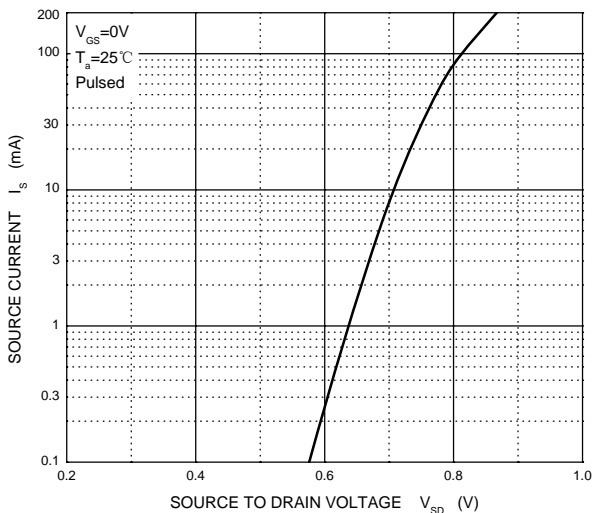
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}





TM

Micro Commercial Components

Ordering Information :

| Device | Packing |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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