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2SK301- SOT-323

N-Channel MOSFET

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客户确认：

公司签章：

部门

工程部

品保部

采购部

签名

日期

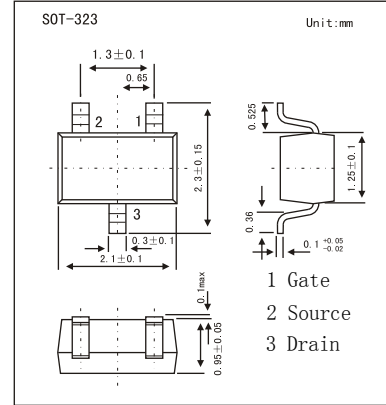
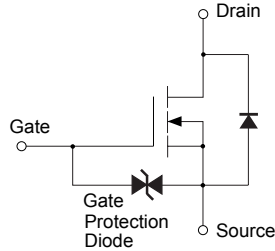


SOT-323 Plastic-Encapsulate MOSFETS

2SK3019 N-Channel MOSFET

■ Features

- Low on-resistance.
- Fast switching speed.
- Low voltage drive (2.5V) makes this device ideal for portable equipment.
- Easily designed drive circuits.
- Easy to parallel.



■ Absolute Maximum Ratings Ta = 25°C

| Parameter | Symbol | Rating | Unit |
|------------------------------------|------------------|------------|------|
| Drain-Source Voltage | V _{DS} | 30 | V |
| Gate-Source Voltage | V _{GS} | ±20 | |
| Continuous Drain Current | I _D | ±100 | mA |
| Continuous Drain Current Pulsed *1 | I _{DP} | ±400 | |
| Power Dissipation *2 | P _D | 150 | mW |
| Junction Temperature | T _J | 150 | °C |
| Storage Temperature Range | T _{stg} | -55 to 150 | |

*1 Pw ≤ 10μs, Duty cycle ≤ 1%

*2 With each pin mounted on the recommended lands.

■ Electrical Characteristics Ta = 25°C

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|-----------------------------------|---------------------|---|-----|-----|-----|------|
| Drain-Source Breakdown Voltage | V _{DSS} | I _D =100μA, V _{GS} =0V | 30 | | | V |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} =30V, V _{GS} =0V | | | 1 | μA |
| Gate-Body Leakage Current | I _{GSS} | V _{DS} =0V, V _{GS} =±20V | | | ±1 | μA |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} =V _{GS} , I _D =100μA | 0.8 | | 1.5 | V |
| Static Drain-Source On-Resistance | R _{DS(on)} | V _{GS} =4V, I _D =10mA | | 5 | 8 | Ω |
| | | V _{GS} =2.5V, I _D =1mA | | 7 | 13 | |
| Forward Transfer admittance | Y _{fs} | V _{DS} =3V, I _D =10mA | 20 | | | mS |
| Input Capacitance | C _{iss} | V _{GS} =0V, V _{DS} =5V, f=1MHz | | 13 | | pF |
| Output Capacitance | C _{oss} | | | 9 | | |
| Reverse Transfer Capacitance | C _{rss} | | | 4 | | |
| Turn-On DelayTime | t _{d(on)} | V _{GS} =5V, V _{DS} =5V, R _L =500Ω, R _{GEN} =10Ω I _D =10mA | | 15 | | ns |
| Turn-On Rise Time | t _r | | | 35 | | |
| Turn-Off DelayTime | t _{d(off)} | | | 80 | | |
| Turn-Off Fall Time | t _f | | | 80 | | |

■ Marking

| | |
|---------|----|
| Marking | KN |
|---------|----|

2SK301- N-Channel MOSFET

Typical Characteristics

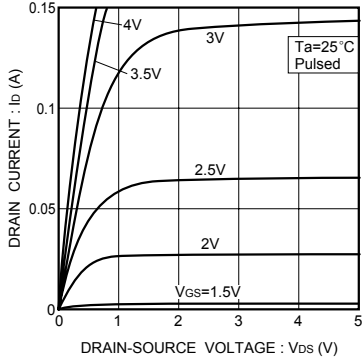


Fig.1 Typical output characteristics

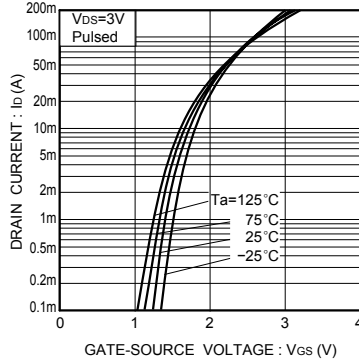


Fig.2 Typical transfer characteristics

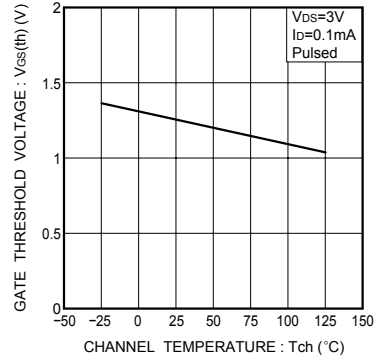


Fig.3 Gate threshold voltage vs. channel temperature

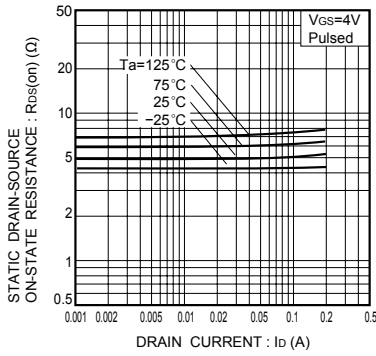


Fig.4 Static drain-source on-state resistance vs. drain current (I)

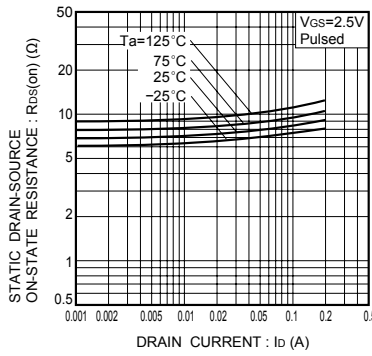


Fig.5 Static drain-source on-state resistance vs. drain current (II)

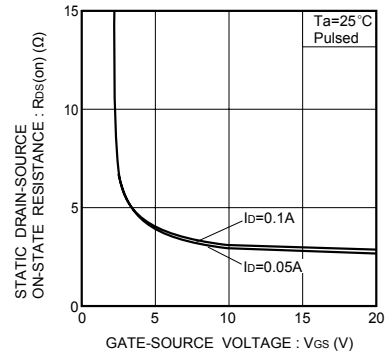


Fig.6 Static drain-source on-state resistance vs. gate-source voltage

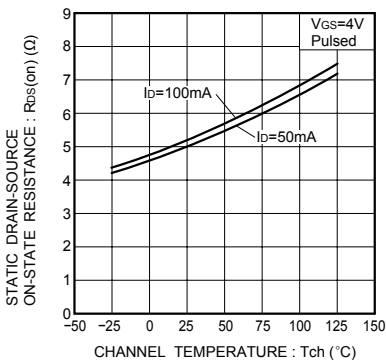


Fig.7 Static drain-source on-state resistance vs. channel temperature

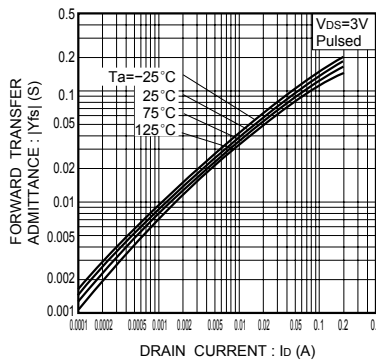


Fig.8 Forward transfer admittance vs. drain current

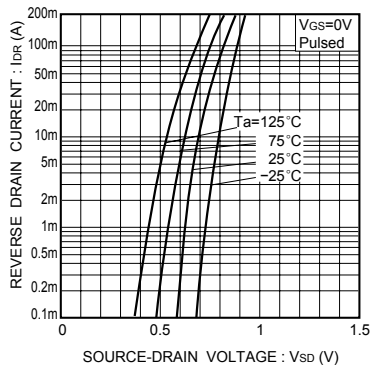


Fig.9 Reverse drain current vs. source-drain voltage (I)

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Typical Characteristics

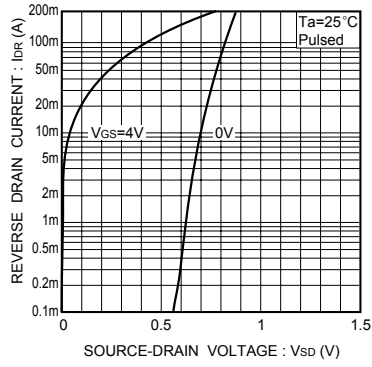


Fig.10 Reverse drain current vs. source-drain voltage (II)

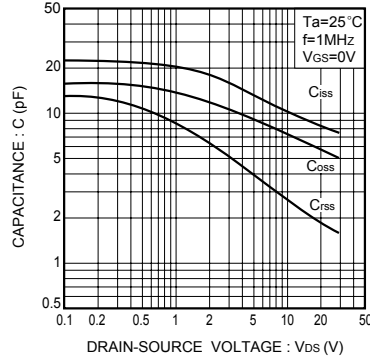


Fig.11 Typical capacitance vs. drain-source voltage

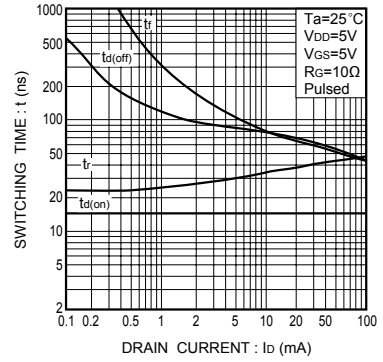


Fig.12 Switching characteristics (See Figures 13 and 14 for the measurement circuit and resultant waveforms)